VI. THE MIDDLE MISSISSIPPI "PHASE". ST. FRANCIS BASIN. PART II. EASTERN ARKANSAS.

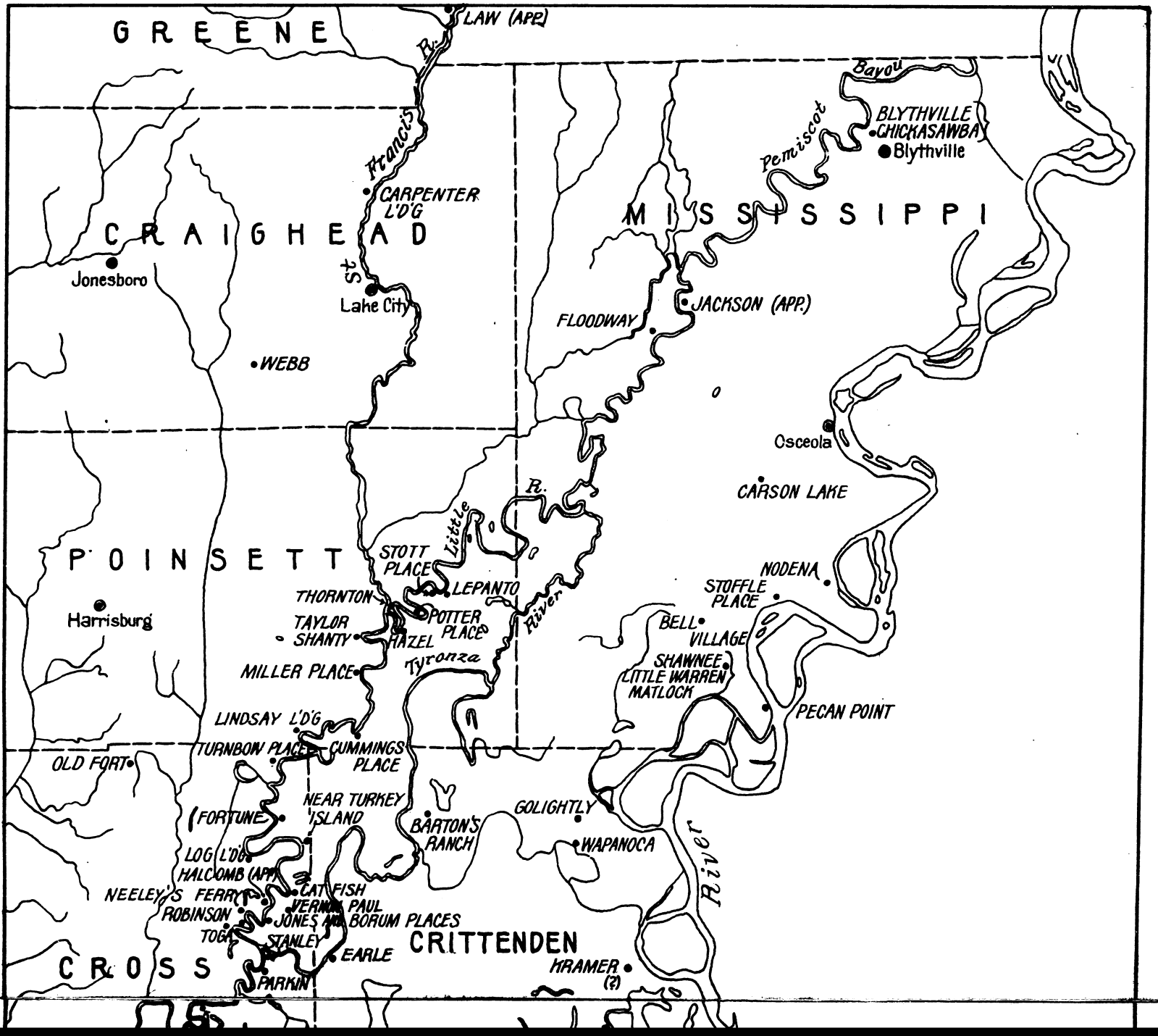
1. Introduction

The archaeology of the St. Francis Basin, while presenting a general homogeneity, seemed to lend itself to subdivision into a northern and southern facies (vide p. 379). Consideration of the former, under the designation "Cairo Lowland", has just been completed. For the latter the term "Eastern Arkansas" has been somewhat reluctantly adopted. Reluctantly, because political boundaries do not as a rule make satisfactory archaeological boundaries. Also because it is too indefinite, takes in too much territory. The southeastern portion of the state comprehends an entirely different archaeological complex. On the other hand, the name is in present use by students of the area, who seem to experience no difficulty in making themselves understood. Furthermore, after considerable ransacking of geological and physiographic literature I have been unable to find any satisfactory substitute.

Eastern Arkansas, as an archaeological designation, may be defined as that portion of the St. Francis Basin lying within the state of Arkansas. It includes the Mississippi river from the mouth of the St. Francis to the Missouri-Arkansas line, the St. Francis river, and the intervening territory between the two rivers. To this we must admit the possibility of adding some or all of the White river valley and an indeterminate amount of territory east of the Mississippi in the bordering states of Tennessee and Mississippi. In the present state of our information these additions

can only be considered as possibilities for the future. The culture of the area defined can be discussed in general terms as a unit. With the present data it is not possible to establish differentia except in pottery. The latter falls readily into two groups, one centering on the Mississippi, the other on the St. Francis. There is doubtless an overlap between, but owing to lack of information on sites between the rivers, it is not a particularly disturbing factor. I shall accordingly attempt to describe the archaeology of Eastern Arkansas as a whole with respect to non-ceramic factors, but in describing the pottery shall consider these two sub-areas separately. It will develop, I believe, that the differences are of a minor order, so that separation of the two groups will only serve to emphasize the fundamental homogeneity of the whole.

Physiography of Eastern Arkansas: The chief geographical features of the region may be seen on the accompanying map, fig. 70. They are few enough. A thin tongue of elevated land of loess formation known as Crowley's Ridge, to the west of, and closely paralleling the St. Francis river; the bluff east bank of the Mississippi; between, a nearly flat alluvial plain threaded by sluggish meandering streams and abandoned river channels. The land slopes gradually away from Crowley's Ridge and from the Mississippi toward the interior which is 30-40 ft. lower than the river front. The principal water courses are the St. Francis, the Right and Left-Hand chutes of the Little river, Tyronza river and Big Creek. Pemiscot Bayou formerly carried overflow from the Mississippi and


GREENE
LAW (APP.)
R.
Bayou
Pemiscot
BLYTHVILLE
CHICKASAWBA
Blythville
Francis
CARPENTER
L'D'G
CRAIGHEAD
MISSISSIPPI
Jonesboro
St.
Lake City
FLOODWAY
JACKSON (APP.)
WEBB
Osceola
CARSON LAKE
R.
Little
POINSETT
STOTT
PLACE
NODENA
STOFFLE
PLACE
THORNTON
LEPANTO
River
Harrisburg
TAYLOR
SHANTY
POTTER
PLACE
HAZEL
BELL
VILLAGE
Tyronza
MILLER PLACE
SHAWNEE
LITTLE WARREN
MATLOCK
LINDSAY L'D'G
PECAN POINT
TURNBOW PLACE
CUMMINGS
PLACE
OLD FORT
NEAR TURKEY
ISLAND
GOLIGHTLY
FORTUNE
BARTON'S
RANCH
WAPANOCA
LOG L'D'G
HALCOMB (APP.)
NEELEY'S FERRY
CAT FISH
VERMIL PAUL
ROBINSON
JONES
BORUM PLACES
TOGA
STANLEY
CRITTENDEN
EARLE
CROSS
KRAMER
(?)
PARKIN
River

has built up its banks higher than the surrounding land. These higher banks continue down the Left-Hand Chute of Little River and the St. Francis. In many parts of the district are shallow swales, 1 to 3 ft. in depth, sometimes several hundred ft. in width. There are a few shallow lakes in the eastern part and some narrow and deeper ones near the eastern margin, probably old channels of the Mississippi. Characteristic of the region are low sandy ridges 1 to 3 ft. higher than the surrounding land.(1)

Much of this land has been reclaimed for agriculture by a vast system of drainage ditches, without which one would imagine it to have been a very watery terrain indeed. We are interested, naturally, in its condition before such works were undertaken. I have been unable to find any description of the country dating from the period of exploration and early settlement. Evidently travelers up and down the Mississippi found little reason for penetrating such a dank and gloomy region. The abundant sources from the period of French occupation of Louisiana are silent regarding this particular portion of it.(2) This rather noteworthy lack of information continues through

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(1) The above description is drawn mainly from Arthur E. Morgan's report on the drainage project for the St. Francis valley (Morgan, 1911) p. 12 et seq. In this and several paragraphs to follow I have made considerable use of this excellent report.

(2) DuPratz (1758 ed. I:319) says it is to the St. Francis country that the French and Canadians of New Orleans repair for salted buffalo meat to supply the capital, in which they are aided by the Arkansas tribe of Indians (Quapaw). This is but another indication of the ignorance surrounding this interesting region. We may be sure that it was never a hunting ground for buffalo. Possibly the St. Francis, or part of it, lay on the route to the buffalo country, though it would seem hardly likely. Possibly there is a confusion of names and by "St. Francis" DuPratz meant some other river.

the short interval of Spanish ownership, that terminated with the Louisiana Purchase of 1803, and well on into the 19th century. Thomas Ashe, who passed the mouth of the St. Francis in 1806, speaks of the upper part of the said river with its high and fertile banks "which are thickly occupied by Indian nations of whom nothing is known, as there are no white settlers among them, and as they have never been visited by any person disposed to discover their character and history."(1) Major Long's expedition of the early '20's found the mouth of the St. Francis blocked up with driftwood so as to be impassible to any sort of craft.(2) Collot, that energetic Frenchman, might have furnished us some information, but on reaching the St. Francis half of his boatmen were down with dysentery which prevented him from ascending this river "concerning which we have hitherto had so few details".(3)

It appears, then, that up to the Louisiana Purchase of 1803, and for some time thereafter, this portion of the St. Francis Basin was not only unsettled by whites but possibly even unexplored. There is little chance therefore of recovering any information about

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(1) Ashe, Thomas, Travels in America Performed in 1806, London, 1808, pp. 301-2.

(2) Long, Stephen H., (Edwin James, compiler). Account of an Expedition from Pittsburg to the Rocky Mountains, Philadelphia, 1823, vol. II, p. 349.

(3) Collot, Victor, A Journey in North America, ed. of 1826, vol. II, p. 25.

the character of the country before the "Great Shakes" of 1811-13, which is supposed to have altered the landscape so radically. This more or less complete ignorance of previous conditions was probably responsible for the popular belief that the entire district sank and was "drowned". I have referred to this point before (vide p. 376). There seems every reason to suppose that whatever topographical changes resulted from the earthquakes were not on any such sweeping scale, but were more in the nature of local incidents resulting from the disruption of the drainage pattern by subsistence or uplift or both.(1)

At the time of first settlements by whites the entire district was covered by a heavy forest growth, except for a few shallow lakes and marshes which were overgrown with coarse grass, reeds and rushes. The principal woods were oak, gum, ash, cypress, elm, locust and cottonwood. Trees of all kinds attained large growth, and except when dense foliage shut out light, underbrush was luxuriant. There were few typical cypress brakes, such as were so characteristic of the region farther north (Cairo Lowland) such areas

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(1) See Fuller, 1912, p. 62 for evidences of uplift. Again p. 108 for hypothesis of possible cause of such uplift. "Although the general movement along the Mississippi is downward, at least differentially, the movement is not continuous. It is probable that as late as the deposition of the Lafayette gravels, in late Pliocene or early Quaternary times, the land stood relatively lower than at present, the deposits named being laid down across the embayment area at an elevation of many feet above the present flood plain. The distribution of loess affords some reason to think that similar conditions existed nearly down to the time of the Wisconsin glacial stage. If so, there has been removed in relatively recent times a very considerable load from the area, as a result of which the crust would tend to rise until an equilibrium was reached. It is even possible that the shocks of 1811-13 were incidents of an uplift rather than of depression." pp. 108-9.

amounting to less than 3% of the total lowland. Canebreaks were very dense, particularly on the higher ridges. The sluggish streams and almost stagnant ponds were usually choked with pond lilies, water chinquapin and other aquatic plants, only the main channels of the larger streams remaining free from such encumbrance.(1)

While a narrow strip of land along the Mississippi and certain smaller areas along the St. Francis and in various portions of the interior were high enough to be seldom overflowed, were settled in fact before the construction of levees, the greater portion of the district was covered with water up to 10 ft. in depth in times of flood, its settlement for purposes of agriculture out of the question. As late as 1911, after construction of levees along the Mississippi in this section had brought considerable amelioration, and after some of these lowlands had been drained, Morgan was able to say, "Perhaps a third of the district remains under water for weeks or months at a time during wet seasons, while the lowest parts are usually submerged for the greater part of the year. . . . During wet seasons the waters of Little River and the St. Francis River overflow a wide belt of country, submerging an area 25 miles wide east and west through the center of the district the depth of water varying from less than a foot to 6 feet or more in different parts. Wherever a ridge of land rises above the line of high water it usually is occupied by settlers who are endeavoring to clear

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(1) Morgan, 1911, pp. 14-15.

the land and farm it. Probably 80% of all cultivated land in the district is seriously in need of drainage."[1]

If the assumption is correct that the New Madrid earthquake was not responsible for any sweeping changes in the topography of the St. Francis Basin, the conditions outlined above must have been substantially those obtaining during the lifetime of the archaeological culture under consideration. The same question arises as in the Cairo Lowland, more insistently perhaps, to wit: what brings it about that a highly unfavorable environment (to our way of thinking) becomes the seat of a relatively advanced and flourishing culture? Were there no traces of such a culture, we should not hesitate theoretically to predicate its absence on environmental grounds alone. I suspect, however, that the anomaly is more apparent than real, that if we knew more about the culture in question, it would disappear entirely. In all such cases (cf. Old Empire Maya in the Peten) we tend to invoke environmental changes to cover our ignorance of the particular adjustments that would have made the environment less unfavorable than it (to us) appears. Archaeology, unfortunately, brings few of such adaptations to light. In an aquatic environment such as the present, it is obvious that life must have been practically lived in boats. What do we know about boats in the Eastern Arkansas culture?[2] Nothing whatever. The problem, then, is

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(1) Morgan, op. cit., pp. 17-18.

(2) The beautiful descriptions in the various DeSoto chronicles of the great flotilla of Aquixo might be counted as an exception to this statement; however it remains to show that the lord of Aquixo and his people were actually the bearers of the culture under consideration.

not to invent plausible climatic and topographic changes, but to intensively explore the cultural evidences at hand for signs of the adaptations that made its existence in a sub-aqueous environment possible.

"Archaeology" in Eastern Arkansas: Opinions may differ as to the height of culture attained in this strange and watery environment, but that a considerable population was involved can hardly be questioned. Village sites and burial places are scattered over the entire area, wherever sufficient dry land may be found to support them, but especially concentrated along the two major rivers, the Mississippi and St. Francis. Every slightest elevation above the general plain is covered with archaeological remains, especially burials. Pot-hunting has been an honored if not lucrative career for several generations, yet the supply of exploitable burial grounds remains unexhausted.(1)

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(1) On one recent trip across the area Dr. Dellinger counted 28 men separately probing for burials. For a heart-breaking account of what happens when a lucky strike is made see Harrington's A Pot-hunter's Paradise. M. A. I. Indian Notes, vol. 1, 1924, pp. 84-90.

If the pot-hunter of today may still hope to strike it rich, imagine what lay before the pot-hunter of 1880, let us say. It was in that year that Professor Putnam sent Edwin Curtis up the St. Francis to collect for the Peabody Museum. Extracts from the latter's "field-notes" deserve to be quoted in extenso, orthography and all. After describing in some detail the Stanley mounds and his excavations in them, Curtis continues: "There are very large Mounds one Mile west of Mrs. Stanly's in the timber which have never been explored or dug in and there are but few People that have ever seen them and are only known to hunters and trappers. I visited the Robinson Mounds and found them located on the west Side of the St. Francis river 4 Miles above the Stanly Mounds and there are Several of them and 4 Miles above them are the Neely

Archaeologically speaking, however, eastern Arkansas remains as little known as any other region in the Southeast, notwithstanding the fact that it has produced more pottery than any other area of corresponding size on the whole continent. Possibly because of this fact, explorations have been undertaken almost entirely for the purpose of collecting pottery. Fortunate exceptions may be noted in the case of the investigations conducted by the Bureau of American Ethnology in the 'eighties of the last century under the direction of Cyrus Thomas, whose monumental report of 1894 contains a vast amount of information, particularly relating to mounds and their construction.(1) To the indefatigable zeal of Clarence B. Moore we owe a large amount of material on burials and their accompanying

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ferry Mounds on the same side of the river and one Mile east of them are the celebrated Catfish Mounds situated on the banks of a lake by the name of cat fish there is no one lives near them or ever has only hunters and trappers and stave getters and those only stay during the winter months and leave when warm weather comes and brings it (sic) warm water and Buffalow gnats and mosquetoes and reptiles of all sorts and the woods will be deserted of animal life but the Pests and still above this place is a string of mounds over two miles long again on the west side of the St. Francis River and these are called Fortune Mound the river has washed one partly away and has developed many curious things the Steam boats in going up and down frequently stops and gathers what the river has washed out and those Mounds have never been explored by any one and have never seen a pick or Shovel and near this place above is what is called Pemlisco (Pemiscot?) lake whare there are more than at any one place mentioned and then one will be within twenty miles of the Sunk Lands of the St. Francis by land and 75 or 100 by water whare there are thousands more by what I have been told and none have ever been explored . . ." (P.M. x-File, 80-20)

(1) Thomas, 1894.

artifacts.[1] Unfortunately Moore was less concerned with general features of the sites he investigated somewhat too rapidly. The mounds of this region are notoriously poor in artifacts and he avoided them like the plague. In more recent years considerable work has been carried on from time to time by the University of Arkansas under the direction of Dr. S. C. Dellinger, the results of which, unfortunately, are still unpublished. The following brief account of the archaeology of the region, so far as it concerns non-ceramic factors, is made up mainly from these three sources, eked out by various minor accounts which will be cited in place.

2. Eastern Arkansas culture: non-ceramic

Mounds: As in the Cumberland, information in regard to general site characteristics is of the sketchiest nature. Sites are almost entirely situated on rich bottom land where they have been subject to long-continued flooding and cultivation. Many have been partially or wholly destroyed by earthquake disturbances or washed away by changes in stream flow. Pot-hunters have completed the destruction. All major sites are marked by the presence of mounds, usually in considerable number, though on this point there is generally a good deal of uncertainty. The mounds seem to be almost without exception domiciliary in character, hence their bad reputation for sterility in artifacts. Occasional burials are encountered in them, but seldom in sufficient number to justify the term "burial

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(1) Moore, 1908, 1910, 1911.

mound". In the main they exhibit the normal domiciliary features, superimposed floors with fireplaces, post-hole patterns, charred remains of wooden construction and fragments of accidentally fired clay daub.(1)(2)

"Acropolis" type: In this area, however, we meet with a new type of earth structure for which the term "mound", though generally employed, does not seem altogether appropriate. A number of important sites on the St. Francis, and at least one on the Mississippi consist of an immense flat-topped elevation roughly quadrangular in shape, with dimensions up to 900 ft. on a side, the uneven upper surface ranging from 3 to 15 ft. above the surrounding plain. The inequalities of the surface are due to accumulations of debris and to the presence of mounds of the usual domiciliary type. Such elevated sites seem to have been literally riddled with burials.

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(1) I am unable to find any instance where such floors have been excavated with sufficient care to reveal the exact nature of the structures in question. Dr. Dellinger, however, believes that they were rectangular in plan.

(2) Thomas, 1894, pp. 204-5. A fortunate (?) railroad cut through a large group of mounds at Tyronza Station, Poinsett County, exposed a complete section of the site, including several of the mounds. "It will be seen from this, that not only were the mounds occupied as dwelling sites, but that the entire ridge, so far as the cut for the railroad extends, and from the depth of from 2 to 3 feet, has, scattered through it, burnt clay beds, which in Arkansas are sure marks of house sites. The short, heavy, black, horizontal dashes mark the locations of fire-beds or indications of fire, as beds of ashes, charcoal, etc.; the cross-hatched, or shades, short horizontal dashes represent the burnt clay beds, some of which formed the hard floors of dwellings and some the fragments of plastered walls which have fallen over when the dwelling was burned, as appears to have been the case in most instances. The positions and relations of these beds, as shown in the figure, make it evident that upon the site of one burned dwelling another was usually constructed, not infrequently a third, and sometimes even a fourth, the remains of each being underlaid and usually overlaid in part by very dark, adhesive clay or muck from the adjacent excavations which are found in the swamp as well as upon the ridge, and contain water and occasionally fish."

Some of them have suffered the activities of pot-hunters for years. If it could be shown that these great platforms were artificial in origin, one would have what might in a very modest way be called an "acropolis". The evidence on this point, unfortunately, is not sufficiently clear.(1) In part they appear to have been built up by the slow accumulation of debris like any occupational mound, possibly on a

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(1) Miller Mounds, Poinsett County. (Thomas, 1894, p. 208) "Mound No. 1, if in fact it be throughout an artificial structure, is long, flat-topped, though not level, and irregular in form, the greatest length being about 900 ft. and the greatest width about 225 ft. The height varies from 4 ft. at the northern end to 12 at the southern. . . . Although designated a mound, this may in part be a natural formation, possibly the remnant of a former ridge which has been swept away by the overflows; but that the height has been artificially increased at the southern end cannot be doubted . ."

Castile Place, St. Francis County. (Moore, 1910, pp. 266-7). ". . a quadrangular mound about 300 ft. by 350 ft. in extent, with the upper surface somewhat rolling. Probably 7.5 ft. would be a fair estimate of the average height of the mound. . . The mound, which probably has increased in height by stages, was composed of loamy material with a large admixture of ashes and much baked clay in masses, perhaps fireplaces broken through in digging graves -- for the aborigines had buried where they lived."

Rose Mound, Cross County. (Moore 1910, pp. 276-7). "This field, in reality a great mound, quadrangular with rounded corners, generally flat but having many inequalities of surface . . seemingly in the past was part of a tongue of land pointing westward . . . The mound was formed by digging a large trench on the eastern part of the tongue of land and separating this tongue from the mainland on that side. There are also remains of a trench at the western end which cut off the tip of the tongue. The other sides of the mound look out upon swamp, dry at the time of our visit, which is considerably lower than was the tongue of land originally.

The northern, eastern, southern and western sides of the mound are in length, about 849, 471, 900 and 270 feet. . .

The height of the mound is difficult to determine. Its altitude on the eastern side . . . is from 3 to 6 feet. From the other sides, however, the height is much greater -- 15 feet or more in places, but this includes much of the original tongue of land . . . The surface of the mound, often to a depth of 5 feet and more, is not the alluvial soil of the surrounding territory and of the lower parts of the mound, but is rich black loam containing midden-debris and many fireplaces . . .

nuclear core of natural origin. On the other hand, that some deliberate upbuilding entered into their construction is strongly indicated by the evidence. A good deal of interest attaches to this type of construction, as one of the special adaptations to environment spoken of in an earlier paragraph (p. 465). It seems obvious that its purpose was to raise the site above the flood line.(1) The

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Not far from the center of the mound is a conical mound about 4 feet high and 40 feet across the base, which presumably was the site of the chief's residence.

The entire surface of the great mound is scarred with remains of holes made by seekers after pottery . . . It was difficult to find an area of even a few square feet on any part of the great mound that did not show traces of the spade." (notwithstanding which Moore got 207 burials containing 587 pots!)

Parkin, Cross County. (Moore, 1910, p. 303). "The Parkin Mound, similar in type to the Rose Mound, has a great upper surface, as a rule flat, on which are many humps and rises. According to a rough measurement the sides of the mound are of the following lengths: north, 617 feet; south, 525 feet; east, 938 feet; west, 863 feet. It is surrounded on three sides by depressions whence unquestionably material to make the lower part of it was taken. Subsequently the height of the mound increased by the accumulations due to long occupancy. This made-ground we found to have a depth no greater than 4.5 feet in the various holes sunk by us. The height of the mound above the general level probably is from 3 to 6 feet . . .

There is a pond in the level ground on the northern side of the mound, no doubt caused by the removal of material for its making.

On the western edge of this great mound, on the river bank, is a mound 20 feet in height . . ."

From the foregoing descriptions incomplete as they are a fairly clear picture emerges of the finished structure, but only in the two last mentioned sites, Rose and Parkin is there any evidence of deliberate artificial construction, and that none too explicit.

(1) The Miller mound, to which reference has been made in the preceeding note, was said to remain uncovered during overflows, the rest of the site (except two other higher mounds) submerged to a depth of 3 or 4 feet.--Thomas, 1894, p. 208.

theory has often been advanced that such a contingency was responsible for the development of the platform type of mound in general. One must confess that were there only the St. Francis Basin to be considered it would be difficult to refute it. It is hardly necessary to point out that there remains an immense distribution in which platform mounds of the ordinary type are located in sites where flooding is not a factor, and there remains as well the problem of the possible relationship of such mounds and this new "acropolis" type to boot to the analogous structures of Mexico and the Maya area. The problem, obviously, is not a simple one.

Mound assemblage: In the matter of arrangement and orientation of mounds we meet with particular disappointment. Few plans of sites are to be found in the literature, and of these, none inspire the beholder with confidence as to their accuracy or completeness.(1) Consequently we cannot say with certainty whether or not the plaza type of assemblage, that we have come to regard as typical of Middle Mississippi sites, is present. From a laconic statement of Professor Thomas we may conclude that it is: "There was, as usual, a space fronting this mound (a dominant truncated pyramidal structure) destitute of the circular house sites."(2) At any rate it seems fairly certain that consistent orientation and general rectangularity of plan are not in evidence. In these respects at least the sites of Eastern Arkansas show a decided falling off from sites in

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(1) The monumental publications of C. B. Moore are particularly unsatisfactory in this respect. In his two volumes dealing with Eastern Arkansas (1910, 1911) he gives no plans of sites whatever and only occasionally comments on features of general site arrangement. For information of this kind we are practically limited to the older Bureau report (Thomas, 1894).

(2) Ibid., p. 235.

the Cahokia region, also from sites in the lower Mississippi, and in so doing show their similarity to the Cumberland and Cairo Lowland.

A single large mound generally dominates the site, as is the case at Cahokia and in the Cumberland and Cairo Lowland areas. Here it is possible to find a practical reason for the circumstance. Thomas notes that the smaller domiciliary mounds in the St. Francis region are built up by the gradual superposition of floors with small intervals between, and that the large majority of such mounds are subject to overflow in times of high water, "but no instance is known where the large, flat-topped mound of a group is not now above all ordinary floods. Although the latter also contain firebeds, these are not so common as in the smaller ones, from which we may perhaps justly conclude that the people realizing their situation, built up more rapidly one large central mound above the floods as a site for several dwellings or a large communal house, as well as a refuge for the villagers in times of floods."(1)

Circumvallations: Since writing of Aztlan in an earlier section of this work, I have been on the lookout for evidences of circumvallations, particularly for indications of stockade construction plastered with clay, and for projecting bastions or fighting platforms. These last features, I supposed, after a summary

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(1) Thomas, 1894, p. 207.
The great flood of 1927 brought this aspect of mound building to the attention of archaeologists. See Kidder, 1927.

examination of a considerable amount of archaeological and ethnological data, were specializations belonging to Middle and Lower Mississippi cultures. Subsequent findings have not added very much strength to my original supposition. The evidence in the Cumberland, to be sure, was abundant and conclusive. In the Cairo Lowland the majority of sites were surrounded by earthen walls but the evidence of bastions and clay daub was not forthcoming. We have an additional reason for establishing the presence of such fortifications here in Eastern Arkansas because certain villages visited by DeSoto (supposedly in this area)[1] were so defended. Naturally we should like very much to bring out points of contact between the culture as described by DeSoto's chroniclers and that at present under consideration.

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(1) "In Aquixo, and Casqui, and Pacaha, they saw the best villages seen up to that time, better stockaded and fortified, and the people were of finer quality, excepting those of Cofitachequi." Ranjel (Bourne trans.) p. 141.

Pacaha "was enclosed and very large. In the towers and the palisade were many loopholes . . At the distance of half a league to a league off were large towns, all of them surrounded with stockades" -- Elvas (Buckingham Smith trans. 1866).

Pacaha, situated on a plain "well fenced about, and surrounded by a water ditch made by hand" -- DeBiedma (Buckingham Smith trans. 1866) p. 251.

Capaha (Pacaha in the other sources) "very well fortified, because it was the key of the province. This town is upon a small eminence, and has some five hundred good houses, and a ditch of ten or twelve fathoms, fifty paces wide in most places and forty at others. Besides it was filled with water by means of a canal which they had extended from the place to the Chucagua (Mississippi). This canal was three leagues long, at least as deep as a pike-staff, and so wide that two large boats abreast could very easily ascend and descend it. The ditch, which is filled by the canal, surrounds the town, except in a place which is closed by a palisade of large posts fixed in the ground, fastened by other cross-pieces of wood and plastered with loam and straw."

It is doubly unfortunate, therefore, that our information on this point is so pitifully meagre. Of the many sites described and figured in the Bureau Report, only one, "Old Town", in Phillips county on the southern margin of our area, is shown with a surrounding wall. A preoccupation, on the part of our other principal authority, C. B. Moore, with burials and what they contained is perhaps the reason for the fact that no mention of defensive works is to be found in the two volumes devoted to this area. The only really adequate description of a fortified site that I have been able to find is T. H. Lewis's account of the "Old Fort" in Cross county. The site is somewhat atypical in that it occupies an elevated position on the east flank of Crowley's Ridge, which gives it something of the character of the hill-top fortifications that are supposed to be characteristic of the Fort Ancient culture. In other respects however it seems to conform to the Middle Mississippi type. In plan an approximate rectangle modified somewhat to fit the small plateau it occupies, the site is superficially not unlike the fortified sites of the Cairo Lowland district previously described (fig. 52) and is like them also in that the wall does not show any traces of projecting bastions. Lewis mentions another similarly fortified site, the Goodwin site, in nearby Poinsett county.(1) Mention of the Stanley site in Cross county should not be omitted in this connection. In Edwin Curtis's "field-notes"

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(1) Lewis, 1894.

referring to his excavations at this site in 1880 is a very crude sketch of the site in which it appears that it was surrounded on three sides by a "deep ditch", the fourth side being formed by the St. Francis river. The area enclosed is roughly rectangular in shape with rounded corners. Curtis speaks of finding fragments of burnt clay along the edge of this ditch and suggests that it was applied to prevent the sides of the ditch from caving in. It seems more likely that what he found were remains of the clay daub that formerly covered some sort of palisade construction.(1) One thinks at once of the defences of Pacaha, which seem to have consisted in some sort of combination of daubed clay palisades with a moat or ditch.

The evidence of fortifications in this area, with these few exceptions, is negative. With all due reservations, considering the nature of the information, it must be admitted that our expectation in regard to this trait has not been fulfilled. Not only are fortifications of any kind rarely present, but the special features, which I had hoped to show were peculiar to Middle (and perhaps Lower) Mississippi cultures, namely the use of clay daub and the presence of projecting bastions, are not even mentioned. I hesitate to make this discussion even more tenuous by introducing an environmental explanation, but it does seem likely that the general swampiness of the district may have, in many cases, afforded

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(1) P. M. X-file 80-20.

sufficient protection against assault. Perhaps we have in this another of the reasons why this seemingly unfavorable environment was able to support a fairly advanced culture.

House types: To judge from previous findings (Spoon River, Cumberland, Cairo Lowland) Middle Mississippi house remains are almost invariably described in the older literature as circular ("hut-rings", "house circles", etc.) and upon excavation as invariably turn out to be rectangular. So here. Though generally described as circular, the collapse and decay of such houses would seem to result in low vaguely circular mounds -- the evidence for their rectangularity is perfectly clear. We have to begin with the early excavations of the Bureau assistants which not only disclosed rectangular floors and post-mold patterns, but in several cases found these associated together in a way that strongly suggested that some houses at least were made up of several contiguous rectangular rooms, possibly the rude beginnings of something analogous to the earliest house clusters of jacal construction in the Developmental Pueblo period in the Southwest.(1) Perhaps it is no accident that these several-roomed structures are found in the St. Francis portion of our area, which shows, I believe, even more than the Mississippi portion, tendencies that look Southwestern in origin.

Information from Dr. Dellinger confirms the above with respect to rectangularity of plan, if not, unfortunately, in the matter of

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(1) Thomas, 1894, fig. 117, p. 208; fig. 136, p. 229.

the development of contiguous rooms. He excavated two houses on one of the Mississippi sites, found them rectangular in plan, of wattle-and-daub construction, the roof supported by four interior posts. One of them had at one side a supplementary structure which may have been a porch or entrance feature.

As to actual construction, beyond the use of clay daub, which seems to have been practically universal,(1) there is little to be said. Dellinger's information suggests a rigid frame construction (interior supporting posts) rather than the simpler flexible dome-shaped affair which seemed to be indicated by the Cumberland data. Possibly

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(1) The impression, after going over the evidence in these various Middle Mississippi centers, though impossible to objectify, is that wattle-and-daub construction was very much more in evidence in Eastern Arkansas than in the other centers. In the Cumberland and Cairo Lowland the suspicion was always present that possibly wattle-and-daub was not in general use, but was reserved for important structures, such as are found on domiciliary mounds. There can be no question about its use for ordinary dwellings here.

The question is complicated by the fact that, in order to be preserved, clay daub must be accidentally (or intentionally) fired. The greater amount of it in evidence in Eastern Arkansas may be due to more frequent firing of houses, possibly in connection with burial practices.

One is constantly running into references to "bricks" in this area. Not all of them can be explained merely as a misapplication of the term. "On the bottom hearth of Mound B was a layer of what had the appearance of hand-molded brick, well burned, and as red and hard as modern brick. These bricks, as a matter of course, were irregular in form and proportion, but seemed to have been intentionally formed before burning." -- Thomas, 1894, p. 205. The explanation of these "bricks" is perhaps to be found in Moore, 1910, p. 280. In the great Rose mound he found certain fireplaces "not characterized by the ordinary debris found near fires devoted to culinary purposes, but contained masses of burnt clay, of irregular shape, ranging in size to double that of a closed hand. Possibly these masses had served in the construction of ovens for firing pottery, as with these masses were found numbers of fragments of vessels, which had a new appearance and did not seem to have been in use, but rather appeared to be parts of vessels that had broken in the process of firing."

the addition of interior supporting members was correlated with the use of clay daub on the roof as well as the side-walls, which was common practice in the lower Mississippi valley according to ethnographic sources. In one important respect Eastern Arkansas houses differ, it would seem, from those of the closely related Cairo Lowland, i. e. in not having depressed floors. Information, however, on this point is not eminently satisfactory in either area. In any case it is the Cairo Lowland practice which would seem to depart from the Middle Mississippi norm, which was to build directly on the ground, removing only the superficial top-soil.(1)

Burial practices: Mound burial, in the strict sense of the term, appears less and less as a Middle Mississippi characteristic, as the present investigation proceeds. Here in Eastern Arkansas, more than in the several cultures already examined, burials are said to be in "cemeteries" rather than mounds. The statement requires some qualification however. While there seem to be no burial mounds worthy of the name, not even any of those accumulations of burials, unintentional burial mounds if you like, such as we have seen to be characteristic of various Middle Mississippi centers further north, the fact remains that burial in mounds were rather frequent. I

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(1) Perhaps this whole question of depressed floors, except when the excavation is sufficient to bring it into the actual pit-house category, is of no significance whatever. A certain amount of excavation was surely necessary to get a solid and level foundation for the preparation of the clay floor. The depth to which it would be necessary to go for this object would, of course, depend wholly on local ground conditions.

think in all cases, however, these may be referred to the practice of interment upon or under the floors of dwellings or "temples" for which the mounds served as foundation platforms. Furthermore it appears that very often what pass for "cemeteries" are actually concentrations of burials in and about the actual dwelling sites. This is particularly true of the great "mounds" like Rose and Parkin on the St. Francis, in which the entire site is an elevated accumulation of mixed house remains, debris and burials. All such sites, and indeed all sites with a few conspicuous exceptions, have been dug by persons interested in burials alone, who quite naturally regarded them as cemeteries.(1) In the sense of a place set apart expressly for burial purposes, the term is wholly inappropriate. It would seem rather that the important point is that burials are predominantly associated with house remains either in mounds or on the flat, which practice, it would seem, differs markedly from what we have come to consider as the norm for Middle Mississippi cultures. On the other hand, in the virtual absence of mounds built expressly for burial purposes Eastern Arkansas conforms to the normal pattern.

Sub-floor interment we have met with elsewhere (Cumberland, p.241) but chiefly as a special form of burial limited to children.

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(1) It is not surprising that Moore regarded the Rose mound, for example, as a "cemetery". It was a veritable necropolis. Notwithstanding the fact that it had been dug over by pot-hunters for years so that "it was difficult to find an area of even a few square feet on any part of the great mound, which did not show traces of the spade", Moore found 207 burials that had been overlooked by his predecessors. Moore, 1910, p. 278.

Here the placing of bodies upon or under the floors of houses seems to be normal practice for adults as well, and along with it we get indications of the destruction of the house as part of the funeral rites.(1) The best evidence for this practice is in Thomas. Moore's information on this point is curiously disappointing, chiefly owing to the fact that he shied away from mounds wherever possible and gave little attention to house remains even when he had to dig through them to get at his burials.(2)

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(1) "All the indications go to confirm the theory that the dead were interred in a deposit of clay, swamp mud, or charcoal and ashes, or a mixture of them, either in or immediately beneath the dwellings, which were then burned over them. Frequently several skeletons of different sizes were found in these places as though members of a family; but whether they were all interred at one time or were buried there one at a time, as they died, is not clear, as the evidence seems to point to both methods, and perhaps both were practiced. But there can be no doubt that it was a custom among the mound-builders of this section to spread a layer of fresh earth upon the charred remains of one dwelling, often while yet smouldering, to the depth of 1, 2 or 3 feet, and subsequently use it as the site of another dwelling, and sometimes even a third, thus increasing the height of the mound; each layer becoming the burial place of some, at least, of the occupants of dwellings destroyed." -- Thomas, 1894, pp. 206-7.

Edward Palmer excavated house sites on the Bradley Place in Crittenden County and found many burials, "After the top soil was removed was burnt clay which was sometimes a foot thick either crumbling with impressions of grass and sticks or hard with reed impressions. Then more or less ashes associated with some six inches of burnt grass with which were the human remains." Palmer 1917, p. 403.

(2) I have said repeatedly, excusing Moore, that his information was almost entirely confined to burials and their contents. Actually even in respect to these his information is not very good. While carefully noting such details as position of skeleton, arrangement of accompanying artifacts, orientation and so on, he says little or nothing about the relationship of graves to mounds, house sites and other features. So that on a point like sub-floor burial his silence is not to be taken as negative evidence. It is simply one of a number of things which he failed to observe, or if observed, failed to mention.

Special treatment for children there apparently was, however, for Edwin Curtis encountered a mound at the Stanley site on the St. Francis river in which all burials were those of children, and were especially rich in artifacts.(1) From his description it appears that these also were sub-floor burials, though such was not his interpretation.(2) The circumstances recall the widely publicized "Infant Burial Mound" at Fain King's "Ancient Buried City", Wycliffe, Kentucky. We have noted similar indications in the Cumberland and Cairo Lowland. Thus by an accumulation of evidence, none of it too good, the segregation and special treatment of children in death emerges as an interesting, if not important, characteristic of Middle Mississippi culture.

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(1) One has the impression that, generally speaking, children's graves were more lavishly supplied with offerings than those of adults. Moore says: "At the Rhodes Place the greatest number of vessels found with one burial was nine, and children had been by far the most favored." Moore, 1911, p. 416.

(2) "It appears as though they when they buried a body as though they burned clay on the floor of the grave and then placed the body in the vault covered it over with earth and sticks and burned that (this would be the remains of the burned dwelling) for I found the bones in a fair state of preservation and vary ritch in pottery but few implements besides the pottery and what was more surprising not an adult was found in the mound all children or young people buried in this Mound and all wealthy for there was something found in every one from one two and up to twenty eight." Edwin Curtis Field Notes, P.M.X-file 80-20.

Curtis had previously dug in the Cumberland and was impressed by the similarities in Eastern Arkansas to that culture, was on the lookout accordingly for something analogous to the stone graves of that region.

In regard to actual burial types, the formula, "predominantly extended, secondary 'bundle' and mass burials not uncommon, flexure rare" seemed to describe the situation in the various Middle Mississippi centers examined insofar as the generally incomplete data would permit. It was perforce based only on general impressions and was not intended to be taken too seriously. Here, thanks to Moore, who at long last comes into his own, we have some fairly precise figures, which are summarized below.(1) It is apparent at once that the formula will not do at all. It fails to express with

(1) Sites	Extended	Face down	Flexed (partly)	"Bundle"	Cremat.	Unspec.	Total
Rose	177(-)	-	30	-	-	?	207
Parkin	16	-	2	-	-	1	19
Neeley's Ferry	93(-)	1	-	-	1	?	95
Turkey Island	41(-)	-	-	-	1	?	42
Lindsay	-	-	-	-	1	0	1
Cummings	36(-)	1	-	-	-	3	40
Miller	57(-)	-	1	-	-	?	58
Potter	7	1	2	-	-	-	10
Stoffle	9	-	1	-	-	13	23
Pecan Point	248	5	3	-	-	93	349
Bradley	117	7	3	-	-	54	181
Rhodes	35	-	1	-	-	29	65
Commerce	8	-	-	18	1	2	29
Mhoon	-	-	-	3	-	1	4
Kent	11	-	20	3	-	20	54
Avenue	3	-	13	39	-	7	62
Neblett	?	-	?	44	-	?	65

The "unspecified" burials are generally those of children and adults too far gone for determination of position. Question marks indicate that Moore does not say how many of such undeterminate burials there were. Minus sign after the number of extended burials is where Moore says, "all but such a number were flexed" without saying how many of these were not determined. Owing to these factors of uncertainty, it is useless to calculate percentages. Also unnecessary; the table speaks for itself.

anything approaching adequacy the overwhelming preponderance of extended burials over every other type. Flexed burial, on the other hand, moves up from third to second place, while "bundle" burial (except in certain sites to be discussed later) drops out altogether. The occurrence of cremation in urns is interesting but not sufficiently common to be of any great significance. Urn burial is definitely a late characteristic in Alabama, and there are suggestions that such is the case here.[1][2][3][4]

The furniture of graves in this area is invariably described as generous, not to say lavish, but the offerings are almost entirely in the form of pottery.[5] Stone objects are almost never encountered in graves, objects of bone and shell only very seldom. Vessels,

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(1) It is to be noted, however, that the "flexed" burials of the accompanying table are generally referred to by Moore as "partly flexed". Only a small fraction of those listed would qualify as closely flexed burials.

(2) The predominance of flexed and bundle burials, particularly the latter, in the southernmost Mississippi sites, Commerce to Neblett on the table, marks the rather abrupt cultural shift in this portion of our area from an Eastern Arkansas to an Arkansas River type of culture. The change in burial procedure is correlated with changes in pottery styles, as we shall see. Whether these sites are to be included with the one center or the other will be a matter for consideration after we have looked at the pottery. In any case, it is obvious that they stand sufficiently apart from "pure" Eastern Arkansas as not to affect the generalizations upon burial practices made above.

(3) See Brannon and others in "Arrow Points".

(4) Information from S. C. Dellinger.

(5) A grave without artifacts was sufficiently uncommon to receive particular mention in Moore, 1910, p. 274.

sometimes to a considerable number are generally found stacked around the head of the skeleton. The pot-hunters accordingly sound for the skull with their rods and only dig that end of the grave.

With all due circumspection we may conclude that Eastern Arkansas burial practices, while conforming in a general way to the norm tentatively set up through investigation of Middle Mississippi cultures further north, depart from it in one or two important particulars, which may be repeated here. There seem to be no "burial mounds", even with inverted commas. Burial places are not set apart, but tend to be associated directly with dwelling places, such association often taking the form of burials directly upon, or beneath the floors of houses. The houses in many cases seem to have been burned as part of the burial rite. Burials are overwhelmingly of the extended type. There is some partial flexure, but the bundle type of burial is conspicuously absent. The result, so far as the ultimate definition of Middle Mississippi burial practices is concerned, is, after all, what one must expect. Burial practices are generally far from showing the uniformity and stability with which they have been credited. As criteria for culture comparison they are certainly important but exceedingly untrustworthy. Any hope that I may have entertained of being able to devise a formula in one sentence that would sufficiently cover the burial practices of the entire Middle Mississippi culture was certainly premature.

Artifacts: lack of non-ceramic evidence: The unfortunate propensity of the Eastern Arkansas people to limit their funerary

offerings to pottery, combined with the fact that practically all excavations have been confined to burials, makes it inevitable that our knowledge of the non-ceramic aspects of the culture is very scant indeed. A like situation obtained in the Cairo Lowland area, but there the marked similarity of the material, so far as it went, to corresponding artifacts in the Cumberland, made it possible to use that culture as a base, so to speak, thus permitting a few generalities sufficient for the purpose in hand. To follow the same procedure here would involve stretching the threads connecting back to the Cumberland to their breaking point.

Stone: Work in this material, for example, shows marked similarity in general features to the Cumberland and Cairo Lowland, but with differences in detail, many of which no doubt are the result of the adaptation of the same basic techniques to different raw materials. Projectile points, as in the Cumberland, are not abundant, doubtless owing to the fact that bone, antler and alligator gar scales were also utilized for the purpose.(1) There is the same general absence of notched and stemmed forms, except in the larger categories commonly classed as knives and spear-points, repeatedly noted as characteristic of Mississippi cultures, but the usual small triangular arrow point is replaced here by a very nicely chipped

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(1) Moore, 1910, p. 331. "Incidentally, it may be said that barbed arrowheads or any arrowheads of stone, except of the type to which reference has been made, are uncommon along the St. Francis. On the other hand, arrowheads wrought from antler points are more numerous in the St. Francis region than we have found them to be elsewhere."
Alligator gar scales have occasionally been found in Eastern Arkansas burials. Their use as arrowpoints by the Natchez is mentioned by DuPratz (II:156).

willow-leaf (or, less commonly, half willow-leaf with flat base) type made from very flat flakes often retouched only on one side, fig. 71. This is by all accounts the dominant type of point, and as such marks a radical departure from what is regarded further north as the Mississippi norm. Of larger points, knives, scrapers, drills, etc. one can say nothing without further evidence. Long finely chipped blades comparable to those from the Cumberland do occur as isolated finds and are said to be assignable to the culture. A broken specimen has been recorded which, complete, would have been somewhere in the neighborhood of 36 inches long.(1) Otherwise the fancy flintwork that seems to center in the Cumberland region is not well represented. A single flint "mace" in the Lemley Collection from a site on the St. Francis in Craighead county, serves but to emphasize the extreme rarity of implements of this class.(2) Flint agricultural tools, on the other hand, definitely belong to the culture. There are the same general types, classed for no good reason that I can see as "hoes" and "spades", the actual shapes differing very little from their counterparts in cultures already studied. One has the impression, nevertheless, that such implements are not nearly so well represented here, that in respect to the center of distribution of this trait, Eastern Arkansas is marginal. Probably purely a question

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(1) Information from Dr. S. C. Dellinger.

(2) In the important collection of Harry J. Lemley, of Hope, Arkansas. Found in a site on the St. Francis River, near Monette, in Craighead County.

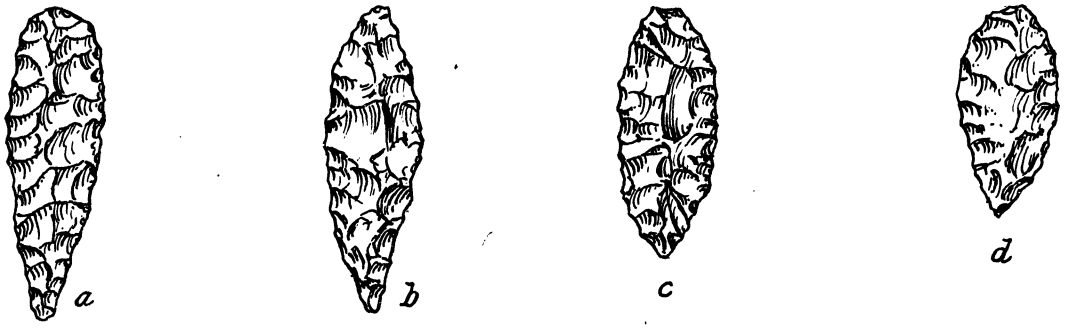

Fig. 71. Willow-leaf points, Eastern Arkansas culture. Scale 1:1. (Peabody Museum).

of availability of raw materials, which in the case of implements of such size and weight becomes a factor of importance.(1)

As in all Mississippi cultures the common ax form is the celt. The grooved ax is definitely out of the picture. The most conspicuous thing about Eastern Arkansas celts, whether chipped or polished, is their small size. Large chipped, or partly polished, celts and adzes comparable to the beautiful examples from the Cumberland and Cairo Lowland apparently do not occur, or at best are very rare. By all odds the commonest implement of this class is the so-called "chisel", in shape a small celt made from a pebble of flint or other suitable material, not seldom petrified wood, rudely chipped into shape, generally with some of the original cortex of the pebble left intact and with the cutting edge only ground and polished. Of problematical or "ceremonial" ax forms such as those types provisionally classified in connection with the Cumberland as spatulates, spuds

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(1) We also find the shell hoe in use here, but not to the same extent apparently as in Fort Ancient, Spoon River, etc., which are likewise marginal to the main center of distribution of stone agricultural tools. It would seem obvious that shell makes a poor substitute for stone in this connection.

and shouldered celts, only the latter has turned up, to my knowledge, and only in one instance and that without definite associations.[1] The monolithic ax has not been reported.

Discoidals in various materials are common, particularly in the smaller sizes.[2] The large bi-concave type, much sought after by collectors, occasionally appears but with the usual uncertainty as to precise cultural associations. One or two large "palettes" comparable to the famous Moundville specimens have turned up in locations, not within but rather near the boundaries of our area.[3] The only excuse for mentioning them is that in two cases at least they bear decorations that can be duplicated in full-fledged Eastern Arkansas pottery. This, however, can hardly be sufficient ground for regarding this highly developed trait as belonging to the culture. Large effigy pipes in stone, of the blocky crouching human figure type, are said to be particularly common on the St. Francis River. The few examples that have come to my attention are conspicuous neither for beauty of conception nor excellence of workmanship. Though of the same generic type, they in no wise compare with the beautiful pipes recently unearthed at Spiro. A few stone images have been reported. One in

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(1) Lemley collection, R-42, found near Lepanto, Mississippi County.

(2) A label in the University of Arkansas Museum states that discoidals "are often found in burials in groups of three". Whether this offers any hint as to their possible use I am unable to say.

(3) The "Mississippi Tablet" in the Columbus Museum bears a rattlesnake design that can be matched . . . in Eastern Arkansas pottery. See Stoddard, H. L., Intercommunication and transmission of symbols between Asia and America, Pub. Arkansas Hist. Assoc. vol. 1, pp. 455-465, an effusion of the usual phallic hunting sort, for beautiful palette from the lower Arkansas river, bearing decoration of the "Moundville eye" type which occurs so frequently as an applied design round the neck of water bottles from Eastern Arkansas.

the Museum of the University of Arkansas is of especial interest. A crude flat-featured cross-legged individual in limestone, about 12 inches high, it offers a rather striking similarity in style to the scarcely more beautiful figures found by Moorehead at Etowah.(1) It was found along with a fragment of repoussé copper, also of Etowah type (of which more anon) in an Eastern Arkansas site in Craighead County. As an evidence of connection with Etowah, the importance of these associated finds cannot be exaggerated.

In general, and so far as it goes, which is admittedly not very far, the evidence of Eastern Arkansas stone work appears to follow closely that of the Cumberland and Cairo Lowland, but with perhaps a slight falling off in quantity and quality, due possibly to nothing more significant than a greater scarcity of raw materials. In general the more highly developed traits are either absent or poorly represented, so that were we forced to rely on the evidence from stonework alone, it would be difficult to establish connections with the "higher" centers of the Etowah-Moundville-Spiro combination. The possible significance of this apparent situation will be dealt with in a later section.

Bone: The scanty information at hand in respect to the use of bone and antler in eastern Arkansas makesit possible to add little to the general remarks concerning this material in the Cumberland. Again, one may refer to its relative unimportance compared with

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(1) Moorehead, 1932, figs. 3-5.

cultures like Fort Ancient and Iroquois. In some respects, however, Eastern Arkansas seems to stand closer to these northern bone-using peoples, than did the geographically nearer Cumberland. For example, antler arrow points, said to be as common as flint in Fort Ancient, evidently rare in the Cumberland, are again common in Eastern Arkansas. The same appears to be true of the small cylindrical implements of antler, generally designated as "flakers". The use of scapulae of the larger mammals for various implements again comes into play, also cut-deer-jaw graters. The bone comb, though certainly rare in Eastern Arkansas, recalls the importance of this object in the northern cultures. So far as I know it has not been reported from the Cumberland. The abundance of tubular bone beads points in the same direction. On the other hand, long bodkin-like objects with decorated heads probably used as hair ornaments appear in all three cultures. Gaming pieces of worked deer astragali, found sparingly in Fort Ancient and the Cumberland, seem to be very much at home here.(1) With all due regard for the

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(1) The use of astragali as play-pieces is said to be very common in primitive cultures throughout the world. Culin, however, cites but one example from North America, an unworked bison astragalus used by the Papago of southern Arizona ("Games of the North American Indians" B.A.E. 24th Ann. Rep., 1907, p. 148). Moore states that worked astragali, i.e. with sides ground down to make a closer approximation to a cube, are very rare in North American archaeology, and cites letters from Culin to the effect that Moore's specimens from Pecan Point were the only worked astragali he had ever seen or heard of from North America. (Moore, 1911, p. 453). He was also informed by Mr. Willoughby that the only example in the Peabody Museum was a specimen from Patagonia.

Evidently, from the foregoing, worked astragali are very rare indeed, but not quite to the extent claimed by Moore. Reference to their presence in Fort Ancient has been made. Examples from the Cumberland may be seen in the Museum's collections. However, here

incompleteness of the evidence, it is nevertheless difficult to refrain from emphasizing the close relationship of Eastern Arkansas with Fort Ancient in the use of bone and antler, a relationship which seems not to have been shared (to anything like the same extent) by the Cumberland.

Shell: In this category there is little to add to the generalizations already presented in connection with other Middle Mississippi manifestations. As in the Cumberland and Cairo Lowland, our information derives almost entirely from burials, consequently is weighted heavily on the ornamental side. One has nevertheless the impression that implements and utensils of shell, particularly the perforated Unio "hoes", are distinctly less in evidence than in Upper Mississippi cultures such as the Fort Ancient. This is possibly due to the importance of agricultural tools of stone. Shell spoons, however, are common, as in the Cumberland and Cairo Lowland, but generally without decorative modification. Undecorated shell "cups" are also present but rare. All the usual types of beads and pendants are

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in eastern Arkansas they are not only present, but actually rather common. In one grave at Pecan Point Moore found a set of three, in graduated sizes, of the deer, elk and bison respectively.

In view of their general scarcity throughout the country, the appearance of this rather specialized object in Fort Ancient, the Cumberland and Eastern Arkansas may be not without significance.

present and some new ones. Small conch shells perforated at the beak are particularly characteristic. Shell ear "pins" of the common Mississippi types (fig. 72) are very much in evidence, and there are one or two references to ear-spools of the same material.

Turning to the more advanced ornamental types which occupied so much attention in our consideration of the Cumberland and Cairo Lowland shellwork, we meet with strange disappointment. Circular gorgets are present, but are apparently seldom if ever decorated by engraving. The only type of gorget bearing any sort of decoration is the "mask" type shown in fig. 73. These occur commonly on the upper Tennessee river (eastern Tennessee and northern Alabama) and have been found in miniature in the Fort Ancient site of Madisonville, but seem not to have been reported in the Cumberland and Cairo Lowland areas. At the Rhodes site in eastern Arkansas Moore found a small example of this type, but without engraving, in the same grave with European materials, which suggests a possible reason for their absence in the cultures just named.(1)

Aside from the rudimentary eye decoration on these "face gorgets" or masks, Eastern Arkansas does not seem to have participated in the art movement that produced the remarkable gorgets of Etowah, Moundville, the Cumberland and Cairo Lowland, and the famous decorated shells of Spiro. The large Eastern Arkansas collection of the University of Arkansas and that of Harry J. Lemley are entirely barren

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(1) Moore, 1911, p. 415.

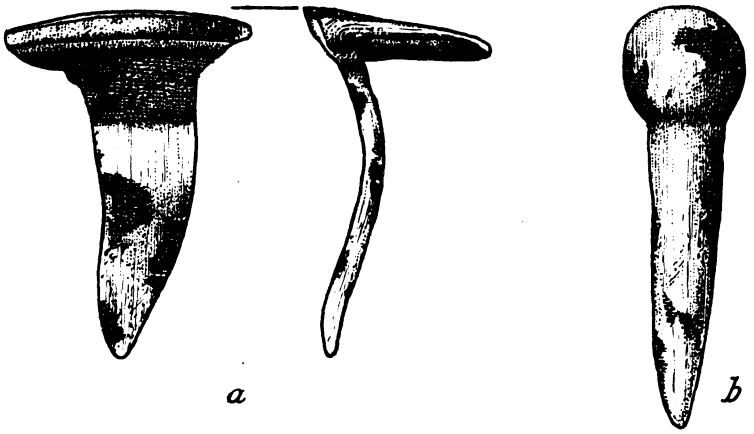

Fig. 72. Shell ear pins of characteristic Mississippi type. Scale 1:1. (Peabody Museum).

of such treasured objects.(1) The absence of such decoration is all the more noteworthy considering the fact that engravings of close stylistic affinity occur on Eastern Arkansas pottery (see Plate LXXXIV). Is it possible that we have here merely a transference from one medium to another without a break in stylistic continuity? It has often occurred to me that engraving in the Southeast could be well studied as a whole without too much regard for the materials employed. Thus we might find an unbroken tradition from the famous bone engravings of the Hopewellians, through similar work on stone, shell and pottery, though not necessarily, of course, in that order.

The presence of gorgets of the mask type, which bears every indication of an extremely late trait,(2) added to the conspicuous

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(1) The engraved cup found many years ago on the White River and now in the National Museum, though from the general region of eastern Arkansas, cannot be associated archaeologically with the Eastern Arkansas culture as defined in the present work. See Thomas, 1894, pp. 224-5, fig. 133.

(2) Harrington believed that this type of gorget in East Tennessee was associated with the Cherokee (Harrington, 1922, p. 253.) and recent opinions, I believe, tend to substantiate his conclusion. Its occurrence at Madisonville, an early historic Fort Ancient site strengthens the assumption of a late date and the finding of an undecorated specimen in association with trade materials referred to above clinches the argument.

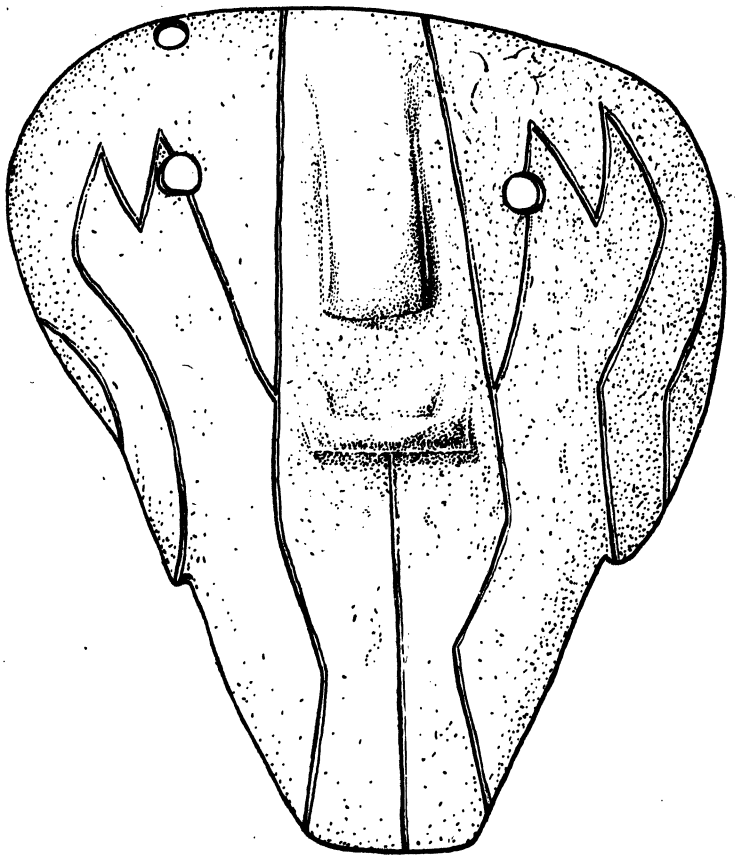

Fig. 73. Shell gorget of the "mask" type, Eastern Arkansas culture. Scale 1:1. (Moore, 1910, fig. 45).

absence of shell engraving makes a rather strong argument in favor of a time differential between such purely Middle Mississippi manifestations as the Cumberland and Cairo Lowland together with the partly Middle Mississippian sites of Etowah, Moundville and Spiro on the one hand, and Eastern Arkansas on the other. The advantages in antiquity are, of course, with the former. By itself the argument is not conclusive, but it allies itself with a number of similar indications, some of which I have already mentioned. I shall return to this point at the close of the present section.

Copper: To the observation so often repeated in these pages that copper plays no important role in Mississippi manifestations, Eastern Arkansas is no exception. No practicable implements of any kind have been reported. The rather showy lance heads figured by Moore from the Rose site, unique so far as I know in Southeastern archaeology, are quite obviously decorative or ceremonial. These remarkable objects, one of which is shown in fig. 74 are evidently simply cut from sheet metal in a manner far more common in the Ohio Hopewell culture. Headbands of simple design, also cut from sheet metal, are not infrequent. A single copper "cross" of a type that we have already seen at Madisonville and in the Cumberland is in the P. M. collection from the Rose mound. I have already referred to the implications of late dating offered by these interesting objects (cf. p.298). Perhaps the commonest use of the red metal is as an overlay on small objects of other materials, chiefly stone and wooden ear-spools. With the mention of rolled tubular beads and one fragment of a repoussé copper plate, the inventory of objects in metal is substantially complete.

Repoussé copper: I have postponed discussion of the repousse problem until this section, because it is here that archaeological evidence supporting the association of the technique with a Middle Mississippi culture first presents itself. Notwithstanding the many lines of connection between the Cumberland and Etowah and Moundville, both famous producers of repoussé copper, and in spite of the stylistic identity of certain Cumberland shell engravings with

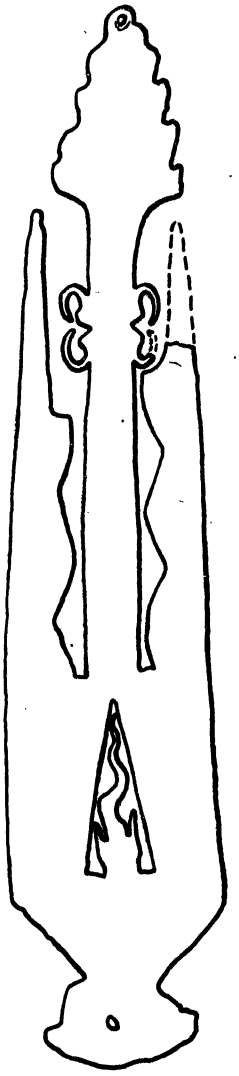

Fig. 74. Ceremonial lance head of copper, Rose Mound, Eastern Arkansas. Scale 1:2. (Moore, 1910, Plate X).

repoussé plates from these centers, no direct evidence could be produced to show that the Cumberland people practiced the repoussé technique. The same may be said of the Cairo Lowland. If we are going to attempt to fix the repoussé technique as a Middle Mississippi trait, it is now or never, so to speak.

The evidence is none too good. The University of Arkansas Museum has a single fragment of a repoussé plate from a site near Shugtown, Craighead county, in the St. Francis river section of Eastern Arkansas. The original find was said to be a large plate, but the finder, thinking it was gold, cut it up and disposed of it piecemeal. It is to be presumed that he was soon apprised of his error. The University of Arkansas was fortunate enough to get the portion including the face and headdress of the "eagle warrior" represented (fig. 75). In direct association with this plate was a large stone image, also in the University of Arkansas collections, whose similarity to the stone figures found by Moorehead at Etowah is very marked. There is nothing surprising, therefore, in the close stylistic affinity of the repoussé fragment with the famous Etowah plates (figs. 76-78). Aside from the stone figure there are no other known associations with the find.

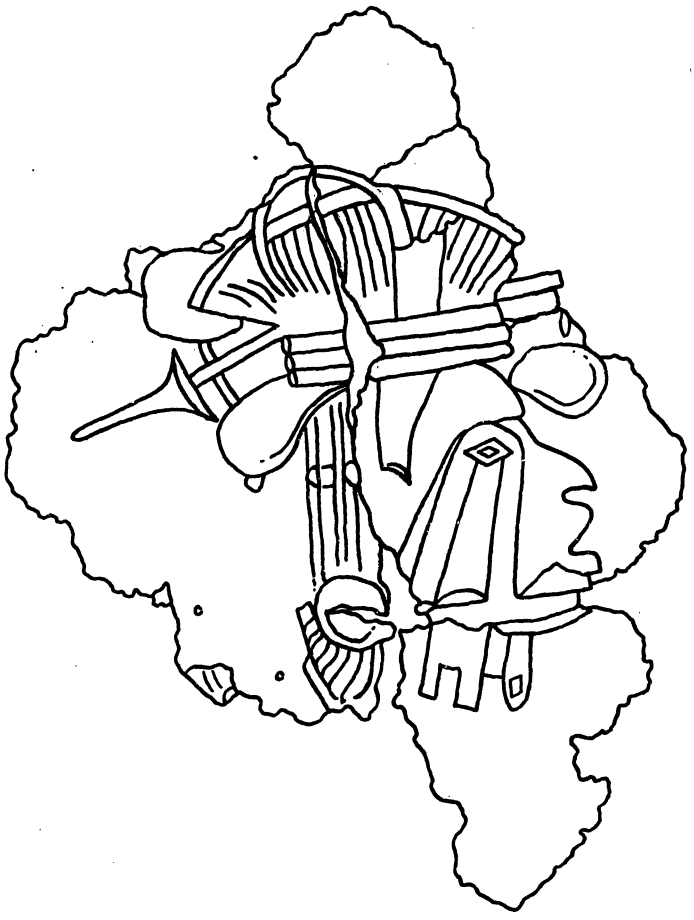

Fig. 75. Shugtown fragment, repoussé copper, Eastern Arkansas culture. (Courtesy of University of Arkansas Museum).

Dr. Dellinger tells me that the site in question is a characteristic Eastern Arkansas site.(1)

A far more spectacular find was made a number of years ago at Malden, in the St. Francis valley, just over the state line in Dunklin county, Southeast Missouri, and reported by Gerard Fowke.(2)

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(1) Not realizing at the time the importance of this find as the only piece of repoussé copper in an Eastern Arkansas context, I did not press Dr. Dellinger for further details. My recollection is that he was quite sure in his opinion.

(2) Fowke, 1910, p. 98. Plates 15-19.

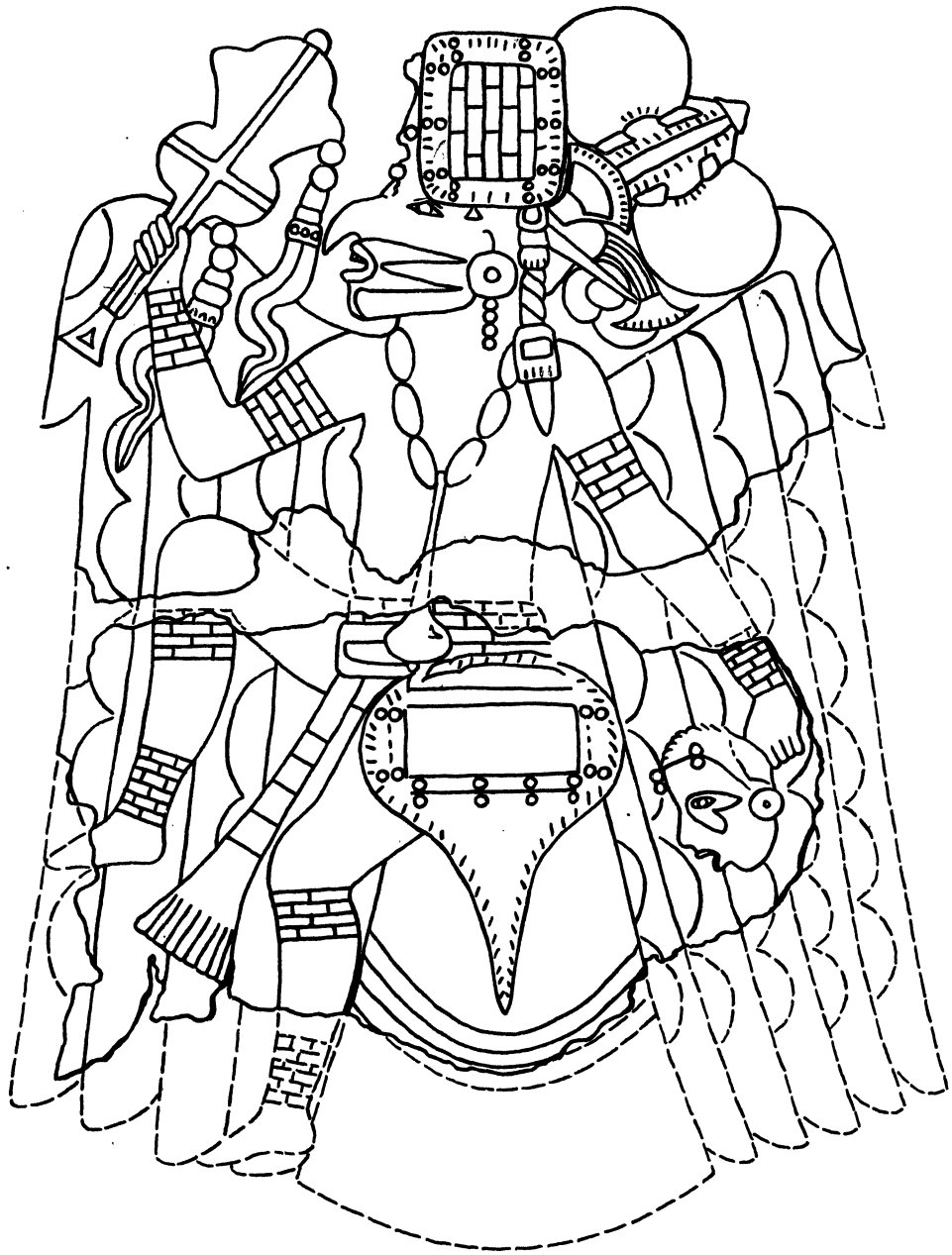
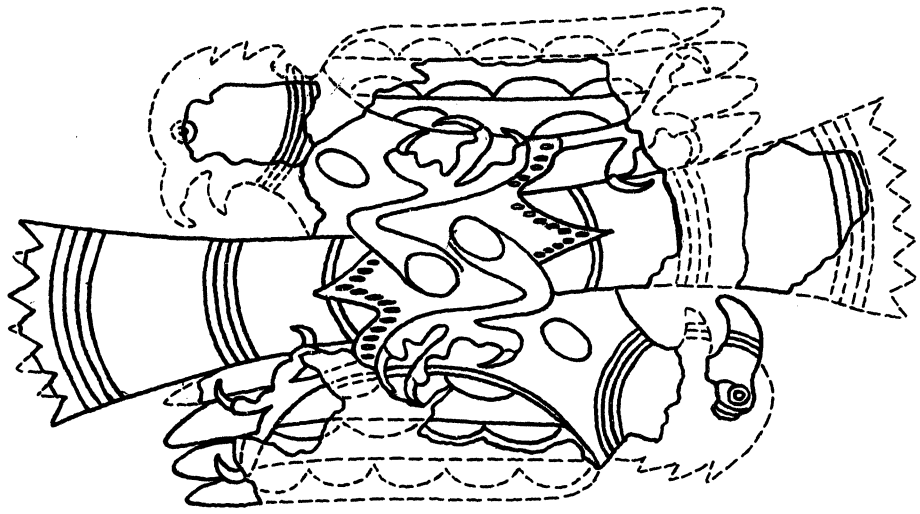


Fig. 76. Repoussé copper plate, Etowah. (Moorehead, 1932, fig. 14).

This consisted of a cache of eight eagle plates, of which two are reproduced in fig. 79. Unfortunately in this case there were no associations of any kind, not even any mounds or village sites in

Fig. 77. Repoussé copper plate, Etowah. (Moorehead, 1932, fig. 15).

the vicinity, so that Fowke was induced to suggest that the plates had been buried "by some aboriginal trader who may have procured



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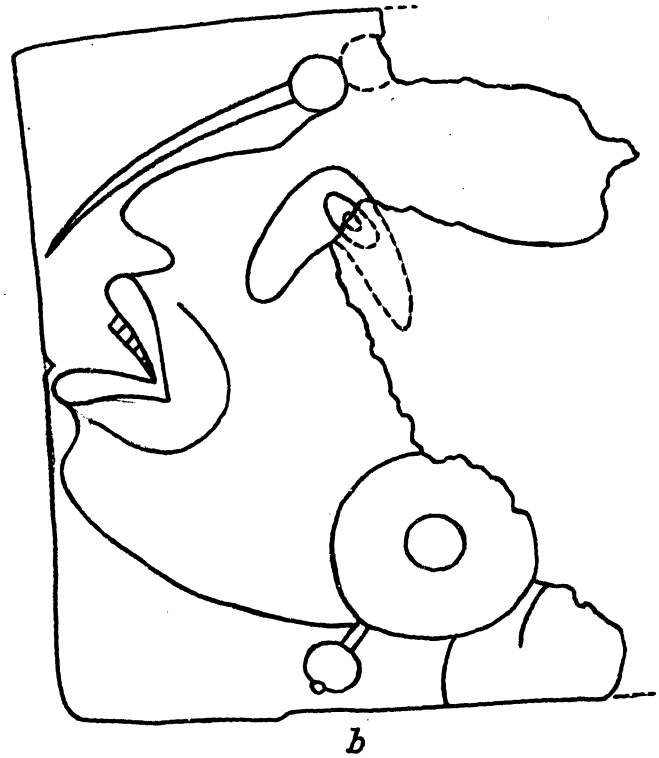

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Fig. 78. Repoussé copper plates, Etowah. (Moorehead, 1932, figs. 9, 16).

them from Mexico"[1]. It may be readily seen that in style these plates are the exact counterpart of the Etowah examples and the

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(1) Fowke, op. cit., p. 98.

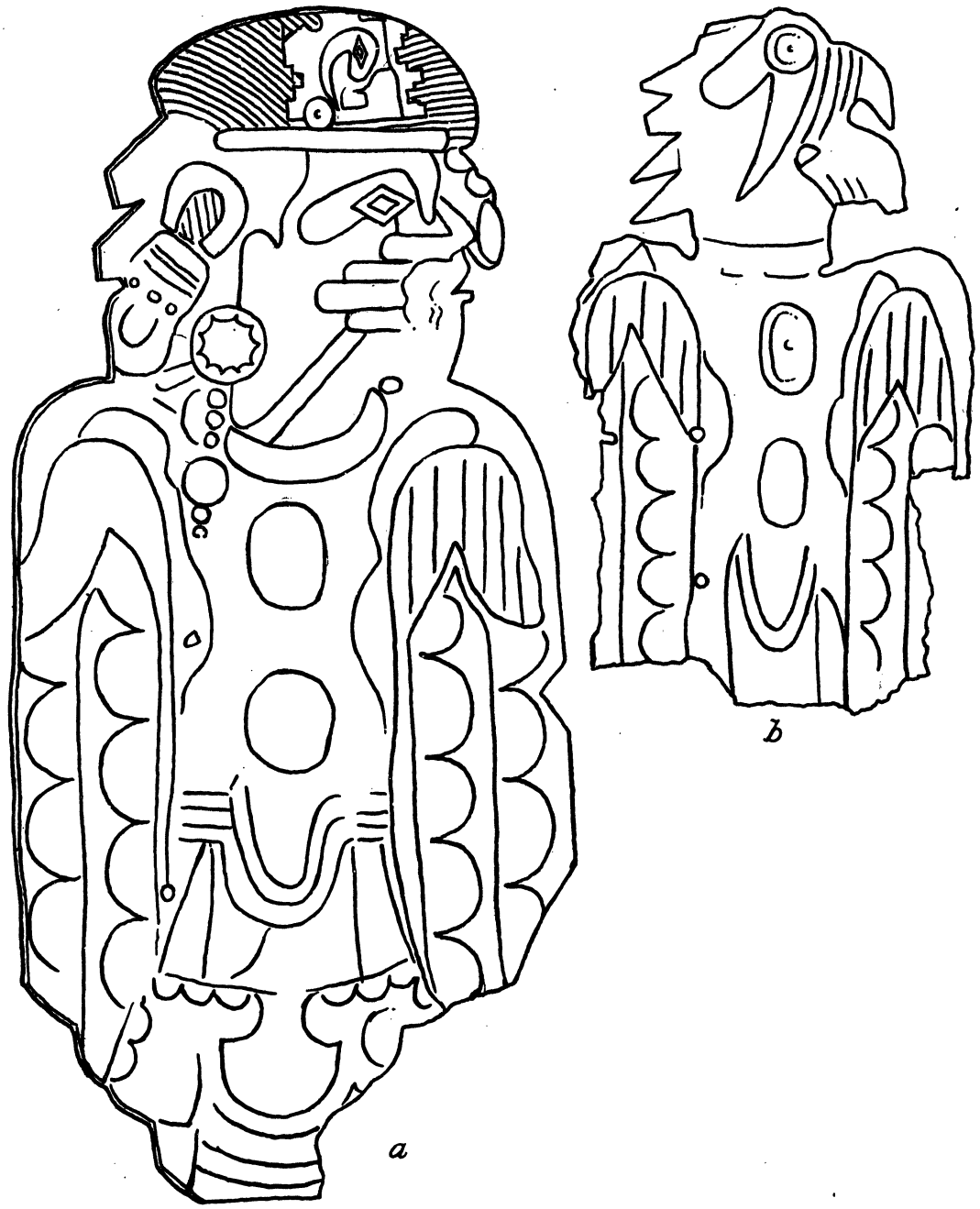

Fig. 79. Repoussé copper plates from Malden, Dunklin county, Missouri. (Fowke, 1910, Plates 16, 18).

Shugtown fragment. These two finds, the Malden plates and the Shugtown fragment, are the only occurrences in the region occupied by the Eastern Arkansas culture. That they were actually associated

with that culture is, unfortunately, nothing more than a strong probability.

The catalogue of finds outside the Eastern Arkansas area, so far as published references are concerned, is not a long one and can be set forth in full. The Etowah plates, no doubt the finest examples in the Southeast, have already been mentioned.(1) Moore found a number of examples at Moundville.(2) The fairly large number of specimens recovered and the variety of types, including hair ornaments, pendants and gorgets, point to Moundville as a most important center for the repoussé development. Notwithstanding the variety of objects decorated, the style of decoration remains emphatically the same. At the Henry Island site on the Tennessee river in northeastern Alabama the same author found the plate reproduced in fig. 80. It lay in a stone grave burial upon the head of the skeleton and was curved in a manner that suggested that it was intended to fit over the skull.(3) Though a number of additional burials were found at this site, there was not sufficient material with them to make identification possible, but the presence of a well-made stone grave in a region where such are not generally found suggests connections with the Cumberland, and also with Etowah. The National

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(1) Moorehead, 1932.

(2) Moore, 1905, figs. 29, 32, 41, 45, 102, 104, 105, 134.
1907, figs. 100-105.

(3) Moore, 1915, p. 287.

Museum has an eagle plate from Peoria, Illinois, very similar to those of the Malden series[1] and another "obtained in Jackson county, Illinois, . . . from an ordinary stone grave"[2]. From the same

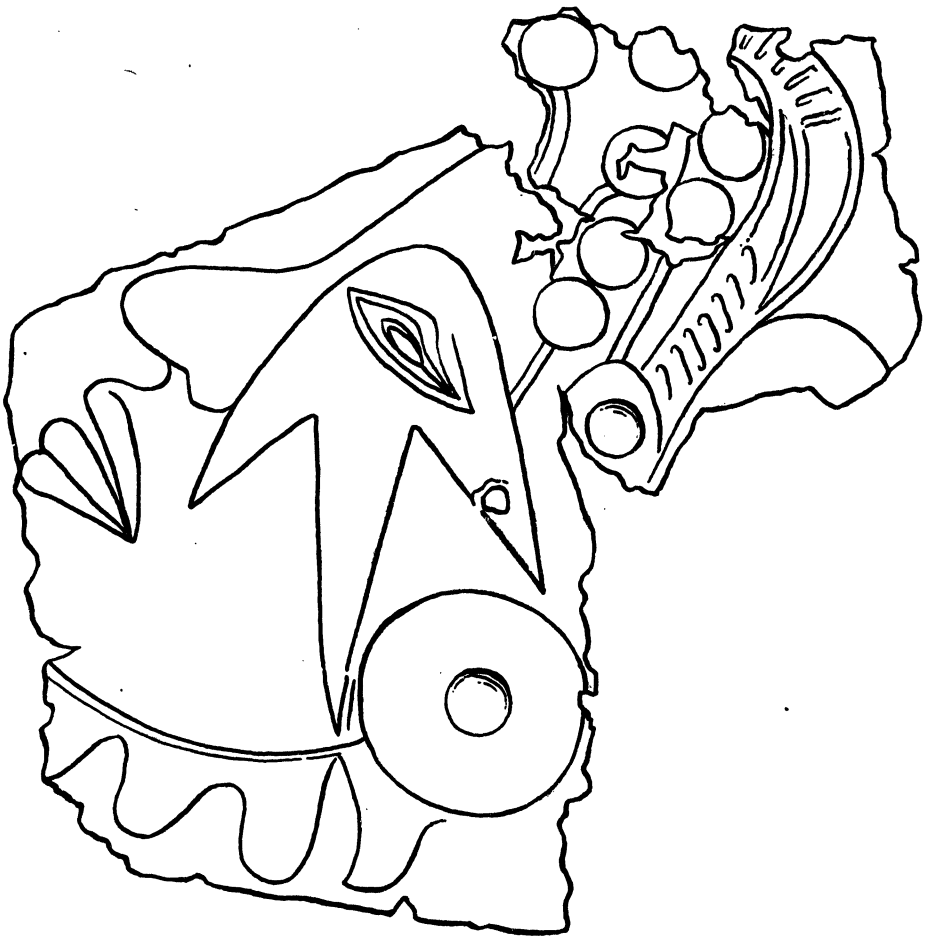

Fig. 80. Fragment of repoussé copper plate, Henry Island, Tennessee river. Scale 1:1. (Moore, 1915, fig. 52).

. . . . . .

(1) Thomas, 1887, p. 105, fig. 48.

(2) Ibid., p. 105.

site comes the more interesting plate shown in fig. 81 and "fragments of a similar plate were obtained in Alexander county, Illinois". A number of small pendants found by Moore on the Alabama river in central Alabama should also be mentioned.[1] This completes, I believe, the list of published references to repoussé designs of the style under consideration.--the question of repoussé in the Hopewell culture will be considered presently -- a style which I believe, but cannot prove unimpeachably, to be connected with the Middle Mississippi culture. More recently additional material of great interest has turned up at Spiro, Oklahoma but has not yet been published.[2]

Insofar as mere distribution, in a case where finds are sporadic, is any argument, it points clearly toward the Middle Mississippi as the geographical center of diffusion, though it must be noted that the most significant locations, Etowah, Moundville, Spiro are marginal to the main Mississippi center, are in fact outside the range of the culture as a whole (fig. 82).

The ascription of this particular repoussé development rests more solidly, it seems to me, on internal evidence. In dealing with the engraved shellwork of the Cumberland and Cairo Lowland, particularly the former, I took occasion to say a good deal about their stylistic identity with the repoussé copper work

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(1) Moore, 1899, figs. 49, 66, 67.

(2) Information from Dr. Forrest Clements.

Fig. 81. Repousse copper plate, Union county, Illinois. (Thomas, 1894, fig. 85).

which need not be repeated here (cf. p. 289). It is sufficient to note that, if the engraved gorgets in question do in fact belong with the Middle Mississippi manifestations to which they are ascribed, of which there can be no reasonable doubt, then it follows that the repousse plates are likewise to be placed within the framework of the same culture. They alone, it would seem, are sufficient indication that the great sites of Etowah, Moundville, Spiro, whatever their respective dominant cultural affinities, are not unconnected with the Middle Mississippi. The nature of that connection is a difficult and interesting problem that will come up for discussion in a later section.

Some writers, impressed by the relative sophistication displayed in these plates, particularly those with anthropomorphic elements, have suggested that the plates may have been actual importations from Mexico. That there is a decided Mexicanoid flavor in some of the designs cannot be gainsaid -- I shall discuss this at some length in a later section -- but to postulate their introduction by trade involves a number of difficulties. In the first place, I believe, there is no evidence on the Mexican side. Repoussé copper is somewhat rare in Mexico. The few examples I have seen (from the Cenote and therefore Maya, to be sure, but of the Mexican period) do not bear the slightest resemblance either

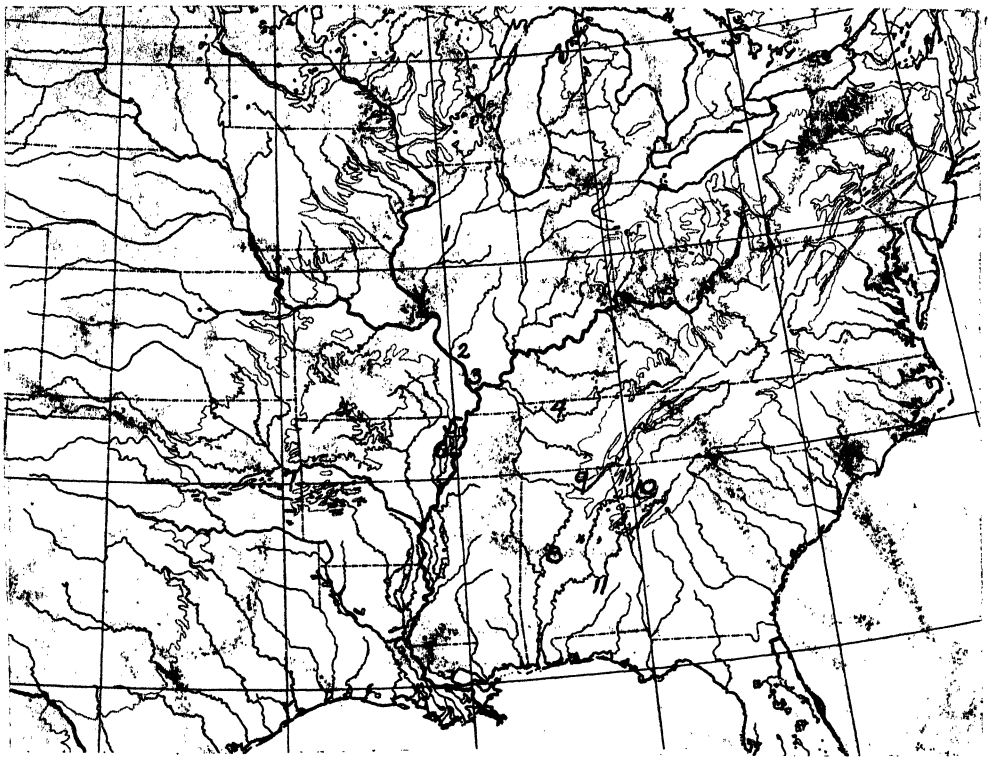

Fig. 82. Distribution of repoussé copper, Middle Mississippi style.

1. Peoria, Illinois. Thomas, 1887, fig. 48.
2. Jackson County, Illinois. Ibid., p. 105.
3. Union County, Illinois. Thomas, 1894, fig. 85.
4. Nashville district (?). Putnam, 1878, p. 343.
5. Malden, Dunklin County, Missouri. Fowke, 1910, Plates 15-19.
6. Shugtown, Craighead County, Arkansas, University of Arkansas.
7. Spiro, Le Flore County, Oklahoma. Information from Dr. Forrest Clements.
8. Moundville, Alabama. Moore, 1905, figs. 29, 32, 41, 45, 102, 104, 105, 134; Moore, 1907, figs. 100-105.
9. Henry Island, Alabama. Moore, 1915, fig. 52.
10. Etowah, Georgia. Moorehead, 1932, figs. 7-18.
11. Alabama River, Montgomery County, Alabama. Moore, 1899, figs. 49, 66, 67.

in style or technique to the examples north of the Gulf. Furthermore, in the famous eagle plates from the Mound City Group, a

well-known Hopewell site in southern Ohio, we have undoubtedly the proto-type for some of the Middle Mississippi plates at least.(1) The Hopewell eagles are simpler, more naturalistic, though not as well executed. They lack the esoteric quality of the Middle Mississippi eagles and are innocent of anthropomorphism. At the same time the similarity of conception and technique, a combination of cut-out silhouette with detail added by repousse, point unequivocally to a genetic relationship. Hopewell being the earlier culture, it can only be assumed that its eagle plates are the ancestral form. At what point anthropomorphism enters the picture would be an interesting question. Perhaps it is here that the "Mexican" factor comes into play. In any case, whether we choose to see Mexican influence or not, it is clear that the development as a whole cannot be attributed to that source, since it is rooted securely in the Hopewell, a culture that owes little if anything to Middle American inspiration.

3. Eastern Arkansas pottery.

Classification: Eastern Arkansas pottery, happily, lends itself to classification within the typological framework already adumbrated. Except in a specialized sense, there are no new types to be described, that is to say none that may not be considered as variants of the basic types already familiar from our study of the

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(1) Mills, 1922, figs. 60, 61, 62, 65.

Cumberland and Cairo Lowland areas. This is particularly the case in the drab ware category, in which we have the same three types: Plain Drab, the ubiquitous culinary ware, making up the bulk of the sherd content of any site, but seldom, if ever, found in graves, hence absent from the collections before us; Thin Drab, which in this area at last justifies its existence as a separate type; and Polished Drab, the definitive mortuary type, which with its variant, Polished Drab Incised, accounts for about 75% of our material.(1) Redware, which appeared shyly in Spoon River and Cairo Lowland, and not at all in the Cumberland, here takes its place as a full-fledged type, overshadowed perhaps, but not outnumbered, by the more colorful painted wares in Red on buff, Red and white and Polychrome. Lost Color, on the other hand, barely puts in an appearance at all, being present in only one example in its "pure" state, though possibly more often in combination with direct painting. Finally, salt-pan ware, the usual concomitant of Middle Mississippi pottery associations further north, is, so far as I can discover, conspicuously absent. We may begin, therefore, with the following general classification, which may undergo slight elaboration as we proceed.

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(1) And would account for a great deal more if the sample were larger. That is to say, whatever factors of selection are in effect naturally work against the commoner types. Thus if our sample were doubled, which Heaven forbid, we should expect an increase in the percentage of polished drab and perhaps of thin drab (it tends, however, to survive the selective process because it is usually decorated) and a corresponding decrease in red and painted wares.

Drab ware:

1. Plain drab
2. Thin drab
3. Polished drab
   a. Incised variant

Redware:

Painted wares:

1. Red on buff
2. Red and white
3. Polychrome (red, white and black)

Lost color: (?)

The above classification is based on a series of 1995 vessels, of which 522 are from sites along the Mississippi, 917 from the St. Francis and the remaining 556 not assigned, for one reason or another, to either group. In this last number are all vessels, and their number unfortunately is not small, whose precise place of origin is not ascertainable,(1) also a large number of vessels from sites that, on geographical grounds, cannot with certainty be referred to either division.(2) In other words I have been careful to admit to the St. Francis and Mississippi sub-centers only the more

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(1) The sample includes, for example, a series from the important collection of the Davenport Academy of Sciences, mainly from some of the old and famous sites along the Mississippi, but without documentation to assure us of that fact. Similarly, a large series from the Buffalo Museum of Natural Sciences seems to have been recruited mainly from the St. Francis. To have assigned these vessels to one center or the other would be to prejudice any comparisons that might be made between them.

(2) Sites on the lower St. Francis, like Forrest Place and Whitehall Place; likewise a group of southernmost sites on the Mississippi, from Kent Place to Commerce, are not typical of their respective divisions, by reason perhaps of influences from the nearby Arkansas River culture on the south.

centrally located and typical sites. The reason for keeping these categories separate, at least at the outset, is the hope of bringing out significant differences between them. I have spoken of this before. In respect to non-ceramic aspects of the culture, it did not seem worth while to attempt to establish differentia between the two centers, though no doubt such a thing could be done. In pottery we are in better case, the sample is large enough for valid comparisons and it seems too bad to throw away the opportunity to make them. I shall not, however, describe the pottery of each division separately, as such a course would involve a great deal of repetition and would tend, I believe, to obscure the main fact, which is that both groups taken together form a remarkably homogeneous body of material. It will be preferable, and certainly more in harmony with the procedure thus far followed in this study to treat them as such, merely pointing out from time to time such differences as appear to suggest significant implications.

The numerical distribution of the 1995 vessels by type is shown in the accompanying table (fig. 83).

From the table it may be seen that Polished Drab is about equally dominant in both Mississippi and St. Francis groups, but Thin Drab shows a significant difference. At this point the table requires elucidation. The difficulty of distinguishing in all cases between Thin Drab and Polished Drab has been referred to before (p. 411). Such difficult cases have been arbitrarily grouped in an "intermediate" category. In the St. Francis these intermediate specimens are nearly as numerous as the unmistakable Thin Drab

TYPE	Miss. Riv.		St. Francis		Indeterm.		Total	
	No.	%	No.	%	No.	%	No.	%
Thin drab	69	13.2	71	7.74	31	5.58	171	8.57
Intermediate	4	.77	49	5.34	22	3.96	75	3.76
Polished drab	392	75.1	645	70.33	428	76.98	1465	73.43
incised	17	3.26	11	1.2	7	1.26	35	1.75
Red ware	19	3.64	76	8.29	37	6.65	132	6.62
Painted wares	20	3.83	62	6.76	26	4.68	108	5.41
Miscellaneous	1	.02	3	.03	5	.89	9	.05
	522		917		556		1995	

Fig. 83. Distribution of Eastern Arkansas vessels according to type.

examples, 5.34% as against 7.74% of the total. In the Mississippi sites the situation is strikingly different. Using precisely the same criteria in sorting we get almost no intermediates at all, .77% as compared with 13.2%. In short, Thin Drab appears to be a perfectly distinct and separable type in the Mississippi portion of our area, whereas in the St. Francis its independence as a type, as in the Cumberland and Cairo Lowland, is not above suspicion. This rather striking difference will receive further emphasis when the pottery itself is examined. Its significance at the moment is not fully apparent.

Less striking, but of no less interest, is the circumstance that the Mississippi division shows a considerably higher proportion of Polished Drab Incised ware than does the St. Francis, 3.26% as against 1.2% of their respective totals. In the pigmented wares, on the

other hand, both red and painted, the advantage is with the St. Francis. These two circumstances are perhaps not unconnected. With an increase in decoration by incision, a corresponding decrease in the use of pigments is not unexpected. The explanation probably lies in the fact that the Mississippi sites, geographically and perhaps historically, were in closer relation to the Lower Mississippi, where incision is dominant to the virtual exclusion of painting altogether. This point also we may hope to clarify by an examination of the pottery in question.

More significant than these differences in detail, interesting though they may be, is the generally close parallelism in the two groups, which shows clearly, it seems to me, that in these various pottery types we have more than a fortuitous association. Just as in the Southwest a certain number of types are found distributed over a wide area at a given time in what might be called a constant association, so here. The association of Plain Drab, Thin Drab, Polished Drab, Redware and painted wares appears to be a normal one for the entire Eastern Arkansas area, so that if the pottery of any one site were examined in detail these types would be found to occur in approximately the same proportion as for the area as a whole. A satisfactory test of this assumption would require several large series from individual sites. Only in the case of the Rose Mound on the St. Francis is our sample adequate for the purpose. Apportionment here among the various types is as follows: (fig. 84)

Rose Mound:	No.	%
Thin drab	28	9.66
Intermediate	31	10.69
Polished drab	177	61.03
" incised	2	.69
Red ware	34	11.72
Painted ware	18	6.21
Total	290	

Fig. 84. Distribution of vessels from the Rose Mound, St. Francis river, according to type.

Comparing these percentages with the corresponding figures for the St. Francis as a whole and, better still, for the entire Eastern Arkansas area as a whole, (fig. 83), we get a very satisfactory correlation. The category intermediate between thin drab and polished drab runs a little high, as does the red ware,[1] but neither sufficiently to impair the assumption of a standard association of the wares in question.

Plain Drab: This ware, which undoubtedly makes up the overwhelming bulk of the sherd content of any Middle Mississippi site,

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(1) Perhaps the explanation of the increase in redware at the Rose site is to be found in the following: "Ochre of a deep red color occurs abundantly near Wittsburg on Crowley's Ridge. An analysis suggests no valuable use to which this clay could be put. It is used locally for painting barns."--Ferguson, Jim G., Outlines of Arkansas Geology, published by the State Bureau of Mines, Manufactures and Agriculture, Little Rock, 1920. Wittsburg is one of those exasperating places that is constantly referred to but consistently fails to appear on maps of the region, at no matter what scale. The Rose Mound, however, is described in the P. M. Catalogue as "near Wittsburg".

I have been obliged to treat, for reasons that need not be repeated, with apalling brevity (Cumberland) or in embarrassed silence (Cairo Lowland). The present is an occasion for the latter. The P. M. collection contains one large vessel (fig. 85) but no sherds whatever; in the Moore collection one did not expect any. My sole information concerns a few wretched sherds seen in the University of Arkansas Museum, to which may be added a few generalizations verbally supplied by Dr. Dellinger, carefully noted down by the writer and promptly mislaid. From such information it appears that the general definition of plain drab as it appeared in the Cumberland could be applied here with equal effect,--a coarse, shell tempered, friable fabric, in color running through various drabs and buffs to red, with the buffy shades predominant, the generally undecorated surface well smoothed but unpolished. Cord-texturing is, I believe, entirely absent. Shapes approximate the standard jar form already described, with handles and/or lugs, the larger sizes predominating and an occasional display of giantism.(1) Poor as it undeniably is, the information shows

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(1) Curtis (notes in X-file, 80-20), "I have got a piece of pottery given me 75 miles further up the river (St. Francis) that will hold 40 gallons they say . . ."

Another reference in letter to Professor Putnam January 24th, 1880 (X-file, 80-20). "I have got permission to go up to Lester (?) Landing up at the head of navigation and get one piece of pottery that is estimated to hold 40 gallons it was found by some St. Louis men and they cracked it in getting it out and had no way to get it away from there and they berried it in its old place calculating to get it some future time . ."

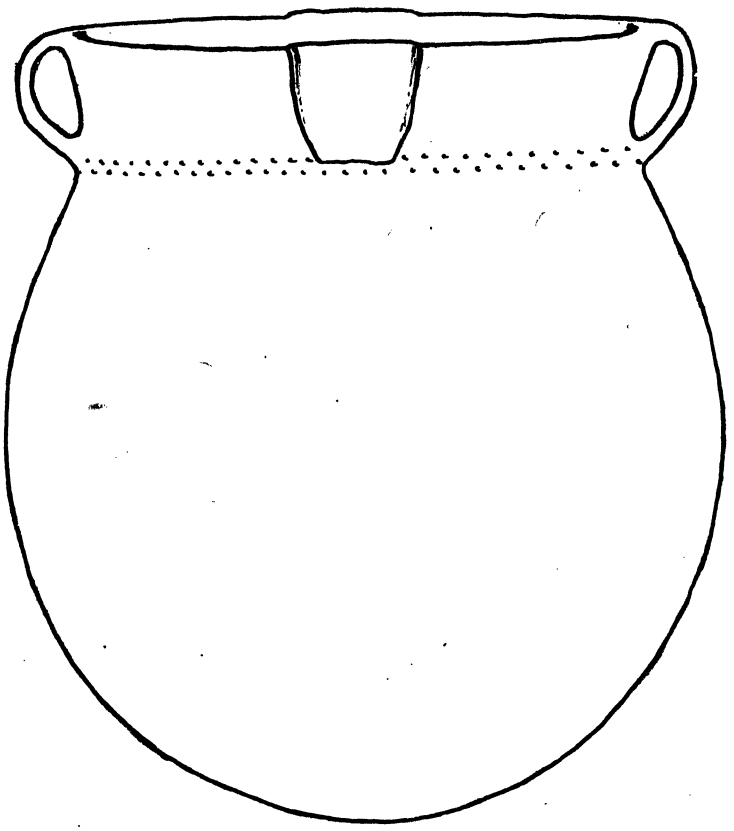

Fig. 85. Large cooking vessel in Plain Drab, St. Francis river, Eastern Arkansas. Scale 1:4. (Peabody Museum).

a general correspondence with the plain drab in the Cumberland (and by inference with the Cairo Lowland) and indicates quite clearly that such is the ubiquitous and fundamental cooking pottery of the Middle Missisippi culture as a whole.

Thin Drab: The possibility of a basic two-fold division of Eastern Arkansas wares along functional lines, i. e. into culinary and non-culinary wares cannot be properly dealt with because of the distressing lack of information in regard to Plain Drab, the dominant cooking ware of the region. It cannot be sidestepped entirely, however, because of the ambiguous position of Thin Drab, which can only be discussed on a functional basis. Thin Drab may be described briefly, in terms general enough to include the Cumberland and Cairo Lowland versions, as a ware characterized by thin walls, relatively coarse shell tempering (ceramic disharmony?) and

unpolished surface. In the matter of shape it is associated predominantly with smaller sizes of the "standard jar" form and its derivatives, commonly decorated in various wet clay techniques. Its position in the Cumberland seemed to be that of a small mortuary version of the regular cooking vessels -- there was little if any evidence of actual use over the fire -- and in other respects it was not easy to distinguish the type from polished drab, the dominant mortuary ware. The same ware occurred in the Cairo Lowland in much the same position, except that here there was considerable evidence (soot) of culinary use. Furthermore, because of marked differences in paste, it was possible to distinguish the type fairly readily from Polished Drab. Thus from a type, intermediate between Plain and Polished Drab, it moved into a position nearer the Plain Drab or culinary side. Unfortunately its precise relations to Plain Drab were not ascertainable because of lack of information concerning that ware. Moving into the Eastern Arkansas area, the position, while remaining generally the same, becomes at any rate clearer. The evidence of culinary use, in the form of sooting, is abundant, to which may be added the various forms of surface treatment, punctation, nail-marking, etc., which appear to have a functional significance. Furthermore, in one department of the area, the Mississippi section, the ware is so different from Polished Drab as to give no difficulty whatever in sorting, even without the aid of the factor of shape. In spite of anything but the most rudimentary knowledge of the Plain Drab of Eastern Arkansas, the conclusion seems warranted that in

Thin Drab we have a variant of the normal cooking ware, which, either by unconscious selection of smaller sizes, or by deliberate intent, or even by actual manufacture for the purpose, found its way into graves. If, therefore, it should become expedient at some future time to attempt a broad division of Middle Mississippi pottery types on a functional basis, as in the Southwest, Thin Drab would, it seems to me, take its somewhat special (mortuary) place definitely on the culinary side of the line.(1)

Shapes in Thin Drab: The full range of shapes may be seen in Plates XXXIX to XLIII from which it appears at once that the "standard jar" form is as fundamental here as elsewhere, being subject to remarkably few modifications. The globular, slightly flattened shape persists, with about the same excess of diameter over height as noted in the other areas considered. Sizes in general run about the same.(2)

Plate XXXIX: This and the following plate are intended to show the various possible combinations of handles and lugs, irrespective of decorative factors. Jars without one or the other are comparatively rare, A1-4. Jars with two lugs, B1-4, and four lugs, C1-2,

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(1) It is scarcely necessary to point out that the above conclusion, to have any validity, must be tested by actual excavation.

(2) Average diameter of 20 examples selected at random in equal number from St. Francis and Mississippi sites is 5.6 in. with a range of 4.25 to 8 in., which compares with 5.86 in. and a range of 4.5 to 7.75 for the Cairo Lowland. Comparable figures for the Cumberland are not immediately available, but offhand I would expect them to run somewhat smaller.

at the level of the rim, seem to occur only in the St. Francis. As we shall see, in connection with a certain type of bowl in Polished Drab, the St. Francis people exhibited a marked predilection for lugs, and under their hands the thing underwent considerable elaboration. A type in which four lugs are placed a little below the rim, on the other hand, is common to both centers, C3-D4. Handles, of the ordinary vertical loop variety, generally tending to be flat in section, are a good deal more common than lugs, though frequently both appear in combination, E1-4.

Plate XL: Jars with two handles and no lugs easily make up the largest group, to which I have scarcely done justice by presenting only four examples, A1-4. Jars with four handles are seen in B1-4. With increase in number there seems to be a tendency for handles to get smaller until they become mere decorative adjuncts. C1-4 represents an intermediate stage perhaps when handles have become extremely small but are still free-standing, therefore conceivably functional.(1) In D1-4 they are no longer free-standing but are simply luted on. Note also that they have become triangular in shape. In these last examples something else has taken place, the development of a projecting rim. If the theory generally held that the function

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(1) The term "handle" is, in any case, a misnomer. Very few of these loops are sufficiently large to enable one to hook a finger into them, nor are they of a convenient shape to grasp in any other manner. Their function must have been merely to hold in place the cord used in suspension of the vessel. So long as there is any space behind them at all they would be adequate for the purpose.

of lugs and handles was to hold in place the cord suspending the vessel, is correct, it is not surprising that, with the degeneration of handles, some other device appears to perform the same function. In El-4 we see the final reduction of the handle to a pure decorative device and ultimately to extinction. It is perhaps not without significance that the vessels representing this supposed degeneration are all from the Mississippi portion of the area. I must add, however, that I do not take the idea very seriously. It merely shows the ease with which one can, given a sufficient sample, and by carefully suppressing certain unruly factors, construct a very plausible evolutionary series. In the plates that follow the various decorative styles in this ware are shown without any reference to this supposed line of development.

Plate XLI: The commonest decorative devices are by incision and punctation while the clay is yet soft, a moist clay technique. Both methods are about equally in use in the two centers, but with considerable differences in manner and in the fields chosen for decoration. Thus the St. Francis potters tended to reserve the space immediately below the rim for incision, rarely employing punctation in this zone. By them punctation was apparently not thought of as a decorative device, but as an all-over surface treatment possible of functional import.[1] Their incised designs, if such they may be called,

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(1) Analogous, in other words, to corrugations in Southwestern cooking wares, or, to come nearer home, the cord-texturing which is practically universal in Woodland ceramics, and in some Mississippi cultures as well (Cahokia, Spoon River, etc.).

seldom extend down onto the body of the vessel. The potters of the Mississippi section, besides being a great deal more skillful, had entirely different ideas about these things. To their way of thinking the proper place for incised decoration was the main body of the vessel and upon it they frequently inscribed spiral meander designs of considerable beauty. Punctation, on the other hand, though occasionally used in an all-over functional manner, was more often relegated to the rim section where it was used in a purely decorative manner. Handles were frequently decorated by punctation or represented by skeuomorphic substitutions in punctation. Such divergences in the handling of the same technical devices are extremely interesting, not to say tempting, but are not of first importance in a work of this general nature.(1)

Al-4 shows a group of vessels with bands of rude incision below the rim in typical St. Francis style. One would hesitate to use the word "design" in connection with such hen-scratches. All-over

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(1) They lend themselves, however, to quantitative comparison in rather striking fashion: the number of vessels from the two centers being about the same, 69 and 71, for Mississippi and St. Francis respectively, direct comparison without calculation of percentages is possible.

	Mississippi	St. Francis	Total
Incision on neck	2	20	22
Incision on body	30	10	40
Punctation on neck	15	3	18
Punctation on body	6	15	21
Punctation on both	-	4	4

punctation, as found in both centers, but more commonly in the St. Francis, is shown in B1-4. This sort of punctation, of the type generally recognized as "nail-marking", has not appeared heretofore in the Middle Mississippi cultures already studied, though it occurs in the Southwest.(1) Its combination with incision forms another very common St. Francis style, C1-4. Another common decorative device is the application of nodes, generally applied exteriorly but occasionally pushed out from inside, either in single row around the shoulder, D1-2, in which case it is often combined with incision, D3, or with incision and punctation, D4. Similar nodes multiplied to an all-over decoration result in what is known in Middle American ceramics as a "nubbin vessel". Nubbin decoration has a wide distribution in Middle America, I believe, chiefly in the Maya area and is also found in the Southwest.(2) On the whole the closest analogies of the present material is with the latter.(3)(4)

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(1) Kidder & Shepard, 1936, vol. II, fig. 263. Kidder's description of the process could be applied equally here, "characterized by a series of gouges made with the thumbnail, which ploughed into the clay, pushing it up into a sharp ridge at the right hand side of the hollow. This was done after the surface of the vessel had been finished in the usual way, but while it was still soft. Only rather small jars seem to have been decorated in this manner." p. 319. One might add that here, also, only small jars seem to have been so decorated, and furthermore their general shape is not at all unlike the typical Pecos jar form to which, I presume, Dr. Kidder has reference.

(2) Seler, Eduard, Collected works, vol. III, p. 652, fig. 91.
Vaillant, 1927, figs. 140-1, 147-50.
Vaillants, 1934, p. 95, fig. 28.

(3) Cosgroves, 1932, Plate 88h.
Bradfield, 1929, Plate XCIII.
Kidder & Shepard, 1936, vol. II, p. 268.

(4) Especially with the Mimbres as figured by the Cosgroves and Bradfield as cited above.

Plate XLII: In general the simpler forms of decoration considered above are more characteristic of the St. Francis, giving place to somewhat more elaborate styles in the Mississippi portion of the area. It seems to have been in the latter that the multiplication of handles and their elaboration into decorative adjuncts took place. The tendency manifests itself in two ways, in accordance with which the material may be provisionally divided into two groups. In the first, the handles, having multiplied prodigiously and taken on a triangular form, no longer count as individual features, but have become in effect a continuous arcade, the spaces between forming a series of lunettes. Such a "lunette collar", as I shall term it in the future, may be free standing, A1-4, or simply luted firmly to the vessel wall, B1-4. In some cases, notably A4 and B1, the collar seems to have been made in one piece, a circumstance that argues for no little skill on the part of the makers. So long as it remains free standing, allowing some space through which a suspension cord could be passed, such a collar may have some functional significance. When, however, it becomes firmly applied to the vessel, it has obviously become a purely decorative feature. We must note, however, that before this stage is reached, our vessel has acquired a slight projection of the rim which might easily serve the purpose formerly supplied by the handles. In C1-4 the arcading has become even more purely decorative, its final guise being nothing more than a skeuomorphic design by incision or punctation or both.

So much for the "lunette collar", a specialization, evidently centering in the Mississippi portion of Eastern Arkansas, and

comprising unquestionably some of the most skillfully made pottery in the entire Mississippi valley. The second type of decorative handled jar is perhaps closely related to it. In this type, shown in D1-E4, it would seem that the handles have similarly multiplied and been even more stringently reduced to mere vertical fillets of clay buttressing the rim.(1) Whether this type may be construed as a derivative of the lunette collar or has an independent history of its own is not indicated by the evidence in hand. Under the first alternative we should expect to find it more common in the Mississippi section, whereas it is actually about equally present in both areas. Particularly characteristic is the notching of the fillets, for which it is possible, again, to adduce a functional explanation, the notches serving to hold in place the cord used in suspending the vessel. In this connection we may note that this type of collar is generally without any pronounced rim projection (cf. E1-3).

Plate XLIII: This plate represents the usual tucking in of loose ends, odd specimens for the most part that it would be convenient to forget, but whose forgetting would result in a misleading impression of uniformity in the type. As an interesting specialization, the lunette spaces as well as the spaces between buttresses

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(1) The assumption that we are dealing here with a degeneration of the handle is admittedly gratuitous. In the case of the lunette collar the mere typological evidence is very suggestive. Here it is a good deal less so. It is hardly necessary to state that in both cases evolutionary assumptions must be checked stratigraphically before being seriously entertained. One is not precluded, however, it seems to me, from playing with such notions merely as suggestions for future research. Furthermore, I must explain, that when I say that one thing "becomes" or "gives place to" another it is not with the intention of beggingany chronological questions, but merely a convenient manner of speaking.

(of the two groups of vessels just presented) are occasionally embellished with medallion heads, A1-3, and in one example, A4, the fillets themselves have become heads with elongated necks. The tendency to anthropomorphise in this manner is marked throughout Middle Mississippi ceramics, but heretofore has been encountered only in polished drab ware. The present examples are all from the Mississippi portion of our area. The remainder of the plate shows various specializations, whose importance cannot be gauged without a larger sample. B1-3 illustrates a tendency for arcaded or buttressed collars to expand into a flaring or "funnel-neck" type. As an approach to one of Vaillant's criteria for the presence of influence Q in Arkansas these vessels may be not without interest, as showing the possibility of the evolution of such a form independently of Middle American influence.(1) Of similar import is the double-bodied jar, B4, another of Vaillant's Q factors, here represented simply by the conjunction of two identical vessels of ordinary jar form. The tendency to combine vessels in this manner is endemic in Middle Mississippi ceramics, but never in connection with any particularized shape, the common local forms being the ones invariably combined. A general tendency, rather than a special trait, it would seem not entirely satisfactory as an evidence of cultural intrusion. I shall return to this point in a later section. Lobate jars, so common as to be almost the rule in the Cumberland and Cairo Lowland centers,

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(1) Vaillant, 1932, p. 12.

are present in only two examples, C1-2. Only the second has the rude decoration (incised in this case) outlining the lobes that is so characteristic of the aforesaid centers. C3 is completely atypical in possessing a rectangular orifice and is unique in the present collection. Jars with zoomorphic handles turn out, rather surprisingly, to be very rare, being represented by only one specimen, C4. This particular type of handle in which a small animal or reptile with four legs outstretched grips the side of the vessel, its head raised slightly above the rim as though trying, but not succeeding, to have a look inside, is fairly common in Fort Ancient[1] and might, therefore, have been expected to turn up with greater frequency in Middle Mississippi generally, which it has certainly failed to do. Similar handles, I believe, are found in the Southwest, though at the moment the only reference I can bring to the support of the statement is a single occurrence at Pecos.[2] In the Cumberland there was a marked tendency for thin drab jars to take on effigy characteristics, but always in a highly conventionalized and thoroughly consistent manner. Such "snouted forms" were absent in the Cairo Lowland in thin drab (present in polished drab, however) but in their place was a shoe-form jar that seemed to have some morphological connection. In Eastern Arkansas vessels remotely analogous to the snouted Cumberland forms are present, D1-4, but the shoe-form is very rare if

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(1) Mills, 1904, p. 37; 1917, p. 63. Also examples in the P.-M. collection from Madisonville, Hooton, 1920, Plate 23, r & t.

(2) Kidder & Shepard, 1936, fig. 278g.

present at all.[1] The possible significance of the shoe-form has been discussed at some length (p. 414). I shall not add to it, except to call attention to its rarity here (in the precise region where Vaillant's Q traits are supposed to center) as a noteworthy circumstance.

Conclusions on thin drab: Frequent allusions to minor differences in thin drab as it appears in the two sub-divisions of the Eastern Arkansas area, have not, I hope, obscured the main fact of homogeneity throughout the entire area. When a final classification of the ware comes to be made, one may predict that a number of distinct types will emerge and that some of them at least will be common to both sub-areas. Others, such as the lunette collar for example, will doubtless appear as specializations of one section present in the other as the result of trade, intermarriage, etc. If the Mississippi potters seem to have outdistanced their St. Francis colleagues in the development of certain specializations, the explanation is to be sought, I believe, in local circumstances favorable to the art, not in an assumption of time differential. Many other factors shared in common point to a relationship too close for anything but approximate contemporaneity.

When it comes to the question of relationships further afield, to Thin Drab in the Cairo Lowland and Cumberland specifically, the affinities are scarcely less evident, but their interpretation is

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(1) It is a question whether foot effigy vessels such as that shown by Moore in 1911, fig. 35 should be regarded as belonging to the shoe-form category.

not so clearly indicated. Again, one must emphasize first-off the homogeneity, which by simple visual comparison of Plates I, XI, XII and XXXIX-XLIII cannot fail to strike the observer as very close indeed. There can be no doubt that the potters of these three centers were working within a common tradition. Whatever elaborations upon that tradition were worked out locally are no more than we should expect in view of the considerable distances that separate them. That they were, however, effectively separated would seem to be indicated by the fact that these specializations do not make their way from one center to another. There is virtually no evidence of trade or other form of direct contact. This brings us again to the question of chronology. It would seem sufficiently clear that such a degree of general homogeneity could only be brought about under conditions of approximate contemporaneity. Nevertheless one may wonder if the lack of evidence of direct contact may not be due to time differentials of a minor order. (Here the ice is admittedly getting a trifle thin -- we have to remember that our material may represent in each area a considerable spread of time.) Of such lesser time differences there are certain indications of a highly tenuous nature. The only ones I feel bold enough to mention are those that seem to make Eastern Arkansas slightly later than the Cairo Lowland and Cumberland centers. There is no doubt that in Eastern Arkansas the standard jar form underwent greater modifications, chiefly in the elaboration of handles into various decorative devices, the modification of the simpler "vague" neck into a definite collar, and the development of a rim, to say nothing

of a proliferation of decorative techniques unsuspected in the more northerly centers. These developments took place chiefly in the Mississippi portion of the area, but most of them found their way to the St. Francis. They did not, however, penetrate to the Cairo Lowland or Cumberland. To what extent the failure of the later centers to keep pace with this development was due to ordinary culture lag as a result of distance (the distance between Eastern Arkansas and the Cairo Lowland, however, is not great) or to an actual time difference is a question that renders this whole discussion nugatory. The most one can say is that a lag is indicated; if other evidence tends to show less ambiguously that the development in Eastern Arkansas is later than that of the Cairo Lowland and Cumberland areas, we may be able to turn this somewhat feeble indication to positive account.

Polished drab: It is a strange and so far unaccountable circumstance, that, whereas Plain Drab, probably, and Thin Drab, certainly, can be defined in the same general terms whether in the Cumberland, Cairo Lowland or Eastern Arkansas, polished drab has to be defined afresh in each area. Not only this, but it differs sufficiently in the two sub-divisions of the Eastern Arkansas area, to make a blanket definition covering both somewhat difficult to formulate. I do not wish to retreat from the position, repeatedly emphasized, of disclaiming any attempt at final classification, but purely as a matter of convenience in description it becomes expedient to break this ware down a little. Thus it seems to be necessary to

describe a fundamental Eastern Arkansas polished drab ware, most characteristic of the St. Francis perhaps, but found in the Mississippi as well, and then to add, as a particular type if you will, a description of the finer polished drab of the Mississippi section.

The aforesaid fundamental Polished Drab -- the name St. Francis might be permissible, since it so overwhelmingly predominates in that section -- may be described as a moderately coarse, shell-tempered ware, presenting a somewhat friable laminated structure, in thickness ranging considerably, but generally on the thick side of medium. The color of the paste differs as a rule very little from that of the surface, which ranges from a light, often pinkish, buff through all the drabs and grays to almost black. The average would fall somewhere, I believe, around hair brown to chaetura drab on the Ridgeway color scale. The darker specimens do not usually show the lighter paste beneath that is supposed to betoken a smothered firing process. The firing is often uneven resulting in a wide range in hardness, with the bulk of vessels falling into the medium category.(1) The darker, more highly polished vessels -- surface hardness being to a large extent merely a function of surface finish -- are likely to have a fairly hard surface. Polishing, or "tool-compacting", as I believe it is called, is the definitive characteristic of the ware, but varies enormously nonetheless, giving a range all the way from a

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(1) An average of 20 vessels selected at random is 3.5 on the Mohr scale, with a range from 2 to 4.5. Owing to the considerable variability in hardness of different portions of the same vessel, such observations are not good for much. Actually I believe the true average would be somewhat lower than the figure given.

coarse nearly plain surface to one that is admirably smooth and highly lustrous. In general, however, the polishing was done in such a way as to leave considerable unevenness of surface in the form of striations or tool-marks, though such imperfections do not seem to have affected the lustre, which is generally fairly high, even in the cruder finishes.

The above description applies to all polished drab from the St. Francis and a considerable portion of that from the Mississippi. In the latter section, however, we get a finer variant exhibiting characteristics that require a recasting of the definition. In place of medium to coarse shell this ware is tempered with fine shell, often so fine as to make determination without magnification difficult. In many cases other materials are present as well, notably fine sand, but whether as tempering or merely as natural inclusions in the clay I am not prepared to say. In any case, whatever the materials, the resulting texture is considerably finer and more compact than that of the flakey laminated fabric of the St. Francis. Surface finish is also markedly different. In place of the tool-marked lustrous "hard" surface of the St. Francis, we have a soft matt finish, beautifully smoothed, with polishing marks at a minimum, at most giving only a fine "rippled" effect, but without considerable lustre. These differences are readily detectable, would lend themselves, I believe, to actual sorting of sherds, though of course there is the intergrading toward the St. Francis type that we might expect. In short the situation is precisely comparable to that of Thin Drab already discussed. In a

final classification distinct types or variants would have to be set up for both wares as they appear in the Mississippi. For our present purposes it is preferable to fix our attention on polished drab as a whole, as has already been done in the case of Thin Drab, merely keeping track of the Mississippi variant in asides from time to time.

Difficulties of typological classification: bowls: It will be recalled that polished drab accounts for more than 70% of our total collection, or 1,465 vessels, an adequate sample, one would think, for a comprehensive typological classification. In the Cumberland and Cairo Lowland areas, with considerably smaller samples, I judged it sufficient merely to set out the material in what seemed to be the most convenient arrangement without any classificatory implications whatever. I should prefer to similarly dodge the issue here, because it proves on trial to be a very vexing one, but from the sheer bulk of the material to be handled some orderly process must be devised. Furthermore it seems that some discussion of the problems involved is really necessary to an understanding, not only of this particular group of pottery, but of Middle Mississippi ceramics as a whole.

I have already, informally, and without too much insistence on strict adherence (even for myself) adopted a preliminary typological breakdown into the following categories: bowls, jars, bottles, effigies and eccentric forms, following the usually accepted definitions of these various shapes, which I will not repeat here.. Difficulties in the effigy department have been sorrowfully revealed

(p. 429). In the vast majority of cases effigies reveal themselves as modifications upon fundamental shapes. It would seem logical, therefore, to classify them with the shapes from which they are derived, though obviously difficult in cases of extreme modification, convergence, etc. The real objection, however, is the amount of repetition entailed in description, owing to the fact that similar effigy modification may be common to bowls, jars and bottles. The last group, eccentric forms, is frankly a catch-all for any and all shapes that disoblige by not allowing themselves to be forced into one of the other categories.

The really serious difficulties, however, are not with this primary division, which on the whole serves well enough, but are within these separate categories. If we wish to see such difficulties at their worst, let us take the bowl department. I have considered as bowls all vessels whose diameter at the rim is not appreciably smaller than at any other point in their anatomy, allowing in the word 'appreciably' for a common Eastern Arkansas tendency for bowl rims to be slightly incurved. Sorting on this basis produces 663 vessels.(1) Notwithstanding the general simplicity of form, more or less inherent in the definition of 'bowl', these 663 vessels display a considerable variability in size and shape. The range in shape may readily be seen by glancing ahead through Plates XLIV to LVIII. The range in size is a matter that, unfortunately, requires some discussion.

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(1) This number includes some effigy forms, notably fish bowls, which will be dealt with later as effigies, but for the present purposes of general discussion may very well remain in the company of bowls.

The first thing that occurs to one so unfortunate as to be embarked on a typological classification of pottery is that factors of mere size may come to the rescue. It would seem reasonable to expect that certain types of bowls would run larger or smaller than others, that a preliminary sorting on the basis of gross size alone would reveal significant lines of separation. With this in mind I proceeded to sort 442 (1) bowls according to maximum diameters at one inch intervals (2) from 3 to 13 inches. In this sorting Mississippi and St. Francis materials were kept separate in the expectation that significant differences might reveal themselves. The resulting distributions are shown in fig. 86. In both centers as well as the area as a whole we get a close approximation to a normal distribution, with a mean diameter in all three cases very close to 8 inches. St. Francis bowls tend to run slightly smaller than Mississippi perhaps owing to a greater proportional representation in the 4-5 and 5-6 in. intervals, but this is partly offset by greater representation in the 9-10 in. interval. Re-examination of the sample showed pretty clearly the existence of certain type shapes in the St. Francis, present but poorly represented in the Mississippi, sufficient to account for the difference in distribution.

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(1) Out of 663. The missing vessels are those for which I have no measurements together with a large number of effigy rim vessels, the diameters of which include the rim features and are therefore not comparable.

(2) The method of using intervals 3-4, 4-5 and so on, instead of fixed dimensions, was adopted to accommodate the many cases of bowls not quite round whose diameters recorded in that fashion.

The lower end of the series would look quite different if miniature vessels were included, the curves would then flatten out at 1-2 instead of 3-4, but the general shape would be otherwise affected very little.

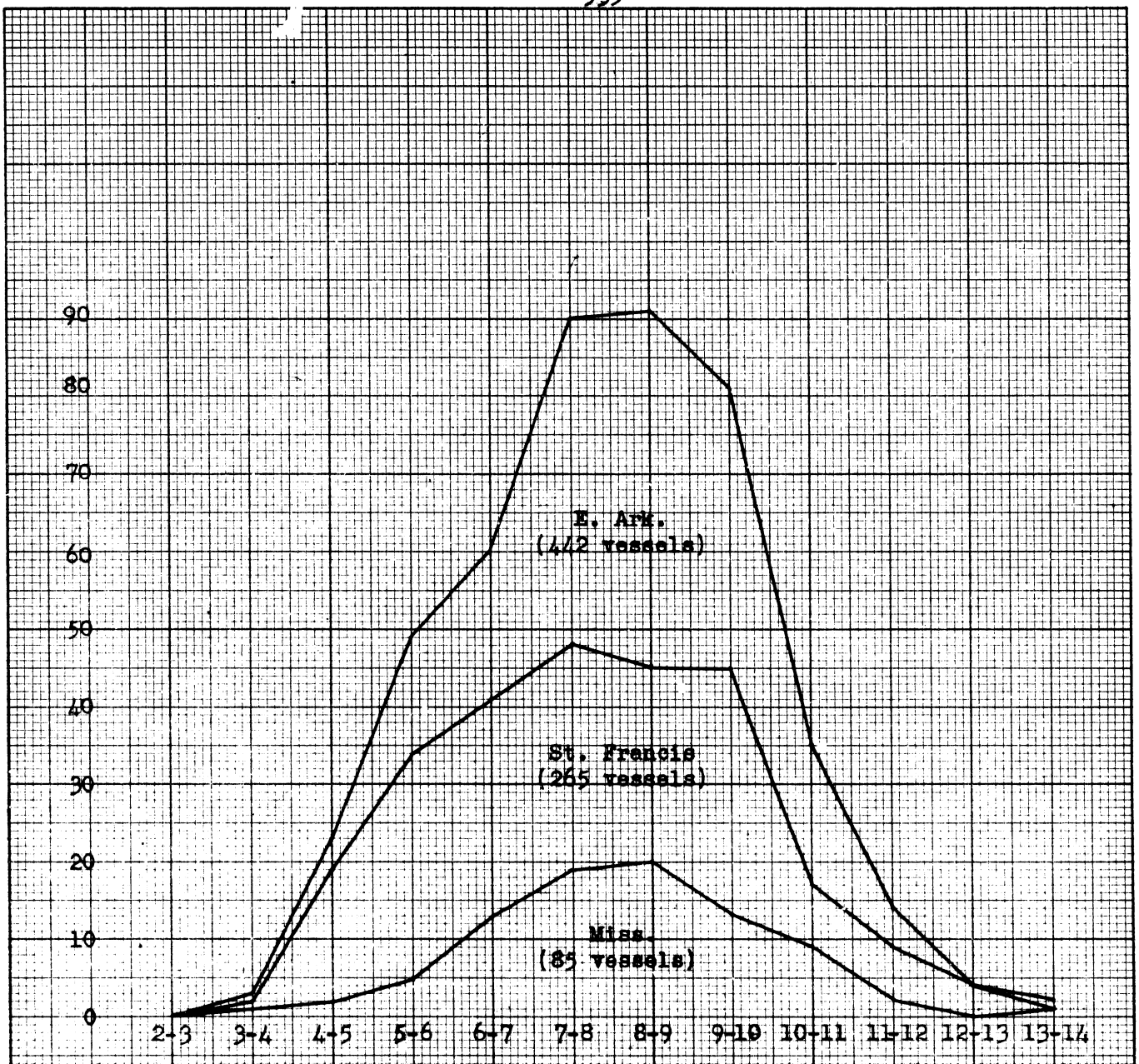

Fig. 86. Bowl sizes, Eastern Arkansas Polished Drab.

Aside from these indications, of no great moment, the results of this first sorting were disappointing. Nothing in these distributions, either in the Mississippi or the St. Francis or in the two areas combined gives the slightest suggestion of a tendency to cluster about norms in size such as one would expect from differences in function. Considering the range, from 3 to 13 inches in diameter, differences in function would seem to have been inevitable. Their failure to appear in the aforesaid distributions can mean only one thing, panmixia, resulting from the arbitrary herding together of material from many sites that presents an appearance of compact homogeneity from the outside, but is actually teeming with differences within. The obvious way to check this would be to plot the size distributions site by site, but only in the case of two sites, both unfortunately in the St. Francis, are there series sufficiently large for the purpose. These are the Rose Mound and Neeley's Ferry, both in Cross county, the heart of the St. Francis country. Their distributions, with the St. Francis and Eastern Arkansas curves repeated for comparison, are shown in fig. 87. Whereas Neeley's Ferry shows a fairly normal distribution, considering the size of the sample (68 vessels), the Rose Mound, with a similar series (67 vessels) shows a decided tendency toward a bimodal distribution, piling up in the 4-6 in. intervals, dropping sharply in the 7-8 in. (where the curve should be highest) and rising again at 9-10. Re-examination of the series shows clearly why. The site has produced a comparatively large number of small bowls of medium depth either with plain rims or, very often, with lugs. Bowls with indented rims tending

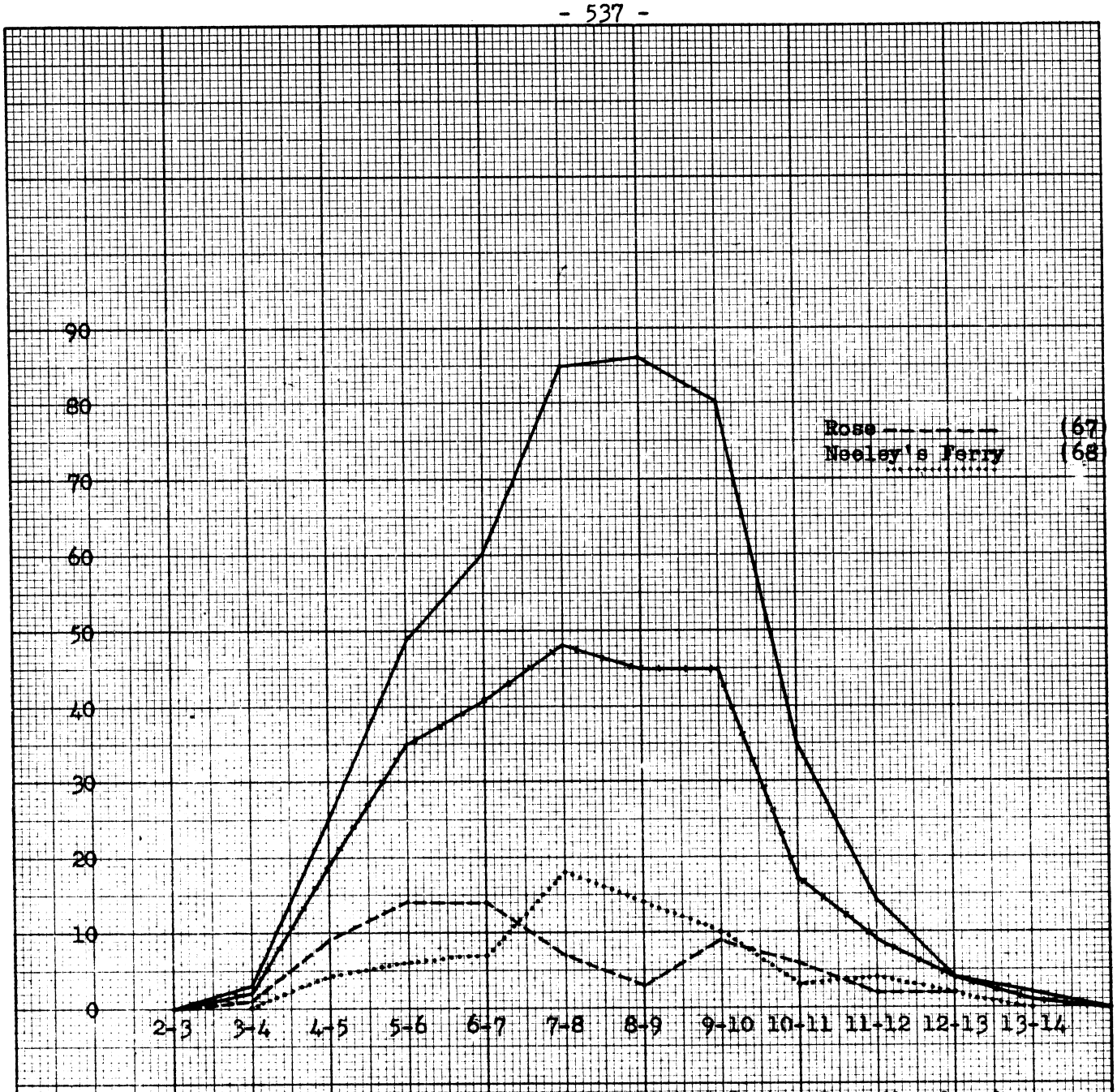

Fig. 87. Bowl sizes, Eastern Arkansas Polished Drab. Rose Mound and Neeley's Ferry sites compared with St. Francis and Eastern Arkansas totals.

to larger sizes and shallower depths, which normally help to pile up the distribution at the center (i.e. from 7-9 in. diameters) are not well represented. On the other hand, large deep straight-sided bowls with lugs or other rim appurtenances are present in force, which accounts for the rise at the 9-10 in. interval. The results of sorting by sites, even with inadequate samples, are two-fold: (1) it indicates pretty clearly that panmixia does lie behind the approximately normal distribution of the larger series where a number of sites are concerned; and (2) it suggests a method of isolating types for classification. Unfortunately, without larger series from individual sites, the method cannot be followed up.

Another possibility remains, however. If the Rose Mound sorting revealed that size is an important factor, or let us put it that size in conjunction with other features, such as depth or rim treatment,[1] will yield true morphological types, then a sorting of the whole series on the basis of such features ought to produce some helpful indications for the would-be classifier. The result of sorting on the basis of depth in relation to diameter is shown

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(1) What is meant by "true morphological types"? I suppose when you come down to it, what I mean is true functional types. When a woman sits down to make a pot, she makes it in a certain way because she's going to use it for a certain purpose. There cannot be anything wayward or haphazard about it, save under exceptional conditions. The exceptional conditions are those that governed, for example, the production of effigies and eccentric forms. But for simple bowls it must be clear that the dominant factor is use. In other words a type of form to be "true" (awful word!) would be the sort of pot that a woman would consciously intend to make. It would be used for a certain purpose and there would be in all probability a name for it. If we can find such types, then we have a classification that really means something.

in fig. 88.[1] They are not astonishing. All three categories approach a normal distribution, but with slight differences of possible significance. Shallow bowls (the definition was a trifle stringent) are distinctly in the minority and tend to run to larger sizes. Deep bowls do the same, but drop off rapidly after the 9-10 in. interval. Medium depths, on the other hand, are associated with medium sizes in a close approximation to a normal distribution around a mode at 7-8 in., which is precisely what might be expected, this being the place where the overlapping of all types is likely to take place. The piling up of deep bowls in large sizes upon examination proves to be due to the large number of deep, straight-sided bowls with lugs, fish attributes and other adjuncts, present in the St. Francis. It would be giving the whole show away if I admit that this is a type which I have always known, and one which I believe to have a functional significance to be discussed later.

The distributions resulting from sorting on the basis of the commoner types of rim treatment are shown in fig. 89. Again, they are not remarkable. A plain undifferentiated rim appears to be fairly normally distributed through all sizes. Rim indentation (of which there are several types, here lumped together) runs about the same with a slightly lower frequency in the smaller sizes, slightly

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(1) An admittedly crude method. Three arbitrary groups: shallow, i.e. with height less than one-third the diameter; medium, height from one to two-thirds diameter; deep, height over two-thirds diameter. An indicial method would, of course, be preferable but would involve more labor than is justified under the circumstances.

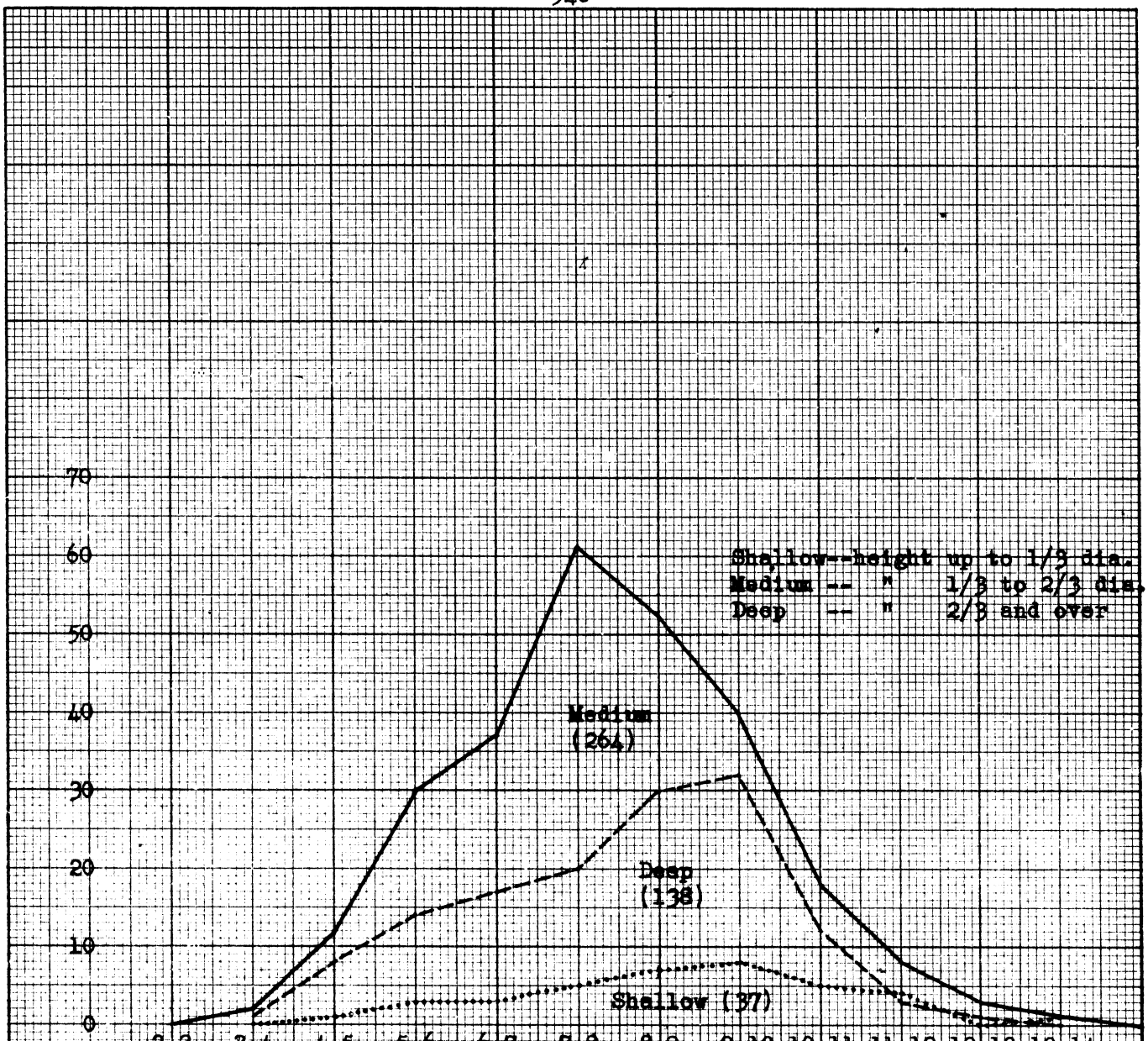

Fig. 88. Bowl sizes, Eastern Arkansas Polished Drab. Diameters in relation to depth.

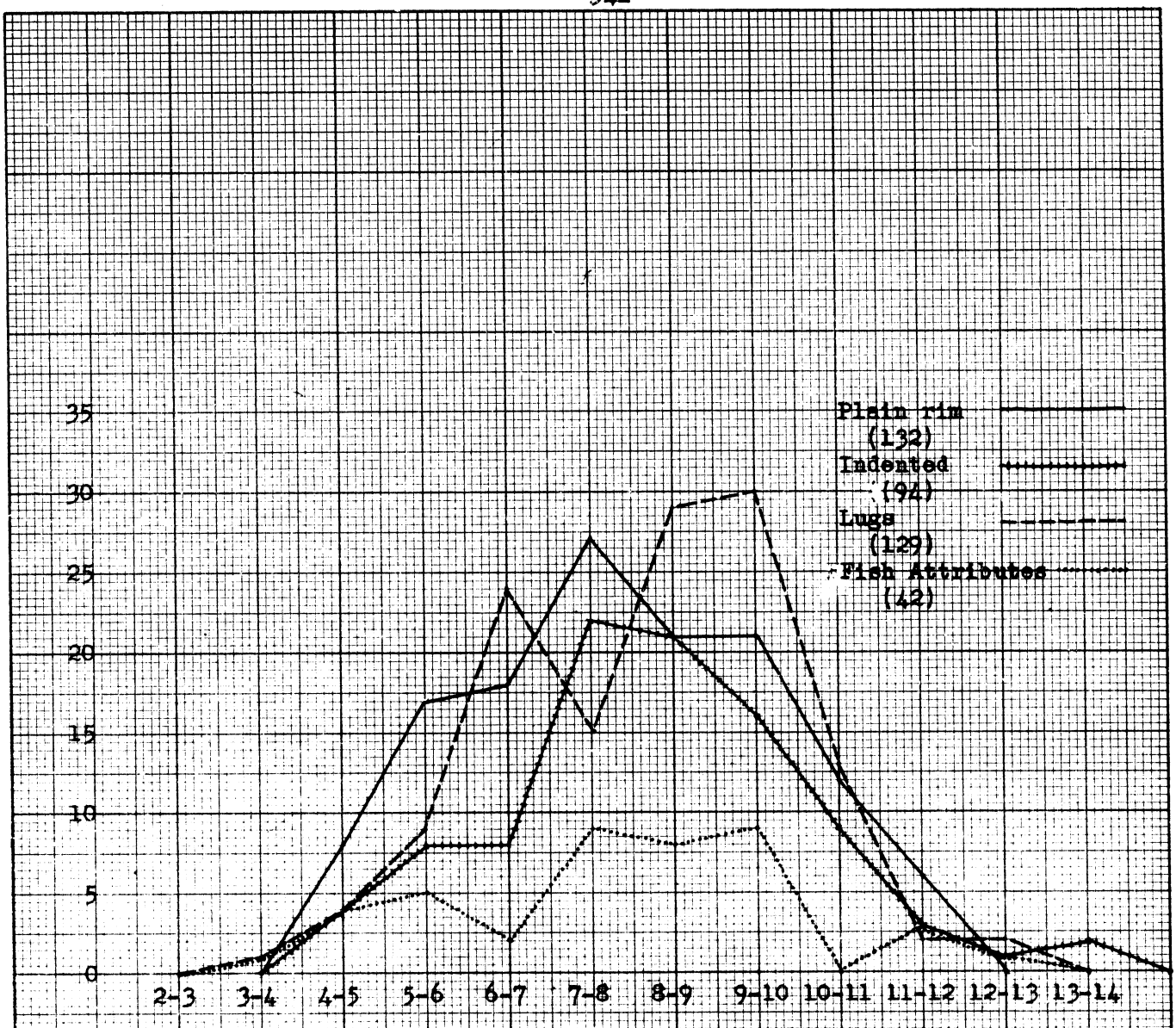

Fig. 89. Bowl sizes, Eastern Arkansas Polished Drab. Diameters in relation to various types of rim treatment.

higher in the larger. With a larger sample, or better, one selected with less catholicity in respect to types of treatment, one feels these differences might be significant. The distribution of rims embellished by lugs, of which, again, there is a great variety, is of somewhat greater interest. The tendency to bimodality recalls the distribution of all bowls taken together from the Rose mound and is probably not unconnected. That is to say, there seem to be two kinds of vessels with lugs, and both are well represented at the Rose site, small to medium bowls running mostly to medium depths, and large deep straight-sided bowls. Whether the first means anything or not, the second is certainly a type in the fullest sense of the word. The distribution of fish attributes shows little beyond the fact that there are certainly several types of fish bowls. The tendency to pile up in the 7-10 in. intervals can be explained by the fact that a large number of fish bowls are of the deep straight-sided type to which allusion has just been made.

It is time to call a halt. It appears that I have devoted twelve distribution curves and 5 pages of text to show that a certain easily recognizable type of bowl is a type of bowl. Perhaps this is what is called validating a type. If so, it is a sufficiently laborious process. Otherwise the net result has been to indicate merely that in a sample made up of miscellaneous material from many sites, however closely related, you are going to get such an overlapping of types that only the hardiest will keep their heads above the general leveling process of panmixia. The only positive

contribution made by this display of effort -- and the excuse for including it at all -- is that it suggests a method whereby, with adequate and controlled samples, morphological types that really make sense could be established. In the present juncture, in which I am faced with the necessity of setting out a large mass of material in a grouping that has some morphological coherence, it helps not one whit. The one type that emerged with any sort of clarity was one of whose existence I was already well aware. I shall proceed therefore to set out the material much as before in purely arbitrary grouping, in which factors of size (and presumably function) play little or no part. I can only repeat, with greater emphasis than before, that the result is not a classification.

Bowls with plain rim: Plate XLIV: In this and the following plate are shown bowls with plain undifferentiated rims. Shallow bowls, A1-B4, mostly run to larger sizes. These examples are all from the St. Francis. As a matter of fact plain rims are almost non-existent in the Mississippi section. Plain rim bowls of medium depth are far more numerous, C1-E4, but again are decidedly more characteristic of the St. Francis than the Mississippi. In contour these bowls vary considerably. A true hemispherical shape seldom appears, the normal tendencies being toward a flat or flattish bottom and slightly flaring sides. D2 might well serve as an archtype of the whole group. In exceptional cases, E3-4, bottoms are actually flat, though generally without a sharp break in profile from bottom to sides. The otherwise undifferentiated rims occasionally show a slight tendency toward lipping as in D3-4.

Plate XLV: This plate continues with plain rim bowls. St. Francis bowls of medium depth, such as we have just been considering, frequently show a slight flaring of the rim, which gives them a faint bell-shaped appearance. Typical examples are seen in A1-B4, all but one from the St. Francis. The tendency is present also in the Mississippi, however, as we shall see when we consider bowls with rim indentation, but on the whole is perhaps not quite so pronounced. Its culmination in a type that looks like a trench helmet (B2-4) does not appear in our Mississippi series. Several of these flaring rim bowls from the St. Francis have four shallow scallops in the rim, C1-2, and the same treatment occurs as well in bowls without a flaring rim, C3-4. Small, deep, straight-sided bowls (diameters from $4\frac{1}{2}$ to $5\frac{1}{4}$ in.) without rim elaboration of any kind are shown in D1-4, the same somewhat larger (6-7 in. diameter) in E1-4. Such bowls occur but rarely in larger sizes without lugs or some other rim adjuncts, in which case they form a distinct type, which even impressed itself in the size distributions discussed above. Whether these smaller bowls without rim adjuncts also constitute a type does not plainly appear.[1]

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(1) I am inclined to think they do, and that the occasional small deep bowls with lugs (and those with rim effigy features as well) go with them, the whole group thus forming a functional type related to the cups or beakers of certain lower Mississippi sites and particularly Moundville. On the other hand, without more data than is present to hand, it appears equally possible that in these bowls we have merely the smaller, and thus proportionately deeper, versions of the more typical medium size, medium depth bowls just considered. This is the sort of question that unsettles the reason of the would-be classifier.

Bowls with indented rims: Plate XLVI: Rim indentation of one sort or another is distributed, as we have seen (fig. 89), throughout all sizes but not all shapes, at least not to the same extent. In general it tends to be associated with shallow and medium shapes rather than deep ones.[1] There is likewise a significant difference between the Mississippi and St. Francis. In the former some form of rim indentation is practically the rule, whereas in the St. Francis it competes on a losing basis with plain rims.[2] If the difference has any significance at all it would seem to line up with those factors, some already pointed out, others to come, that point to a greater advancement and refinement of the potter's art in the Mississippi area.

Actual methods of rim indentation are too numerous to go into in detail. The simplest, involving the mere nicking or notching of the lip of an otherwise undifferentiated rim, is not very common, A1-4. In the great majority of cases the rim is slightly extruded or lipped, which makes the notching more effective, B1-C4. The difference is, unfortunately scarcely perceptible in the small scale photographs. From this is an easy transition to the type in which the rim is reinforced by an extra coil which forms the lip and

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(1) Actually over-emphasized somewhat by the method of sorting. Some (though not many) deep bowls with indented rims were thrown into a different category owing to the possession of lugs.

(2) Again, counting bowls with no other form of rim embellishment, we get in the Mississippi 11 plain to 48 indented, in the St. Francis 89 plain to 35 indented. The inclusion of bowls with lugs would, in this case, still further accentuate the difference.

receives the indentation, D1-4, or such a rim coil may be placed slightly below the lip as in E1-4.

Indented rim coil: The indented rim coil is one of the major diagnostics for the pottery of the Cumberland (though by no means limited to that culture, vide p. 317, but is consistently associated with hemispherical bowls. In the Cairo Lowland it was not well represented but, in the face of the normal tendency in that area to flat bottoms and straight flaring sides, continued to be associated with hemispherical forms. In Eastern Arkansas the trait is more in evidence again, but in connection with both hemispherical and flaring-sided bowls, with the greater emphasis on the latter. In short, as a somewhat specialized trait shared by all three centers, the indented rim coil has an undoubted importance, but when it comes to more precise interpretations as to the relative degree of relationship between them, it is of no assistance whatever.

Plate XLVII: Possibly a degenerative outcome of the indented rim coil placed below the lip is shown in A1-4, in which a similar effect is obtained by punctation or pinching. A somewhat different type of rim coil is shown in B1-4. As may be seen in the up-ended specimen (B4) the junction between the primary rim and the supplementary coil is emphasized by an incised line. Another type of rim, possibly also made by luting on a supplementary coil, but more likely to have been accomplished by turning or extruding the lip at right angles to form a flange, which in turn may or may not be indented, C1-4. There is a further interesting type, D1-4, with a broad flange

either at the rim level or below it, generally though not invariably pierced by a series of oval perforations as shown in the standing specimen, D4.

The various rim elaborations so far considered seem to be shared alike by the Mississippi and St. Francis sections, with a proportionately greater representation in the former, where plain rims were decidedly not in favor. The type shown in E1-4, however, in which an extruded lip or flange is crimped or scalloped, seems to belong exclusively to the St. Francis, where it has a fairly common occurrence in connection with bowls of various sizes and shapes.

Plate XLVIII: An effect somewhat similar to the indented rim coil is obtained by a continuous series of nodes, A1-2. More commonly, however, such nodes are applied singly or in groups of two, three or four, A3-B4. Generally speaking such decoration is more characteristic of large deep straight-sided bowls such as B2-4. It may not be too far-fetched to regard such decoration as the final breakdown of the conventionalized fish attributes associated with this type of bowl. The ventral fins are in some cases reduced to precisely similar nodes. On the other hand, they may be connected with the "nubbin" decoration discussed in Thin Drab section (p. 522). Nodal decoration, generally speaking, seems to center in the Eastern Arkansas region, but is found also in the Cumberland (sparingly, and in the group provisionally designated "Cumberland X") and Cairo Lowland, and in the latter area in grouped arrangements precisely similar to those considered here (cf. Plate XX, C1-2). Such precise correspondences, as in the latter instance, are not the result of

trade, the ware in each case being entirely distinct, argue for a very close relationship.

Bowls with lugs: The balance of Plate XLVIII and the two following plates present in considerable disarray many sorts of bowls embellished with partial flange-like extensions of the rim, or lugs. There is a great variety of such bowls, and while in considerable measure they may be grouped into types, there is bound to remain an assortment of odds and ends difficult to handle. Since these are mainly in the smaller sizes and shallower depths (the large deep bowls constituting a well-defined type) it may be well to dispose of them first, being anyhow more alike the bowls we have just been considering.

Shallow to medium bowls with two lugs are shown in C1-4, with four lugs in D1-E4. In these shallower forms the possession of four lugs seems to be as common, or commoner, than two. In the deep bowls such is definitely not the case, four lugs being very exceptional. In profile view these twelve bowls look fairly similar, actually there are scarcely two alike, the differences being in the lugs, which may be single, double or even triple and are subject to various methods of decorative elaboration. I shall give more space to such variations in dealing with deep bowls and rim effigy bowls where the full range of possibilities may be studied.

Plate XLIX: Shown in A1-B4 is a rather special type of bowl, tending to small size and shallow depth, with elongated double lugs of characteristic shape usually perforated presumably for suspension.

All but one of these examples (C1) are from the St. Francis and of the five of these whose exact provenience is known four are from the Rose Mound. Apparently then this is the sort of local specialization that would emerge in great numbers if we had larger samples from individual sites, a "type" in the most specific sense of the word.

The Mississippi version of the same thing, C3-D4, is more like the extremely long-lugged example in C2, but tends to run larger in size and apparently lacks the perforations. Perhaps it is not the same thing at all, but the superficial resemblances are close enough, with C2 acting as intermediary. An extremely interesting type of lug, which might be called a "pseudo-pitcher-spout" is shown in E1-4, both examples from the Mississippi. Actual pitcher-spouts do occur in deep bowls from the St. Francis, as we shall see, but the resemblance to these is probably fortuitous -- these, in any case, are plainly decorative. Relationship to a certain type of decoration of bottles will be discussed later.

A "morphological type": Plate L: Having cleared away the foregoing assortment of shallow-to-medium bowls with lugs, we are left with the deep, straight-sided type to which frequent allusion has been made, the only type strong enough to show positive tendencies in the various sortings according to size described in an earlier part of this section. I have felt called upon to regard it as a true morphological type with all that the term implies. The most important of such implications is, perhaps,-- function. This brings up a question highly embarrassing to the classification of wares followed here,

one that I would willingly avoid if I could. The disconcerting truth is that many of these vessels show positive evidence of use over the fire. Yet in characteristics of paste and surface finish they fall well within the definition of polished drab. Polished Drab is not a cooking ware; that, I would have said is something to bank on. I begin to see there isn't anything about this pottery you can bank on. How resolve the difficulty? Frankly I see no way whatsoever. A redefinition of polished drab so as to exclude these cooking bowls is impossible. Most of them anyhow are without accumulations of soot and even those that do show evidence of such terrestrial uses are otherwise indistinguishable in paste and treatment from countless other shapes in polished drab that could not conceivably have had a culinary function. The only recourse is to admit that the line between culinary and non-culinary wares in Eastern Arkansas simply cannot be drawn and let it go at that.

The characteristic shape in this type of bowl is that of a bowler hat without any brim, or with only so much of it as is represented by the two lugs which are practically standard equipment. The range of size can be seen in the accompanying figure 90, based on a series of 89 vessels. That the type is essentially a St. Francis one is indicated by the fact that 57 of the 89 vessels are from the St. Francis, as against 5 from the Mississippi, the remainder being insufficiently documented.(1) A representative series

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(1) The preponderance of this type in the St. Francis is almost too good. You do not often get such clear-cut differences between the two regions. It must be cautioned that our Mississippi sample is considerably smaller than the St. Francis (522 as against 917

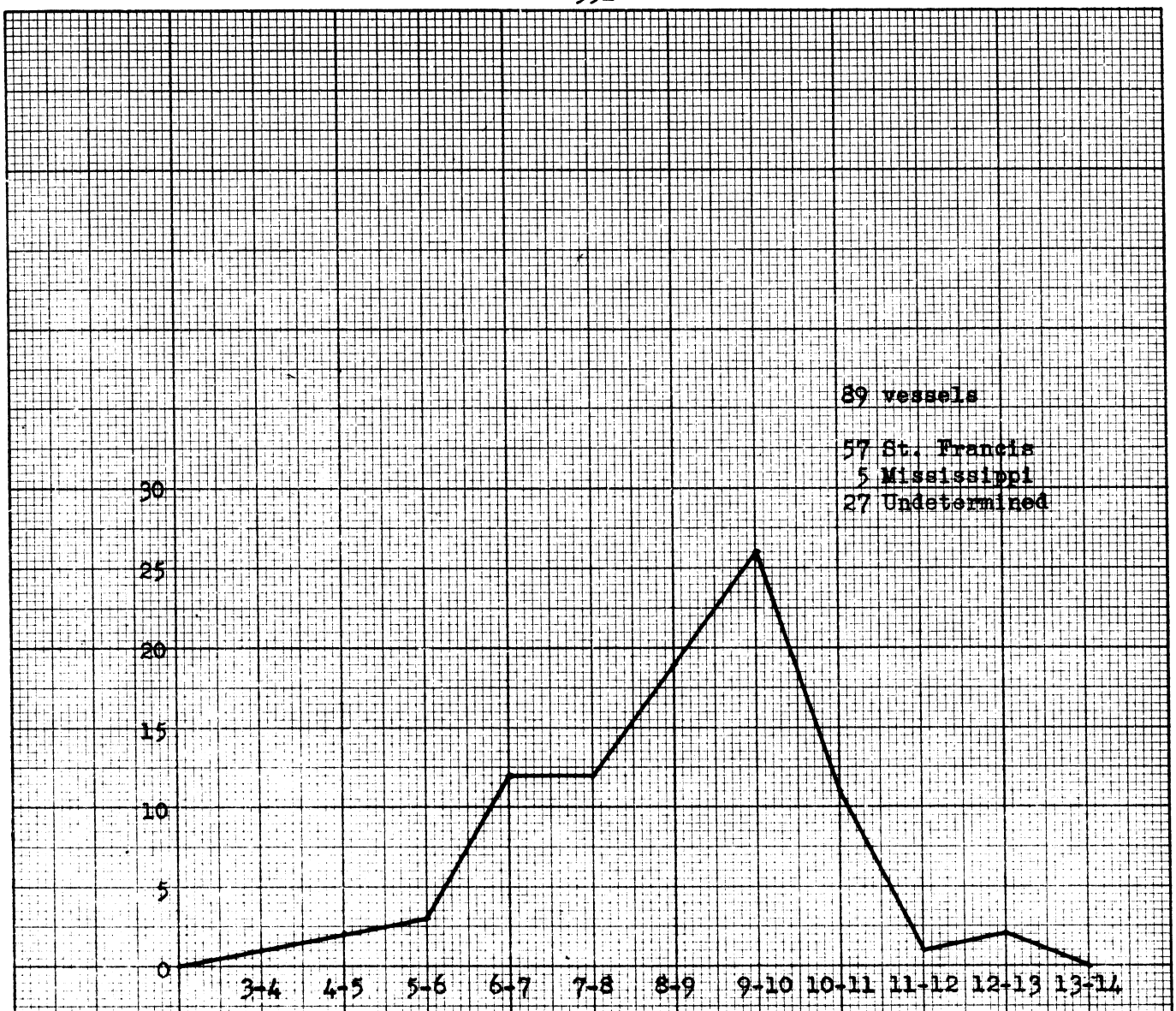

Fig. 90. Diameters of deep bowls with lugs, Eastern Arkansas Polished Drab.

is shown in Plate L, from which it may be seen that in shape they vary surprisingly little, the only thing to mention in this connection being an occasional tendency for the walls to converge slightly as the rim is approached, D1-4, rarely sufficient, however, to take them out of the bowl category. The variety, of course, is in the lugs, which assume a number of forms and are frequently embellished by incised, punctate and modeled decoration. A few sample lugs are shown in E1-4, the full range in fig. 91.

True pitcher-spout lugs are occasionally seen on bowls otherwise no different from the general type, E4 and fig. 91q. In the Cumberland, where it also occurs, the pitcher-spout seems to have some connection with shell effigy vessels (vide p.318). Here it would appear to be a straight utilitarian feature were it not for the fact that it is often simulated in ways impracticable for pouring.

Deep bowls with fish attributes: Plate LI: Bowls of the type just described are so commonly endowed with fish attributes as to make some discussion of fish effigies in general necessary at this point. In the areas so far considered fish features were generally found in association with bottle and jar forms or, still more commonly, with a shape intermediate between bowl and jar, that is to say a bowl with considerable incurving and constriction at the rim

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for polished drab as a whole, 85 as against 265 in the bowl department) and that certain factors of selection may have influenced the result. The one that comes first to mind is the possibility that, this being chiefly a culinary type of vessel, the Mississippi people held it inappropriate for funerary purposes, their St. Francis congerers being not so finicky.

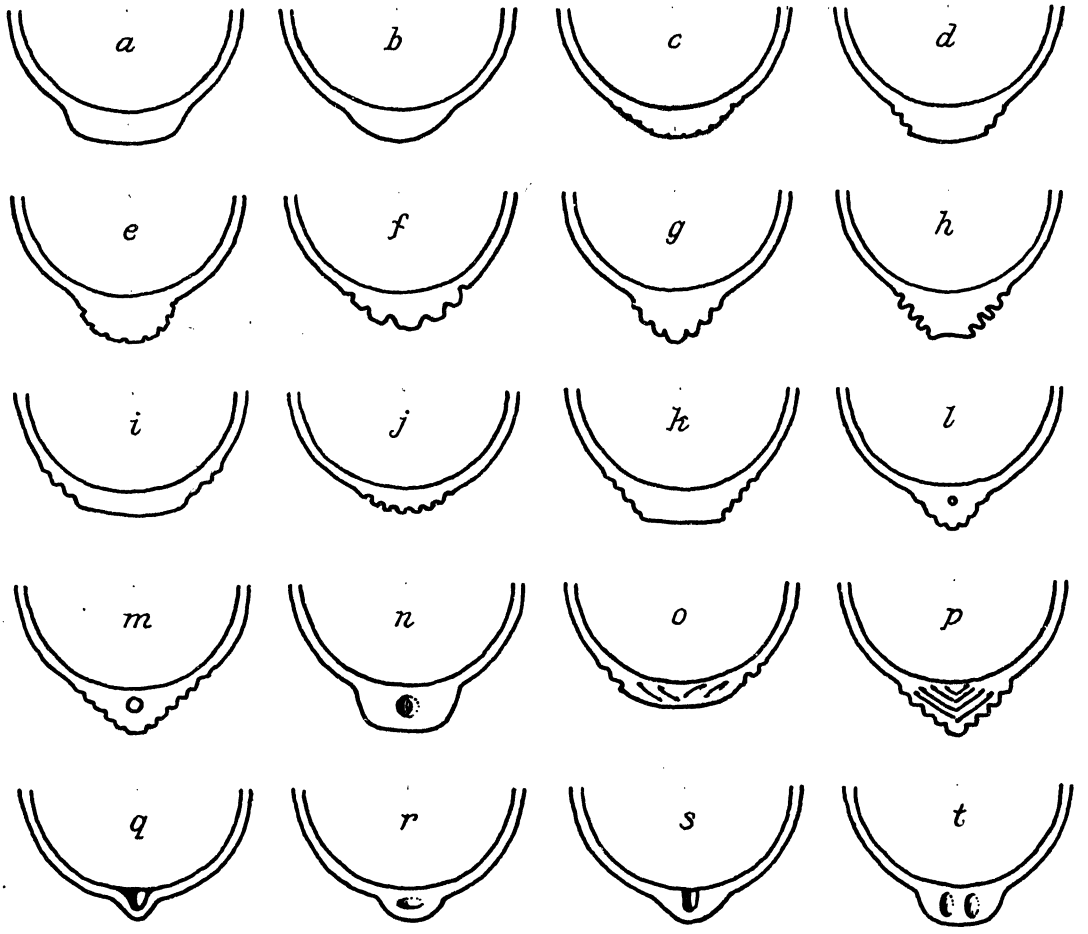

Fig. 91. Lugs from deep, straight-sided bowls, Eastern Arkansas Polished Drab.

but without a collar, a shape not unlike the seed-jar of the Southwest but with a larger opening (see Plates V and XXV). Fish bottles we have here also and jars as well, and among them are to be found some of the best examples of realistic modeling in the entire Southeast. The seed-jar like shape, however, is present only in a few examples from the Mississippi section. All other fish effigies, and this involves the great majority, are elaborated upon bowls of one sort or another, and of these the commonest are of the deep

bowler hat type just described. To make this point clear I have brought together a series of typical examples in Plate LI. Some of these will be shown again, possibly, in connection with other fish forms, in the section devoted to effigies in general, and some attempt made to discuss evolutionary problems. The close relationship of this particular kind of fish bowl and the deep bowl with lugs of Plate L is sufficiently obvious, indeed it seems not unlikely that one developed directly out of the other. Which came first, whether a case of conventionalization or realization is a question that can be begged by simply arranging a progressive series in whichever direction is desired. To avoid this I have made a more or less random selection and arranged them according to proportionate depths to facilitate comparison with Plate L. E1-4 show examples of a slightly variant type, a double headed "two-way" fish, generally, though not invariably, without fins or other features.

The question of the function of these large fish bowls, some of which are beautifully shaped and finished comes up again. In this respect, too, they show their close relationship to the deep bowls of Plate L, for many of them bear unmistakable accumulations of soot. From this we are bound to conclude that no less care and skill were expended upon cooking vessels than any other kind of pottery.

Miscellaneous bowls: Plate LII: Before going on with the large and interesting class of rim effigy bowls, it may be as well to dispose of one or two small groups and various atypical forms here presented. Comparison of A1-3 with a similarly small series

of rectangular bowls from the Cairo Lowland, shows a practical identity which is perhaps not surprising in view of the extreme simplicity of the shape. It did not appear however in the Cumberland. If it were not so elementary a form, it would be interesting to consider the possibility of its derivation from the Southwest, where it is of frequent occurrence.(1) In this connection it must be recalled that a very special type of rectangular vessel, with the rim scalloped in a terraced fashion, precisely similar to the prayer bowls of the Zuni have turned up at Moundville, a site closely related to the Eastern Arkansas culture.(2)

The "half-gourd" vessel, B1-2, closely recalls a similar example from the Cumberland (Plate IV, E1-2). It is evidently a rare form in both areas and occurs in the Cairo Lowland collection only in a closely related form, the conch shell effigy. Curiously enough, the latter, so common in both the Cumberland and Cairo Lowland is not present at all in the immensely larger sample from Eastern Arkansas.

A small collared bowl, possibly a local St. Francis type, is shown in B3-4.

The remainder of Plate LII shows various atypical specimens, all but the last of which, judging from paste and surface characters,

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(1) Hough, U. S. Nat. Mus. Rep. 1901, Plate 9.
Fewkes, Smiths. Misc. Coll. vol. 63, no. 10, 1914, fig. 18.
Bradfield, 1931, Plate LXXXII:264.
Woodward, 1931. Rectangular bowl listed as typical Hohokam trait at the Grewe site, Gila Valley.
Cosgroves, 1932, Plate 88 f.

(2) Moore, 1907, figs. 22-23, pp. 357-58. Ford, 1936, fig. 23h.

seem to be perfectly good Eastern Arkansas Polished Drab. D3 is interesting as the only simple bowl in the entire collection with any sort of basal support, in this case an indented ring base. The last specimen, D4, beside being atypical in both ware and form, also has a hole knocked out of the bottom, presumably in accordance with the custom of "killing" mortuary vessels, which is definitely not an Eastern Arkansas trait.(1)

Rim effigy bowls: The difficulties that beset the aspiring classifier are nowhere more in evidence than in the class of vessels that I have called rim effigy bowls. The designation is not altogether satisfactory in the Eastern Arkansas area owing to the fact that sometimes the rim features have no effigy character whatever, are either pure abstractions or effigies so far gone in conventionalization that no semblance of life is left them. For the great majority, however, the name fits well enough. The present collection contains 161 of such vessels, 43 from the Mississippi, 79 from the St. Francis, the remaining 39 being unspecified as to exact provenience. In a sample of this magnitude, one might expect to be able to sort out some definite types, that is to say types depending on general characteristics of shape independent of the rim effigies themselves. To a certain extent one can. It is evident at once

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(1) A bowl of precisely similar shape from the lower Tombigbee river is figured by Moore, 1905, fig. 4, p. 253, and this vessel likewise "has a mortuary perforation at the base". This is about the first certain indication of trade in pottery encountered in the whole course of this study.

that the deep, straight-sided bowl, which we have already seen under several guises, with lugs, with fish attributes, etc. is represented here as well, and in considerable strength, with various sorts of effigy factors, animal, bird, serpent, etc. In other words it is quite likely that this type of vessel, also, though predominantly a mortuary ware, was also used on occasion for cooking purposes. Aside from this, however, it is possible to say very little about types. Apparently all sorts of bowl shapes are subject to this kind of embellishment, without any observable correlation between shape and subject matter for effigy treatment. We are obliged, therefore, to fall back on a purely arbitrary division by subject, in which we get the following categories: human, animal, bird, serpent, unidentifiable and problematical.

Comparative figures for these various categories may be not without interest:

	Miss.	St. Francis	Unplaced	Totals
Human	9	-	1	10
Animal	11	3	1	15
Bird	11	25	7	43
Serpent	7	11	14*	32
Unidentifiable	-	30	7	37
Problematical	3	9	6	18
	43	79	39	161

*Figure includes 8 specimens from Davenport Public Museum collection, of Mississippi type, which, though undocumented, are thought to have come from Pecan Point or sites in the vicinity thereof. Also 3 specimens from the Indiana Historical Society's collection, of unknown provenience, but of undoubted Mississippi type.

As a matter of fact, these figures are interesting. The complete absence of human heads in the St. Francis, the small number of recognizable animals and, above all, the large number of unidentifiable specimens in that area, all these circumstances show up in marked contrast to the Mississippi situation. Two things are evident: (1) that in selection of subject and general treatment of rim effigies, the Mississippi is closer to the Cairo Lowland and Cumberland than is the St. Francis, and (2) that the potters of the latter section lagged far behind their Mississippi congeners in the handling of naturalistic subjects.

Human effigy bowls: Plate LIII: Bowls with human effigy features are shown in A1-C3, all, except one undocumented specimen B4, from Mississippi sites. The first two examples are interesting, showing absolute identity of type, which could only be the result of having come from the hands of the same potter. They were found in different, but not widely separated sites in the neighborhood of Pecan Point. A3, from Blytheville, in the northern part of the area, is of the same type. These first three specimens show a very close similarity to examples from the Cairo Lowland, somewhat less close to the Cumberland, though the general similarity of headdress, the looped engraved bands in A3, and the fact that the heads are hollow and contain pellets are important linkages with that area. A4, on the other hand, seems to be definitely an Eastern Arkansas type, with no close parallels in the other centers. Note that the head faces outward, contrary to the usual orientation in the Cumberland and Cairo Lowland.

The next four specimens, B1-4, are somewhat alike in the possession of long necks, grotesque features, and, except the last, very queer pointed affairs on the head. These pointed caps we have seen before in the Cairo Lowland (Plate XXI, E1-4) and in the Cumberland (Plate VII, E3-4). I have already discussed the possibility of their having been derived from a basketry proto-type (p. 344,428). What is new in these Eastern Arkansas examples is the elongation of the neck, a snake-like characteristic emphasized in B2 by the curled tail, which is almost invariably the mark of the serpent type to be discussed presently. The possibility of a deliberate grotesquerie based on a combination of human and ophidian characters is strongly suggested and perhaps one of the attributes of this singular personage is the pointed cap.(1)

The question whether the grotesque element in these and other human representations is deliberate or is simply incomplete realization due to lack of skill is always a difficult one. The skill these potters, or some of them, could muster on occasion, witness the celebrated head vessels from Pecan Point, makes the former alternative seem more likely. Specimen C1 is a case in point. Unfortunately the peculiar features of this head do not show in the small-scale photograph. What seems to be represented is a somewhat anthropoid-like creature, with snouty prognathous face surmounted

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(1) This is, of course, extremely far-fetched, but one cannot refrain from mentioning in this connection the peaked headdress that is more or less standard equipment on the stone "idols" of the Huasteca and Tamaulipas. (See Prieto, 1873; Seler, C., 1916; Spinden, 1937).

by a human headdress. It is hardly possible that such a monstrosity could be merely an unsuccessful attempt to represent an altogether human physiognomy. We have seen plenty of such unsuccesses and they are of an entirely different order.

The "man bowl", C3, crude by comparison with Cumberland examples, is the only example of this interesting type of effigy from the entire Eastern Arkansas collection. The significance of this trait from the point of view of remoter relationships has been discussed at length (p. 325). There is little to add here. It is hardly necessary to note that its scarcity, as well as its crudity, is not favorable to an attempt to bring it in from Middle America or the Southwest, unless we invoke chronology and consider the type as belonging to an earlier distribution of pottery traits (cf. lost color, figurines, etc.) not entered into by the Eastern Arkansas culture.

Animal effigy bowls: The balance of Plate LIII is devoted to a series of rim effigies depicting, with not very much fidelity, various kinds of animals. All examples shown are from the Mississippi section. Recognizable animal effigies are very rare in the St. Francis. This does not mean, apparently, that the St. Francis potters were adverse to the representation of animal forms, but merely that they lagged so far behind in execution that the bulk of their products fall into the "unidentifiable" column.

Plate LIV: A continuation of animal forms is shown in A1-B2. The first three specimens from the St. Francis are perceptibly cruder than the Mississippi specimens on the preceding plate.

Whereas in the latter, one would be hard put to identify the species represented, in the St. Francis examples one would not even consider making the attempt. A3, an interesting specimen with legs folded under in a recumbant position, is undocumented, but probably comes from the Pecan Point section of the Mississippi. B1-2 are long oval bowls, also from the Mississippi, the first having once possessed four legs, now broken off. This and the preceding vessel might raise the question of a possible derivation of the rim effigy bowl from a more fully realized effigy form such as these legged examples, but I prefer not to get involved in such a speculation at this point.

Bird bowls: Bird heads as rim effigy features are far more common and, I believe, more widely distributed than animals. In general they seem to divide themselves into two groups: one in which the head is flat from side to side as though shaped out of a pat of clay; the other in which the head is modeled in the round. As in all such divisions there is a considerable overlap between. The first group, of which examples are to be seen in B3-E4, is by all odds the most interesting, because of its fairly uniform characteristics over a wide area of distribution. It has been reported from Aztlan, Wisconsin,[1] the Cairo Lowland of southeastern Missouri,[2]

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(1) Barrett, 1933, Plate 94, fig. 1; 97, fig. 8.

(2) Webb, 1939, Plate 65a.

the Wheeler Basin in northwestern Alabama,[1] Moundville,[2] further south in the same state, Mobile Bay,[3] and the Northwest Florida Coast.[4] It was this type of head, precisely, that formed the dais in the Macon council house.[5] A peculiarity of this type is that it normally faces the interior of the bowl, whereas the fully modeled heads face outward. Both rules are followed in the present series without exception.

Plate LV: This plate shows fully modeled naturalistic (?) bird bowls which occur in considerable variability. There is, however, some tendency for types to appear, as in A1-4, in which duck forms are represented. This seems to be a local St. Francis type. Duck forms from the Mississippi section may be seen in B1-3. In C1-2 there seems to be an intention of representing the swan; if so, it cannot be said to have been highly successful. The remaining specimens on the plate are realistic enough to qualify as birds and that is about all. Indeed the degree of skill in naturalistic expression exhibited by this class of bowls is not astonishing.

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(1) Cairo Lowland, Plate XX, D1-E2.

(2) Moore, 1905, fig. 51., p. 168.

(3) Ibid., fig. 9, p. 294; fig. 10, p. 296.

(4) Moore, 1901, fig. 42c, p. 452.

(5) Post card published by Ocmulgee National Monument, Macon, Georgia.

"Serpent" bowls: Plates LVI-LVII: We now come to the most interesting class of rim effigy vessels, and one that seems to be an eastern Arkansas specialization, the "serpent bowls". To call this creature a serpent merely, however, is to neglect some of his most interesting characteristics. We have met him before, as a matter of fact, in the so-called dog-pots of the Cumberland and northern Georgia (fig. 46). At the time I ventured the opinion that no dog, or any other animal known to zoology, was intended, which belief was based on the obvious relationship with the "serpent" bowls before us. The grotesque creature, which here suggests a serpent, there a dog, is in fact neither, but rather a composite of several elements, the most recognizable being the serpent and cat, to which may very likely be added the eagle, and in some cases the bat. Nothing so prosaic as the dog enters into the conception at all. (Query -- does the dog ever play a part in American Indian symbolism? Is it after all expectable that he should be endowed with the mysterious forces of nature that must be ritually placated? That friend to man can be placated at any time by a well-aimed kick from behind. Not so the serpent and the wildcat.) The most conspicuous features of this composite monster -- if the eagle attributes were more clearly expressed we could use the word "dragon" -- are the prominent interlocking canines, the sharply upturned snout (this is where the bat possibility comes in), the long lines running back from above the mouth, the two or three-pointed figure surrounding the eye and the curled-up tail. Actually all of these characters are seldom found united in a single example, particularly in pottery, where the

tendency to elision is marked. One may see the creature at his best in some of the large stone pipes from Alabama and Mississippi. A very fine example in the Peabody Museum collection from Moundville, Alabama, is shown in fig. 92. In this pipe all the features enumerated above, except the eye figure, are present, and in addition there are small circumscribed crosses set between the teeth. The esoteric mythological character of the whole conception is perfectly obvious, and the elements which enter into the composite are clearly distinguishable. The general bearing of the creature, the prominent canines, sharp claws and up-standing ears betoken the cat; the long flowing lines, a pair of which run back and encircle the bowl are derived from the serpent, and may as a matter of fact represent the plumed serpent, who has borrowed his plumes from the eagle; while the upturned snout suggests very strongly the conventionalized representations of the bat in Middle American art.(1) The way in which this concept was modified under the potters' hands in Eastern Arkansas is illustrated in specimens before us, or better in a collection of heads broken off from vessels shown in fig. 93.

The differences between the Mississippi and St. Francis versions of this reptilian monster are clearly apparent even in the small photographs. Examples from Mississippi sites are shown in Plate LVI, A1-B4, an additional series, insufficiently documented, but said to

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(1) Cf. the conventionalized representation of the bat at Cocle, Lothrop, 1937, figs. 66b, 71, 179. According to Lothrop the term "dragon" in connection with our composite monster would be admissible. He defines a dragon as "a monstrous animal which combines reptilian features with characteristics of some other beast or bird." My impression was that a dragon had to have wings.

Fig. 92. Stone pipe representing serpent-cat composite. Moundville, Alabama. Scale 1:2. (Peabody Museum).

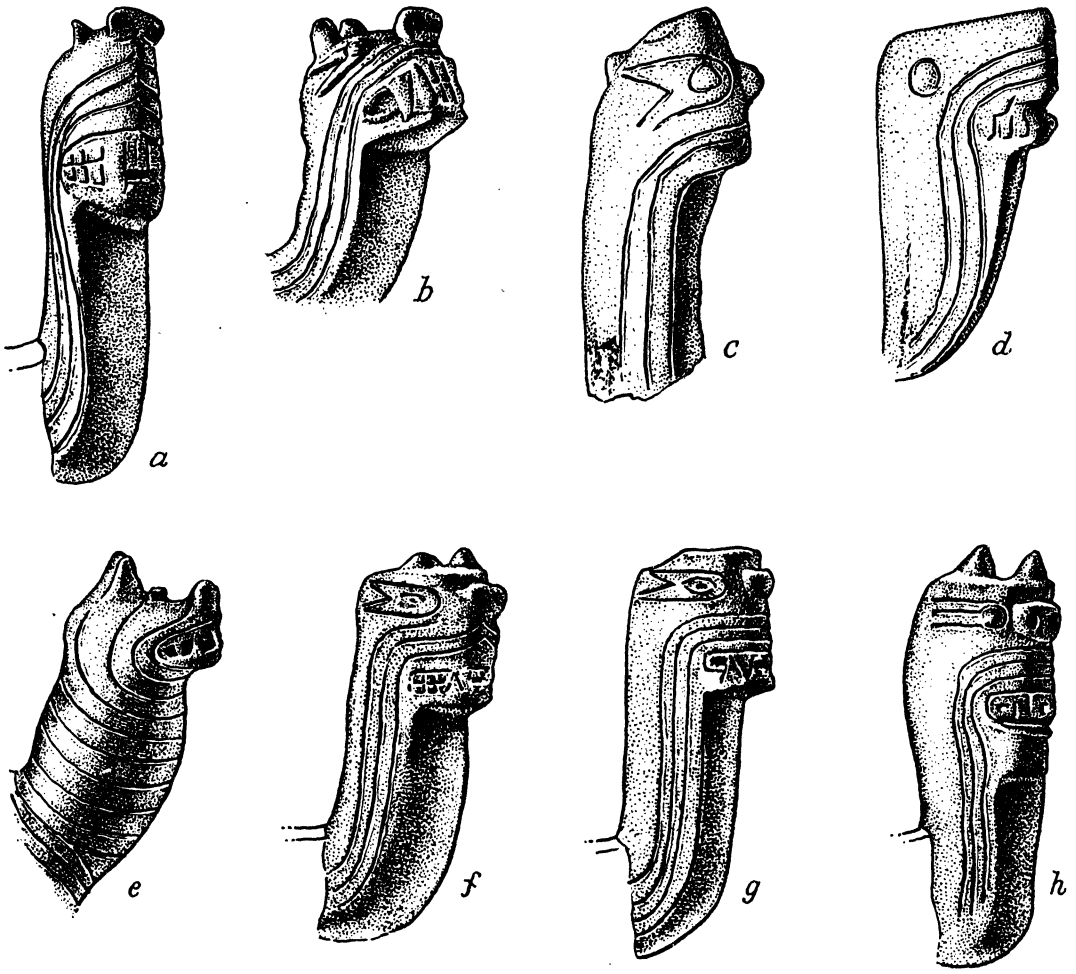

Fig. 93. Heads from "serpent" bowls, showing serpent-cat composite. Cf. Moundville pipe in fig. 92.

have been collected in the Pecan Point section, and certainly of Mississippi type, in C1-D4. The remaining examples, E1-4, likewise of Mississippi type, are completely undocumented. Plate LVII is made up of St. Francis types. As in all effigy factors so far encountered the St. Francis potters seem to have got the idea but have fallen down badly in execution. The result is a far less explicit rendering, though the essential features are generally present. This raises again the important question -- can such differences be

interpreted developmentally, hence given a chronological significance, or is it merely a question of flair? When this question has come up before, I have been inclined to plump for the latter, i. e. to simply give the Mississippi potters credit for greater skill in handling their medium. Here it is a slightly different matter; a particularly vivid concept is involved; in comparing the two series we cannot fail to be struck, not so much by the difference in skill, as by the difference in intensity. One would certainly not hesitate to say that the Mississippi people were closer to the source of the conception, whereas the St. Francis people got it at second hand. Beyond this one does not care to go. Whether a matter of chronology, or merely a "provincial" lag on the part of the St. Francis, can only be settled by more exact archaeological methods.

The ramifications of this mythical monster, especially the implications having to do with possible connections in Middle America, will be considered in a later section.

Plate LVIII: This plate brings together a heterogeneous assortment of rim effigy bowls, mostly unidentifiable. A1-C4 are from the St. Francis where no slight vagueness in the expression of naturalistic forms prevailed. A2 shows a rare example of a bowl with two heads. The type shown in D1-4, a sort of flamboyant bird or duck, is apparently also a St. Francis specialty. The small animal standing on the "tail" of the third specimen (D4) presents a bit of realistic modeling that is surprisingly good. This type of thing is a decided rarity in Eastern Arkansas; it has been reported from the

Red River, where it is perhaps more at home.[1] Of the four "abstract" figures in E1-4, we know the provenience of but one, the first, which is from a Mississippi site. Moore figures an example similar to E3-4 in redware from Old River Landing on the lower Arkansas river,[2] which suggests the possibility that this is not an Eastern Arkansas type.

Rim effigy "tails" are sufficiently varied for separate classification, but nothing of the sort will be attempted here. A series covering most of the types in the present collection is shown in fig. 94. The simple types in a-d are, of course, numerically predominant.

Distribution of the rim effigy bowl: The immense distribution of this type of vessel in the New World -- from Wisconsin to the Diaguite region of the Argentine, to name only the extremes -- makes it appear very probably that it was developed independently in many places and at different times. All that is necessary is a predilection toward the representation of life forms in clay, a tendency that is very nearly omnipresent in New World ceramics. The type could easily come about as a modification for use of a complete effigy, i. e. by conventionalization; or by the simple addition of zoomorphic elements to ordinary bowl forms, i. e. by realization. I believe that even within the more restricted area of the eastern

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(1) Harrington, 1920, Plate XXXI a.

(2) Moore, 1908, fig. 40.

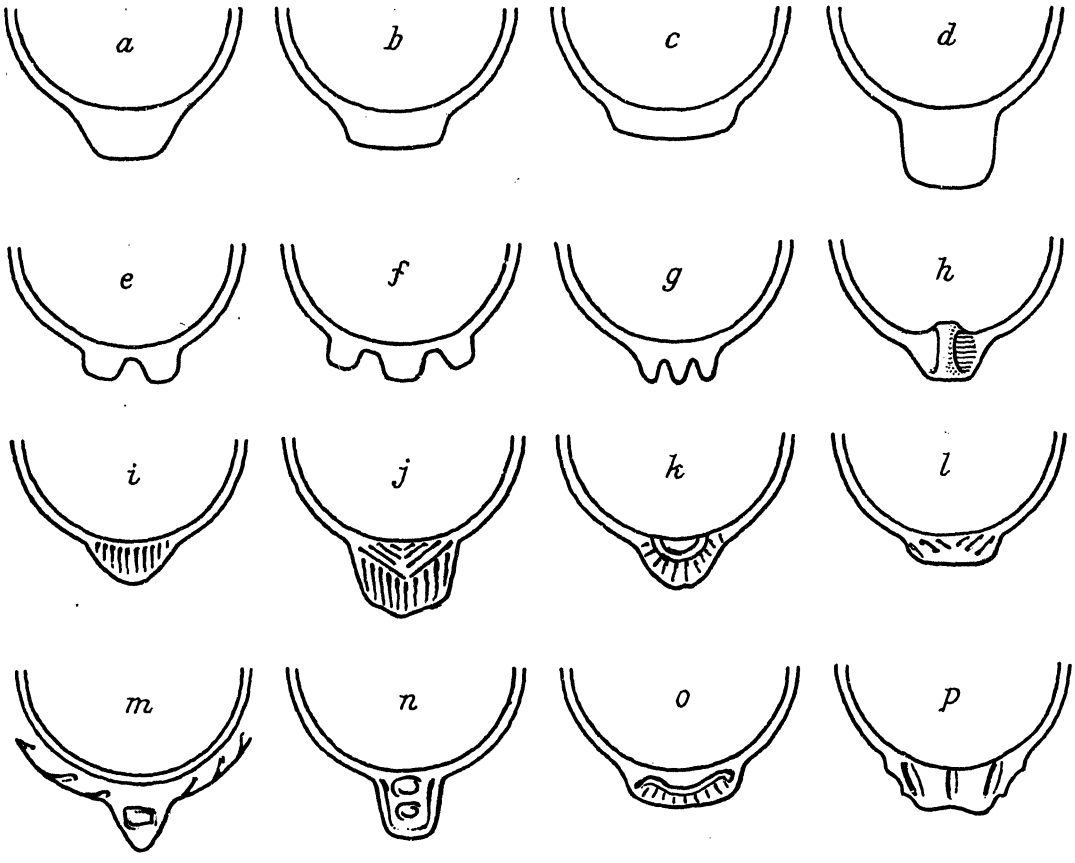

Fig. 94. Lugs ("tails") from rim effigy bowls, Eastern Arkansas Polished Drab.

United States, plausible evidence for both methods of origin could be adduced.(1) A discussion of the distribution of the trait beyond the limits of the Southeast, therefore, would not seem likely to produce any significant results. Within such limits, however, the distribution was probably continuous, and may have some bearing on the Middle Mississippi problem. The results of a very hasty and superficial survey are shown on the accompanying map (fig. 95).

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(1) Consideration of the origin of the rim effigy bowl would not be complete without mention of the possibility of transference from a wooden proto-type. Cf. Hooton, 1920, Plate 21, e.

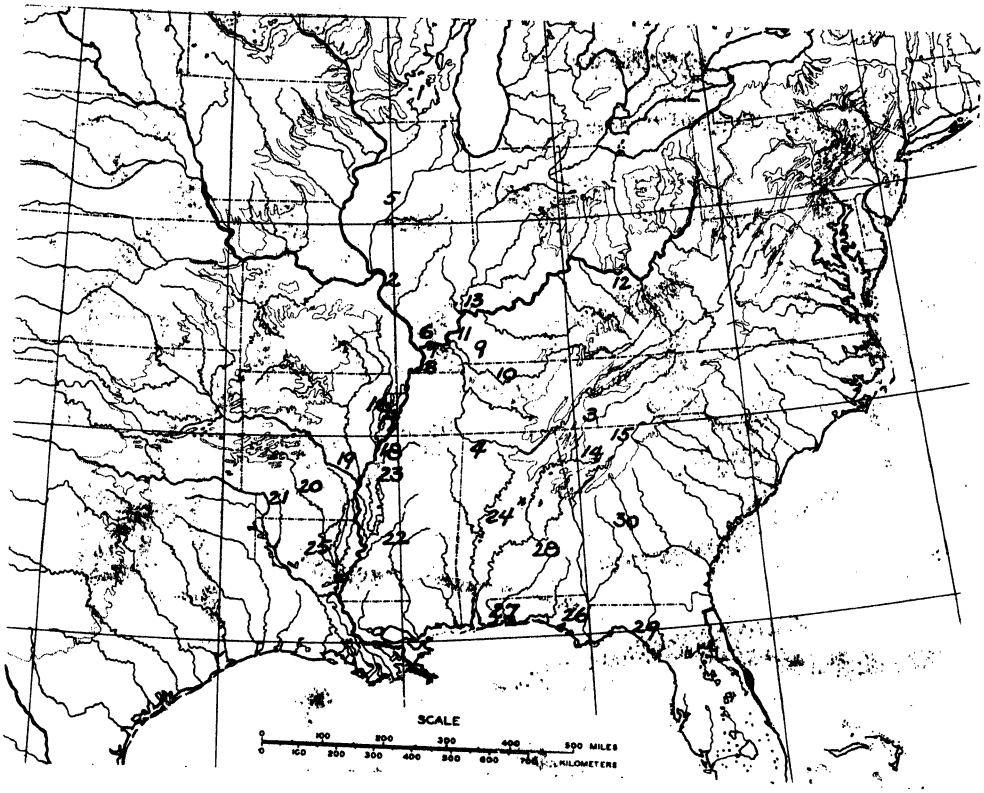

Fig. 95. Distribution of the rim effigy bowl in the Southeast.

1. Aztlan. Barrett, 1933, Plate 97.
2. Cahokia. Titterington, 1938, fig. 41, 43.
3. Hiwasse Island. Harrington, 1922, fig. 29.
4. Wheeler Basin. Webb, 1939, Plate 88b.
5. Spoon River. Cole and Deuel, 1937, p. 125.
6. Kincaid. University of Chicago Collection.
7. Wycliffe. "Ancient Buried City" Museum.
8. McLeod. Webb and Funk, 1933, fig. 3.
9. Williams. Webb and Funk, 1929, fig. 24.
10. Various sites, Nashville district.
11. Tolu. Webb and Funk, 1931 a, fig. 75.
12. Fox Farm. Smith, 1910, Plate LIV.
13. Mouth of Wabash. Lilly, 1937, pp. 237,241.
14. Etowah. Moorehead, 1932, fig. 88b.
15. Nacoochee. Heye, Hodge & Pepper, 1818, fig. 44-47.
16. Various sites, St. Francis River, plates LIII-LVIII.
17. Various sites, Mississippi River.
18. Walls, 1926.
19. Lower Arkansas River. Moore, 1908.
20. Ouachita River, Hodges Collection.
21. Battle Place, Moore, 1912, fig. 65.
22. Black River Sites. Ford, 1936, fig. 22b; 23i.

23. Coahoma County. Peabody, 1904, Plate XIII.
24. Moundville. Moore, 1905, 1907.
25. Glendora, Moore, 1909, Plate 1.
26. Apalachicola River. Moore, 1903, fig. 128, p. 465.
27. Various sites. N. W. Florida Coast. Moore, 1901.
28. Various sites, Alabama River. Moore, 1899.
29. Warrior River. Moore, 1902, fig. 320, 322. (a possible ancestral form).
30. Macon. Kelly, 1938, Plate 11b.

This map is far from complete. Its particular inadequacies lie in the Upper Mississippi section, Iowa, Illinois, Missouri, etc., in which states little published material is available. In spite of these, and other, shortcomings I believe the main outlines of distribution are well enough represented. The area of concentrated Middle Mississippi culture is, as we should have expected, included. What is more interesting are the occurrences outside that area. These may for convenience be considered in two groups, the southwestern and southeastern margins respectively. The first includes the Ouachita-Red River section of Southwestern Arkansas, northern Louisiana and East Texas. Rim effigy bowls occur here but rarely, I believe, and in association with the so-called Caddo culture of the proto-historic period. The probabilities are that the presence of the trait here is the result of influence from the Middle Mississippi, rather than the other way about. If one were endeavoring to bring the trait from Middle America, it is quite evident that it did not come in from this direction. The southeastern margin of distribution includes such centers as Etowah, Nacoochee, Macon, Moundville and various other sites in Alabama and Georgia, in all of which cases the presence of traits such as the one under consideration are invariably interpreted

as due to late influences also from the Middle Mississippi. I shall not presume to question that interpretation, but cannot refrain from comment on the occurrences of the trait in the northwest Florida coastal area. Here it occurs, to be sure, in somewhat different guise and in association with cultures that are possibly earlier than the Middle Mississippi. The chronological position depends on rather complicated cross-dating with Ford's sequence in Louisiana, which I shall not go into here. The point of interest is the possibility that the rim effigy actually developed here, outside the Middle Mississippi sphere of influence, which would account for the fact that it is more widely distributed east of the Mississippi than west of it. I shall say nothing about the still remoter possibility that it may have reached the Florida coast from Antillean sources, though it must be recorded that proto-types are not wanting in the Islands. The net result of this very sketchy discussion would seem to be that the chances in favor of a Southwestern or Middle American origin for the rim effigy bowl are not very good.

Polished Drab: Bottles: As in the bowl department the large number of bottles in our collection (620) calls for some method of orderly treatment. Attempts to get at significant types through size distribution in the case of bowls were not particularly successful,[1] are therefore dispensed with here. For bottles the most

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(1) Just as well because the single measurement taken on bottles, total height, is obviously an unsatisfactory measure of gross size.

satisfactory initial breakdown seems to be on the basis of general body shape, independent of necks and other supplementary features, in which I have sorted three perfectly arbitrary groups: globular or sub-globular[1], flattened and carinated. These in turn have been divided according to height of neck into short, medium and high-necked categories[2]. Thus all bottles are divided among 9 arbitrary groups. The distribution, keeping the Mississippi and St. Francis sections apart as before, is as shown (fig. 96).

The results, so far as the segregation of morphological types is concerned, are not very striking. It is clear that the St. Francis runs decidedly to globular shapes with low and medium necks in contrast to the Mississippi where flattened shapes predominate with a tendency to medium necks. The apparent difference in neck height is not particularly surprising, since with flattening of the bodies, necks become higher in proportion. The situation, as between the two areas, is somewhat obscured by the fact that the globular St. Francis type is present in the Mississippi as a minority factor. Flattened bottles in the St. Francis, on the other hand, are somewhat rare. There are some differences in the carinated department, but

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(1) As a matter of fact the vast majority of bottles in this first category are sub-globular. The perfectly globular bottle is a rarity in Eastern Arkansas.

(2) The criteria used in sorting were entirely subjective, there being no actual neck measurements available. I thought it better anyhow to be governed by general proportions between neck and body, regardless of actual measurements. Thus in the low necked category are necks up to about 1/3 of the body height; medium, from 1/3 to 2/3; high, 2/3 and over.

Fig. 96. Bottle Shapes, Eastern Arkansas Polished Drab.

Body Type	Mississippi								St. Francis								Indeterminate								Total	
	Low		Med.		High		Total		Low		Med.		High		Total		Low		Med.		High		Total			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Globular	19	10.9	31	17.8	9	5.1	59	33.9	88	29.7	92	31.1	58	19.5	238	80.4	39	26.	58	38.6	10	6.6	107	71.3	404	65.1
Flattened	24	13.7	57	32.7	20	11.4	101	58.	15	5.	22	7.4	8	2.7	45	15.2	6	4.	22	14.6	11	7.3	39	26.	185	29.8
Carinated	3	1.7	9	5.1	2	1.1	14	8.	—	—	5	1.7	8	2.7	13	4.3	—	—	2	1.3	2	1.3	4	2.6	31	5.
Totals	46	26.4	97	55.7	31	17.8	174		103	34.7	119	40.2	74	25.	296		45	30.	82	54.6	23	15.3	150		620	

the numbers involved are too small for valid generalizations. Thus it appears that the combination of a carinated body with a high neck is a St. Francis type. This, as a matter of fact, will find confirmation when we come to consider the painted wares, for it is a shape that is commonly decorated with pigments in the St. Francis.

Plates LIX-LX: These two plates show the full range of plain globular or sub-globular bottles. In the low and medium neck categories (Plate LIX, A1 to Plate LX, C4) this is the St. Francis bottle par excellence, with a simple straight neck, "vague" juncture between neck and shoulder and without rim elaborations of any kind. It is a question whether the high necked examples in Plate LX, D1-E4 should not be regarded as belonging to a different type. Here it is possible that the question of function may come in, particularly with the small-necked "carafe" types. D4, which incidentally comes from the Mississippi section, is in fact highly reminiscent of the dominant type of water-bottle in the Cairo Lowland. We shall find as we proceed that the Mississippi shows far closer affinities to the Cairo Lowland than does the St. Francis.

Plate LXI: The typical Mississippi bottle, in addition to its finer finish, displays considerable refinement in shape with its flattened ellipsoidal body, sharper break between neck and shoulder, somewhat higher neck terminating in a beveled extruded lip. This type, of which excellent examples are to be seen in A1-4 is seldom if ever found on St. Francis sites. Flattened bottles do occur in the St. Francis, witness B2-4, but generally with a wider neck and without the lipping that characterizes the Mississippi type.

Plate LXII: Carinated bottles are about evenly divided between the Mississippi and St. Francis. Actually it is a question whether some of these things are bottles at all, for example the wide-mouthed type in C1-4, which would perhaps be better considered as a jar form. The only shape that might possibly turn out to be a type is that illustrated by D2-E2, a tall-necked carinated bottle with flat or annular base, that seems to be at home in the St. Francis and is frequently decorated with paint.

Supplementary features: The preliminary sorting included all bottles and was concerned only with their fundamental shape irrespective of supplementary features and in selecting specimens for illustration plain bottles without such features were, so far as possible, chosen. A resorting on the basis of the commoner supplementary features (annular base, tripod, etc.) promised to bring out some interesting comparisons, and in any case was necessary to an orderly presentation of the material. The results are tabulated below. (Fig. 97.) Since very little significance seemed to attach to neck-height in the previous sorting, it was dropped from the present one. Percentages are calculated against the total number of bottles from each area. This table brings out a number of interesting differences between the Mississippi and St. Francis sections, but these can be best considered in connection with the actual material.

Annular base: Plates LXIII-LXIV: Annular bases occur with about equal frequency in both sections. They do not appear to be associated

Fig. 97. Bottles: Supplementary Features, Eastern Arkansas Polished Drab

BOTTLES: *SUPPLEMENTARY FEATURES:*	MISSISSIPPI								ST. FRANCIS								INDETERMINATE							
	Glob.		Flat		Carin.		Total		Glob.		Flat		Carin.		Total		Glob.		Flat		Carin.		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Annular base	11	11.3	20	20.6	2	2.1	33	34.	41	30.6	4	3.	8	6.	53	40.	15	21.8	11	16.	2	2.9	28	40.6
"Pancake" base	3	3.1	13	13.4	4	4.1	20	20.6	7	5.2	7	5.2	2	1.5	16	12.	3	4.3	5	7.4	1	1.4	9	13.
Tripod base	—	—	1	1	—	—	1	1.	12	9.	3	2.2	—	—	15	11.2	7	10.1	1	1.4	—	—	8	11.6
Tetrapod base	1	1.	—	—	1	1.	2	2.1	—	—	—	—	—	—	0	—	—	—	2	2.9	—	—	2	2.9
Shoulder nodes	—	—	—	—	—	—	0	—	12	9.	—	—	—	—	12	9.	4	5.8	1	1.4	—	—	5	7.4
Lobate body	—	—	—	—	—	—	0	—	2	1.5	1	.7	—	—	3	2.2	—	—	—	—	—	—	0	—
Dimples	3	3.1	2	2.1	—	—	5	5.2	—	—	—	—	—	—	0	—	—	—	—	—	—	—	0	—
Gadrooned body	—	—	2	2.1	—	—	2	2.1	—	—	—	—	—	—	0	—	—	—	2	2.9	—	—	2	2.9
Medallion heads	2	2.1	1	1	—	—	3	3.1	7	5.2	1	.7	—	—	8	6.	4	5.8	2	2.9	—	—	6	8.7
Medallion hands	1	1.	2	2.1	—	—	3	3.1	—	—	—	—	—	—	0	—	1	1.4	1	1.4	—	—	2	2.9
Punctate collar	6	6.2	12	12.3	—	—	18	18.5	2	1.5	1	.7	—	—	3	2.2	—	—	1	1.4	—	—	1	1.4
Shoulder fillet	1	1.	1	1.	—	—	2	2.1	15	11.2	—	—	—	—	15	11.2	6	8.7	—	—	—	—	6	8.7
"Ogee" collar	1	1.	7	7.2	—	—	8	8.2	1	.7	4	3.	—	—	5	3.7	—	—	—	—	—	—	0	—
Handles	—	—	—	—	—	—	0	—	4	3.	—	—	—	—	4	3.	—	—	—	—	—	—	0	—
							97								134								69	

with any particular shape of bottle to the exclusion of other shapes. It is possible, however, to detect certain types, in which the annular base combines with other characteristic features. For example Plate LXIV, A1-B4 shows a type characterized by a rather high and wide flaring neck. This type occurs, I believe, more frequently with annular base than without. It is however found in both Mississippi and St. Francis sections. There is a marked tendency in the St. Francis for the annular base to be associated with a shoulder fillet as in C1-4 of the same plate. The bases of these bottles generally flare sharply outward and are often decorated with punctations. A possible related type is seen in D1-E2 in which the punctations on the base have become actual perforations. These also are St. Francis specimens. The Mississippi type of perforated base is shown in E3-4.

Distribution of the annular base: The annular base, along with the tripod, which we shall consider presently, has received some attention as one of a number of ceramic features in the Mississippi valley that may have derived from Middle America, where it is a common and widespread form of vessel support.(1) It is often coupled with the tripod, as though the two traits were coextensive in distribution in the Southeast, which is not by any means the case. Actually the annular base has a very much narrower range than the tripod, a range which seems to be limited to the St. Francis Basin of southeastern Missouri, Eastern Arkansas and contiguous portions of

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(1) Vaillant, 1932, p. 14.

Tennessee and northern Mississippi. A rather careful search through a large amount of literature failed to bring out any further occurrences, except on the lower Arkansas river where several examples of a high perforated annular base in connection with a shallow bowl form have been reported.(1) It seems therefore to be a distinctly local specialty, not even shared by the closely related culture of the Cumberland. One is strongly tempted again to invoke chronology and to add this to the increasing number of indications of a slightly earlier date for the last-named culture.

On the question of possible Middle American origin -- the trait does not, I believe, occur in the Southwest -- there is little to be said. One is compelled to admit the ease with which such a simple form of base could come about without outside stimulus. The possibility of derivation from the "pancake" base, which has apparently an even narrower distribution, must also not be overlooked. Altogether there is little cheer for one who would attempt to derive the annular base from below the Gulf.

Plate LXV: In segregating a type of base and calling it "pancake", which name sufficiently describes it, I have perhaps raised a distinction without a difference. In many cases it is difficult to distinguish between it and the commoner annular type. One must confess it does not seem to be correlated with any particular shape of bottle, though in general it tends to be associated

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(1) Moore, 1908, figs. 56, 57.

with flattened and carinated forms, rather than globular. It is somewhat more common in the Mississippi than the St. Francis. There is also a marked tendency for this type of base to be embellished by indentations along its lower border. This can be clearly seen in C1-2.

Tripod base: Plate LXVI: One of the principal difficulties in the case of the Southeastern version of the tripod base, is to say what is and what is not a tripod. In addition to the orthodox forms, shown in this plate, there are a number of curious vessels, unfortunately not represented in the present collection, which consist essentially of three bodies fused together and joined by a common neck.(1) It would be out of the question to regard such tripartite vessels as tripods. On the other hand, intermediate between this sort of thing and the normal tripod bottle, is a type such as may be seen in the Cairo Lowland (Plate XVIII, B2-3) and in the Cumberland (Plate VII, B1). These "bridge-connected" tripods have very interesting parallels in Middle America. The Peabody Museum collection from Oaxaca contains a vessel of precisely similar type. We are faced, then, with a rather complicated problem. Did the Southeastern tripod develop independently from an original three-compartment vessel? A very plausible evolutionary series could be constructed to support the hypothesis. If so, however, how does it come about that the necessary intermediate stage is found not only in the Middle Mississippi

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(1) Thomas, 1894, fig. 199.

but also in southern Mexico? Again, we find in Mexico slab tripods precisely similar to the "terraced" example shown in El of the plate before us.(1) Between the bulbous hollow and the slab types is an immense difference, yet both find their analogues in Mexico. The question is obviously a most complicated one, and requires for its final solution a careful study of the various types and their separate distributions. Nevertheless one cannot escape the impression that the tripod, speaking generally, is one of the very few pottery traits in the Southeast for which a Middle American origin is at present the best explanation.

Distribution of the tripod base: As may be seen in the accompanying map (fig. 98), the distribution of the tripod in the Southeast is sporadic and not tremendously wide, though a good deal wider than that of the annular base. It is not a common trait anywhere, but occurs more frequently perhaps in the Cairo Lowland and Eastern Arkansas than anywhere else, and it is only in the latter of the two areas that the solid and slab types appear. This would make it appear to be definitely a Middle Mississippi trait. Outside the central area its occurrence is generally in contexts that are considered to have been influenced by Middle Mississippi culture, with the possible exception of Ouachita-Red River section of Southwestern Arkansas, where it occurs fairly commonly in association with the so-called "Caddo". There is little question that the Caddo has been influenced by the

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(1) Koniglisches Museum für Völkerkunde. Exhibition of pottery from the Mixteca.

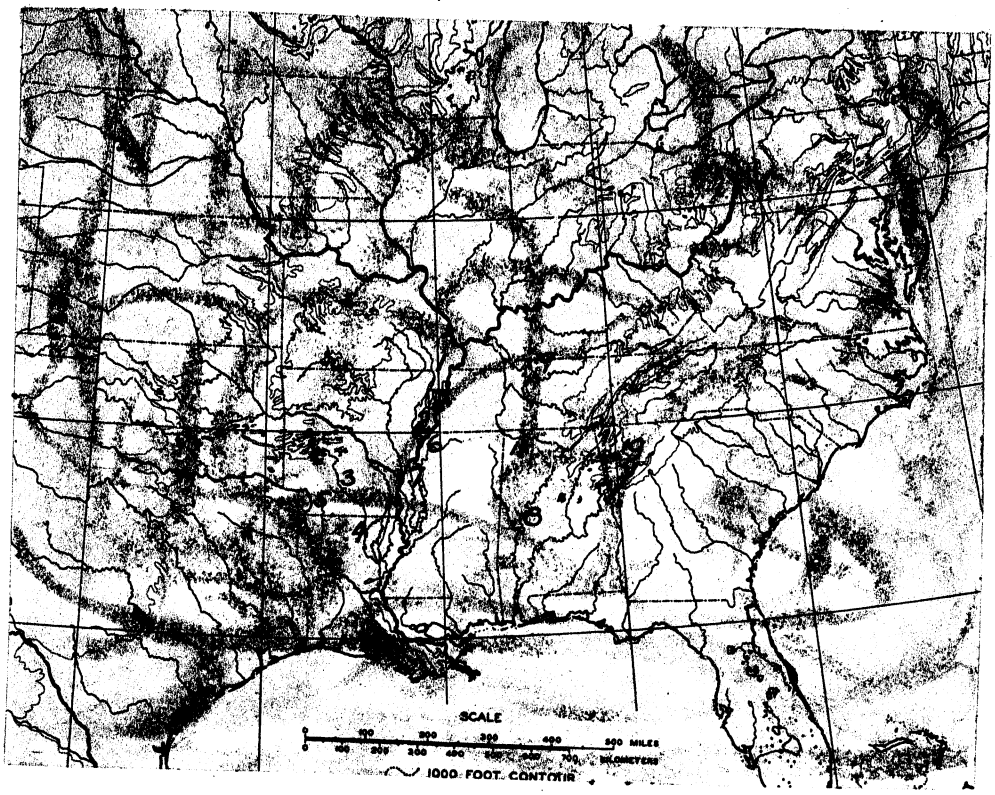

Fig. 98. Distribution of the tripod base in the Southeast.

1. Southeast Missouri. Plates XVIII, B1-4; XXXVI, C2.
2. Eastern Arkansas. Plates LXVI, A1-E1; LXXXVII, C1-D4.
3. Ouachita River. Hodges Collection, Bismark, Arkansas.
4. Keno Place. Moore, 1909, fig. 144.
5. Ozan. Harrington, 1920, Plate LXXXVIII.
6. Walls. Brown, 1926, fig. 814.
7. Oliver, Peabody, 1904, Plate XV.
8. Moundville. Moore, 1905, fig. 172. Also University of Alabama Collection.
9. The Cumberland. Thruston, 1897, fig. 40, Plate VIII. See also present work, Plate VII.
10. Etowah, Moorehead, 1932, fig. 33a.
11. Wheeler Basin. Webb, 1939, Plate 87.

Middle Mississippi in a number of ceramic features, but one cannot be sure that the tripod is one of them. In this region we come up against another aspect of the problem. The main characteristics of

Caddo pottery are derived from the earlier Marksville and Coles Creek complexes, of which I shall have a great deal to say in a later section. One of the important characteristics of these earlier pottery complexes is the prevalence of a rudimentary tetrapod support. It is perhaps not impossible that the tripod, in the Southeast as in Middle America, grew out of an earlier tetrapod, in which case the Caddo region would have been a likely spot for the development to have taken place. To complicate the question still further it might be added that in this Caddo section one must not overlook entirely the possibility of influence from the Southwest, in view of the alleged connections between the Caddo and the Hohokam. The latter knew both the tripod and tetrapod, but applied them to shallow bowls rather than bottle forms.(1)

One more rather tenuous consideration remains. There is a certain parallelism apparent in the distributions of the tripod and lost color decoration, fortified considerably by the close association of the two traits in Etowah, the Cumberland and Cairo Lowland.(2) Lost color is another of the select company of ceramic traits that are difficult to account for without recourse to Middle American influence. It is certainly not impossible that there is some positive significance in the association.

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(1) Haury, 1937, fig. 68.

(2) The two traits are not merely associated in the three cultures named, but actually on the same vessels.

The tetrapod: Three examples of tetrapod support are shown in E2-4 (Plate LXVI), one probably, and two certainly, from the Mississippi section of our area. In this connection it should have been emphasized that the tripod in the Mississippi section is represented by only one doubtful specimen, whereas it appears now that the tetrapod is absent entirely in the St. Francis. Such a clear-cut difference between local areas otherwise so closely related is rather curious. I have already spoken of a possibility of the tripod having evolved out of an earlier tetrapod, present in all Hopewellian manifestations, including the Marksville of the lower Mississippi. It must be admitted, however, that the Mississippi tetrapods before us bear no resemblance whatever to those of the Marksville. Moreover, a chronological explanation goes too far in this particular case. If the Mississippi section of Eastern Arkansas was too early to have received the tripod, what about the Cairo Lowland, the Cumberland, Etowah, etc.? These manifestations were certainly not later than the said Mississippi section, in fact whatever chronological indications are present point to a reverse conclusion. In short, it would seem impossible to support the theory that the tripod is a late trait and that its non-appearance in the Mississippi portion of Eastern Arkansas indicates therefore an earlier date for that section. Some other explanation for the seeming anomaly must be found, but I confess that it eludes me completely at the moment.

Plate LXVII: This and the following four plates bring together a number of special features associated with bottle shapes, some of

which warrant brief attention. Bottles embellished with nodes around the shoulder, generally four in number, made by punching out the vessel wall from inside (A1-C2) are possibly related to actual lobate forms (C3-4) and both are apparently confined to the St. Francis section. Dimples (Plate LXVII, D1-4), on the other hand, also in sets of four, are a Mississippi specialty. Such decoration is generally associated with a squat type of bottle highly reminiscent of Moundville, where such dimpling is particularly characteristic.(1) Furthermore, this type of bottle is occasionally decorated with elaborate engraved designs (cf. Plate LXXXIV, D3-4, E2) in a style so similar to that of Moundville as to furnish the most significant evidence of connection between the two centers. Whatever the nature of the connection it quite evidently did not extend to the St. Francis.(2)

The "gadrooned" bottle (E1-4) is an interesting specialization, also peculiar, I believe, to the Mississippi section of our area. Its extremely local distribution would seem to argue strongly against any connection with Middle America where similar treatment is relatively common.

Plate LXVIII: Bottles decorated with crudely modeled medallion heads, also in sets of four, are fairly common in both branches of

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(1) Moore, 1905, figs. 37, 71, 80, 87, 119, 143, 148, 156.

(2) The resemblances here are so close as to argue for a precise contemporaneity with Moundville. Unfortunately the chronological position of that important center has not yet been fixed, though there is general agreement, I believe, that it belongs to the late prehistoric or proto-historic (whatever that may mean) period.

Eastern Arkansas culture. Occasionally heads are replaced by still cruder hands (E1-4), and there is one specimen with both (D4). A connection with death symbols already encountered in the Cumberland (p. 350) and more clearly expressed in the engraved pottery of Moundville[1] is clearly indicated. Similar heads were encountered in the Cairo Lowland (cf. Plate XVII, A1-4), but, in the collection available, hands were not present.

Plate LXIX: Decoration on the necks of bottles in the form of a band of punctations, generally associated with a series of "decorative" handles, are present in both sections but are certainly far more characteristic of the Mississippi. In the St. Francis the type is crude by comparison. The treatment in some cases recalls that of the typical Mississippi Thin Drab jars. Specimens like C3-4 for example might almost be conceived as compound vessels, made up of a small jar form mounted on the body of a flattened bottle. The type is clearly a local Eastern Arkansas specialization, which probably arose in the Mississippi portion of the area, spread from there to the closely related St. Francis, but not beyond.

Plate LXX: A small fillet marking the juncture between neck and shoulder was of fairly common occurrence in the Cairo Lowland (see Plate XVI, D1-E2). There was a suggestion there that the fillet may have been something in the nature of a skeuomorphic survival "indicating the way in which tall-necked bottles first came into

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(1) Moore, 1905, figs. 62-63.

existence". Here the evidence in favor of such a theory is not as good. Only one specimen, B1, looks as though it had been formed by adding a neck to an ordinary jar form.

The "Ogee Collar": The remainder of Plate LXX shows examples of a very interesting type of bottle ornamentation, commonly thought to represent a conventionalized serpent design. The term "ogee" is better because it does not beg any questions. The figure "counts", of course, when seen from above where it resembles two depressed ogee arches united at the spring line. It is a common symbol at Moundville, both in engraved pottery and repousse copper. An example of the former is seen in fig. 99. Its use as an applied collar, as here, is limited, I believe, to the Eastern Arkansas region. Unlike most traits that show a connection with Moundville it occurs in the St. Francis as well as the Mississippi sub-division of that area, though decidedly more frequently in the latter. It is almost invariably associated with flattened bottles.

Plate LXXI: This plate represents the usual catch-all that appears at the end of any large series of a given pottery shape. Except A1-4, bottles with handles, all from the St. Francis, the specimens shown here are probably mostly individual aberrants or "sports". Trade is also a possibility though the present examples, without exception, have the "look" of belonging to the Eastern Arkansas family. The failure to appear of vessels that can with certainty be attributed to trade is one of the discouraging circumstances brought out by the present study.

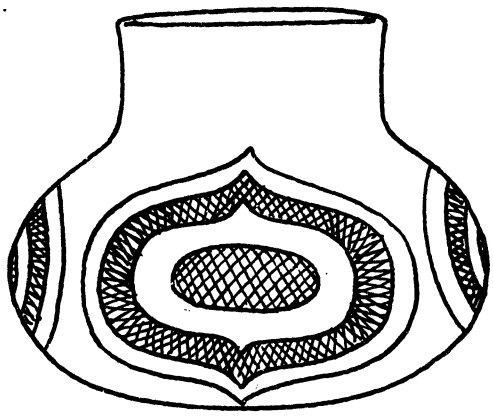

Fig. 99. The "ogee" design on a vessel from Moundville. (Moore, 1907, fig. 42).

The bottle in the Southeast:

Generalizations on the bottle as a whole are not as ridiculous as might appear. There are some interesting questions involved. The question of origin is, so far as I know, still unsolved. Wherever a chronological sequence of pottery types has been established, the bottle seems to come in rather suddenly without transitional forms. Nevertheless I believe it will ultimately be found that the bottle developed locally in the Southeast out of the more fundamental and widespread jar form. As a matter of fact, it would not be difficult to arrange a series, jar to bottle, in any large collection of vessels from the Middle Mississippi, but of course without stratigraphy to back it up. Generally speaking the appearance of the bottle coincides with that of other features of Middle Mississippi culture, and its distribution is very nearly co-extensive with the distribution of that culture, with important exceptions in the Lower Mississippi, where bottle forms are associated with Ford's historic complexes, Natchez, Choctaw, Tunica and Caddo.(1) This would imply a late development and spread for the bottle generally, which may explain its absence from Upper Mississippi

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(1) Ford, 1936.

cultures. In short the presence of bottle forms seems to be a fairly reliable criterion for distinguishing Middle Mississippi from Upper Mississippi, but as between Middle and Lower Mississippi, it is of little or no use.

Effigies: As I had occasion to remark in connection with the Cairo Lowland, it would be ideally preferable to consider effigies along with the fundamental shapes from which they are an outgrowth. Such a procedure was followed in the Cumberland where the series was small, was modified a good deal in the Cairo Lowland where the series was larger. Here with a still larger series, I shall fall back at once on the simple expedient of classifying by subject. Sorting on this basis gives the results tabulated in fig. 100. Since the

EFFIGIES	Missis-sippi	St. Francis	Indeter-minate	Total
1 Frog	16	10	4	30
(1a conventionalized type)	-	(7)	(1)	(8)
2 Snouted, (opossum)	4	1	6	11
3 Fish	18	30	22	70
4 Swan	3	-	-	3
5 (?) Animal	2	-	-	2
6 Bird	1	-	-	1
7 Spouted effigies	1	1	-	2
8 Gourd	1	-	2	3
9 Animal	3	2	1	6
10 Shell	4	2	2	8
11 Owl	1	-	-	1
12 "Blank-face"	1	3	1	5
13 Lemon-squeezer	3	3	1	7
14 Human	10	7	11	28
15 Foot	3	1	-	4
	71	67	51	189
	(392)	(645)	(428)	(1,465)

Fig. 100. Classification of effigies by subject, Eastern Arkansas Polished Drab.

total number of effigies is about the same for both sub-divisions of our area, percentages are not calculated. Comparing these totals with the total number of Polished Drab vessels in each area, in parentheses, gives a rather surprising advantage to the Mississippi. Offhand one might be tempted to assert that the Mississippi people were more prone to effigize than their St. Francis neighbors. I believe this is actually the case, but am disposed to caution where museum collections are concerned, since factors of selection may have operated to upset the true relations. We must constantly remind ourselves that we are not dealing with random samples.

It is perhaps significant, however, that the Mississippi collections show a wider range of subject, 15 varieties against 10 for the St. Francis. Furthermore the St. Francis potters do not seem to have used any subjects not used by their Mississippi competitors. Even disregarding factors of workmanship, in which the advantage is clearly with the Mississippi, it is quite clear that these people were far in the lead in the representation of life forms in clay.

The frog: Plate LXXII: Next to the fishes, the frogs comprise the most numerous class of effigy forms. They are, almost without exception, elaborations on a jar shape. In a few instances they even have loop handles (D1, E3-4), the only effigy forms so provided. In these cases it is only necessary to drop the frog attributes and you have the old familiar "standard Mississippi jar form". This suggests that the frog effigy is a pretty fundamental type, a fact which is borne out by its wide distribution. Wherever

Middle Mississippi effigy forms have penetrated, there will grandfather frog be found. In some cases, I believe, it is the only type of effigy.

Plate LXXIII: A1-B4 show a conventionalized type of frog, peculiar to the St. Francis in which head and tail have been lost, and the legs thus allowed to coalesce.(1) That this degenerative development took place in the St. Francis is an additional suggestion of a later date for that area.

The balance of the plate is devoted to snouted forms, locally called "opossum", in which again the Mississippi specimens show a far higher degree of realization.

Fish effigies: The frogs were, with very few exceptions, elaborated on a fundamental jar form. Not so the fishes, which may be broken down into a number of radically different shapes, as in the accompanying table (fig. 101). The results are rather striking. There is an almost complete segregation, the St. Francis having almost exclusive rights over the bowls' forms, whereas the "seed-bowl", jar and bottle forms are confined to the Mississippi section.

	Miss.	St. Francis	Indeterminate	Totals
Shallow to medium bowls	3	14	8	25
Deep bowls	2	14	7	23
"Seed bowl" or jar	7	-	1	8
Bottle	6	-	6	12
Bottle (vertical type)	-	2	-	2
Totals	18	30	22	70

Fig. 101. Fish effigy shapes.

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(1) If there were any question about this, the process would be illustrated by specimens in which the conventionalization has already started. Such an example is seen in Plate LXXII, B4, but the vessel is turned the wrong way to see it.

Plate LXXIV: Within these arbitrary categories, of course, it is possible to recognize definite types. Plate LXXIV, A1-4 shows an excellent type, of which one would like to see more examples. The two specimens are remarkably similar except in the rather fundamental circumstance that they are headed in opposite directions. Nevertheless one comes from a St. Francis site, the other from the Mississippi. Judging from what we have already seen of St. Francis capabilities in the effigy department, we can be reasonably certain that the type is at home in the Mississippi section and found its way to the St. Francis in trade. The remainder of the plate is devoted to shallow bowls, mostly from the St. Francis, in various stages of conventionalization. D1-3, for example, show how easily a fish bowl can become a simple bowl with lugs. D1-E2 show examples far gone in conventionalization, if indeed they ever were fish bowls at all. Again we must note that this tendency to conventionalization, degeneration if you prefer, is far more apparent in the St. Francis than the Mississippi.

Plate LXXV: In discussing the deep "bowl with lugs", which appeared to be a true "morphological type" with a possible functional (culinary) significance (see p.549), I referred to the possibility that it evolved out of a fish effigy form and hoped to be able to produce evidence of such derivation at this time. The truth is that no such thing is possible. There are no fish bowls of this type that are naturalistic enough to start off with. An alternative is to suppose that this type of fish bowl evolved out of an early and more naturalistic jar form (there is every indication

that the jar was the fundamental type) and then by continued conventionalization became the bowl with lugs referred to above. On the other hand, it is equally possible that the thing evolved out of a jar with lugs, and at a certain point, the lugs became fishified by a process of realization. An evolutionary series could be arranged to support either theory and would prove as little on one side as the other. Plate LXXV shows a series of these large vessels, all from the St. Francis. The extent to which they run "true to type" is remarkable, though in detail and arrangement of fish features there are no two precisely alike.

Plate LXXVI: In A1-E2 are seen the jar forms typical of the Mississippi section. They consist either of a rimless jar (or bowl) with constricted orifice, something like the seed-jar of the Southwest or of a jar with a low collar similar to the standard jar form. The kinship with the frogs (Plate LXXII) is sufficiently apparent. It is curious that frogs elaborated on this fundamental shape are present in the St. Francis whereas the fishes are not. Perhaps it was because the fish jars had already opened out into bowls by the time the St. Francis people acquired the idea. The frogs evidently never did evolve into bowls, so the St. Francis people got them in their original fundamental shape. The reasoning is admittedly tenuous . . . .

E3-4 shows a crude type of fish bottle, the only two examples of which in the present collection, hail from the St. Francis.

Plate LXXVII: Decidedly the best and most naturalistic fish effigies are the bottle forms, from the Mississippi, of which a representative series is shown on this plate. The bottle shape naturally lends itself to more realistic treatment and in several instances (A1-4, B3-4) the Mississippi potters have taken full advantage of the fact. Employing the same reasoning as in the case of jar forms, it would follow that fish elaborations on the bottle were also earlier than on bowls. As a matter of fact, the separation between jars and bottles in this case is a perfectly arbitrary one, the treatment in many instances being very similar.

Plate LXXVIII: Closely related to the fish jars, are the swan effigies shown in A1-B2, another Mississippi specialty, which does not appear in our St. Francis collections. The unspecified animal in B3-4 belongs to the same company, likewise the rare bird in C1. One should perhaps indicate the possibility that the bird rim bowls of Plates LIV and LV derived from this type. If so, it is unfortunate that we have no intermediate forms. C3 is an unusual effigy type with a spout tail. I shall consider such spouted effigies in connection with the question of the origin of the "teapot" further on in this section. Gourds, C3-4, are quite evidently less common in Eastern Arkansas than in the Cairo Lowland. Of the three specimens in our series, only one (C4) is documented; it comes from the Mississippi. Probabilities in the other two favor the same derivation. Evidently the gourd is another link with the Cairo Lowland not shared by the St. Francis. Shell effigies of

types closely paralleling the Cairo Lowland, on the other hand, are found in both branches of Eastern Arkansas culture. (D1-E4).

"Gourd-like" effigies: We now come to a group of effigies that is very difficult to characterize. In the Cairo Lowland the term "gourd-like" was suggested because they all share certain characteristics with the gourd effigies which were prominent in that area. The name is not satisfactory and here, where the gourd effigy is not an important factor, particularly inapplicable. Leaving aside the question of a name, this class of effigies may be defined as closed containers analogous to the ordinary bottle forms in which the neck has given place to some sort of effigy head, the opening being relegated to an oblique position at the back (or front). This was a particularly numerous class in the Cairo Lowland where it was represented by the following varieties: gourd, "blank-face", animal, and owl. Human effigies were considered apart from the "gourd-like" class, but could have been included. In spite of a much larger series, none of these varieties are as well represented in Eastern Arkansas.

Plate LXXIX: The animal forms in A1-3 are practically indistinguishable from those of the Cairo Lowland (cf. Plate XXIX) as is the lone owl in A4 (cf. Plate XXX). Again the undifferentiated "blank-face" effigies in B1-4 can be matched by corresponding examples in Plates XXVI-XXVII, but the difference in the number of examples is enormous. It seems quite certain that the center for the development of these characteristic forms was in the Cairo

Lowland and that the few specimens in Eastern Arkansas were importations or close copies of them. Not so with the lemon-squeezer type of blank-face shown in C1-E4. This is plainly an Eastern Arkansas feature, found in both Mississippi and St. Francis subareas. It is plainly a conventionalized version of the pointed cap of which I have already had occasion to say a good deal. The importance of this feature in Eastern Arkansas symbolism is emphasized by the fact that, except in E1-4, all human attributes have been conventionalized out of existence. It is undoubtedly a case of "a part for the whole", the pointed cap has come to signify "the personage (perhaps a serpent, see p.559) in the pointed cap".

Human effigies: Plate LXXX: In Eastern Arkansas human effigies are neither as numerous nor as human as in the centers further north. A1-C2 are types that come within the definition of "gourd-like" forms, considered above. A3-4 are interesting specimens showing a possible manner in which effigies of this type could have derived from the usual bottle forms. In these specimens the transition, if such there were, is not quite complete. The remaining examples show very crude elaborations on bottle forms. It is disheartening to find that, although the worst of these monstrous absurdities (D1-2, E1-4) are from the St. Francis, the Mississippi examples (C3-4, D3-4) are little better. It would be convenient to declare that these represent merely a rude developmental stage in which the human effigy was just beginning to evolve out of the ordinary bottle forms. Actually I do not believe this is the case.

It certainly would be difficult to produce any evidence in support of such an assumption.

Plate LXXXI: The effigies on this plate, of the fully developed type, are somewhat better, though still far below, the standards set in other effigy departments. It is significant perhaps that, of these less repulsive specimens, all that are documented are from the Mississippi and the remainder probably so. Consequently, even though their productions fall short of expectation by a considerable margin, the Mississippi potters still maintain the advantage over their St. Francis rivals.

Comparing the human effigies of Eastern Arkansas as a whole with those of the Cairo Lowland (Plate XXXI-XXXIV), from the point of view of successful representation there is not much to choose. The Cairo Lowland effigies are possibly not quite so blatantly crude. Whereas it was possible in that area to speak of a "type" based on general similarity of facial and body features and the importance of headdress factors, here no such thing is possible. There is great variety in physiognomy and comparatively little emphasis on headdress. On the positive side one may note that here there is not the same tendency for the arms and legs to lose their identity by being incorporated into the vessel, consequently Eastern Arkansas effigies have not that swollen, blown-up look that characterizes the Cairo Lowland forms. Skeletonization is carried somewhat further in Eastern Arkansas, and the humped back is greatly exaggerated.

In the foregoing I have perhaps over-emphasized the differences between the two series of effigies, Cairo Lowland and Eastern Arkansas.

If so, I must correct the impression. They are, after all, similar enough so that a certain amount of overlapping is present. A mixed sample from both areas would not be altogether easy to sort, were it not for the differences in paste and finish that would come to the rescue. When it comes to a comparison of Eastern Arkansas with the Cumberland (Plate VI), the differences are more striking, and the advantages are entirely with the latter area. These judgments, unfavorable to Eastern Arkansas for the most part, will have to be amended somewhat when we come to a consideration of the famous head vessels. In that department the Eastern Arkansas potters, particularly those on the Mississippi side, were second to none.

El-4 shows a small heterogeneous group of foot effigies. None of these are sufficiently like the type of vessel known to Middle American archaeology as the "shoe-form" to suggest a possibility of connection. On the other hand, true shoe-form pots were present in the Cairo Lowland (Plate XII) so possibly the present examples may be considered as extreme variants of that interesting and widespread type.(1)

Eccentric Forms: Into this general category I have gathered together all shapes that do not readily find a place elsewhere. In Eastern Arkansas there are a considerable number of such shapes. Some of them warrant more than passing comment.

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(1) For remarks on distribution of the shoe-form see pp. 414-416.

The "teapot": Plate LXXXII: Spouted forms are not at home in Eastern Arkansas as their center of distribution lies further south, somewhere about the mouth of the Arkansas river. They do occur sporadically, however, in the southernmost Mississippi sites, and, according to Moore, extend somewhat further north up the St. Francis.(1) The present examples are all from the Mississippi. The first three specimens are arranged, as in a display case in the University of Arkansas Museum to suggest a possible way in which the "teapot" may have evolved from an animal effigy. According to this theory the small protuberance opposite the snout, which is standard equipment on all Mississippi valley teapots, is a vestigal remnant of the original head. To be really convincing it seems to me the series is in need of more intermediate forms. The gap between A2 and A3, for example, is still too great. Furthermore, I cannot see why we should look for the development of a type of vessel in a region where that type is so seldom found.

Since the teapot is not really an Eastern Arkansas trait, it is hardly necessary to go into the question of its distribution. As

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(1) cf. Moore, 1911, p. 410. "It is interesting to note in connection with this place that so far as our investigations extend it furnishes the northernmost occurrence, on the Mississippi river, of the well-known "teapot", or spout vessel, though we have found vessels of this class still farther north on the St. Francis river, Arkansas. Four "teapot" vessels, all broken and some very fragmentary, came from the Kent Place, one of black ware, two coated with red pigment, and one, parts of which unfortunately had been carried away by a plow, having a handsome decoration in red, white, and black.

The examples found by Moore at the Rose Mound were both effigy types. Moore, 1910, fig. 31, Plate XVIII.

a matter of fact it has no great distribution anyhow being confined to Eastern Arkansas (sporadic as noted), the lower Arkansas river and the Mississippi down about to Natchez. In this area it is definitely late, being associated repeatedly with European trade articles and also with the culture identified as historic Natchez. That it can have any connection with a pre-Maya "Q-complex" as Vaillant has suggested seems highly improbable.(1)

"Stirrup-handle": Double bottles with necks connected by a bridge (C1-2), especially where coalesced to form a double-necked bottle (C3), look surprisingly Peruvian, but that is about all one can, or should, say about them. The "stirrup-handle", another Peruvian form, however, is in slightly different case because it occurs in the Southwest as well as Mexico,(2) (3) so that the question of a possible origin in one or the other of these areas cannot be passed over in silence.

Although the possibility of such an origin cannot, of course, be denied, I believe it is equally possible to show how the device could have been locally evolved from the exaggerated bulbous

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(1) Vaillant, 1932, p. 15.

(2) Fewkes, B.A.E. 22nd Ann. Rep. Plate XXXVI.
Fewkes, Smiths. Miscellaneous Collection, vol. 5, pt. 4, fig. 75-d.
Morris, 1927, fig. 27.
Hodge, M. A. I. Contrib. vol. VII, Plate XXXVIII, c.
Roberts, B. A. E. Bulletin 111, fig. 21b.

(3) Lumholtz, 1902, vol. II, p. 234.
Mayer, Brantz. Mexico, 1853, p. 95.

tripods, already discussed, of which typical examples from the Cairo Lowland may be seen in Plate XVIII, B3-4. A vessel in the Lemley collection, also from the Cairo Lowland, in which the bulbous feet have become still larger but reduced in number from three to two, might serve as an intermediate form. The line of evolution is suggested schematically in fig. 102. Unfortunately this is by no means the only line of development that might be suggested. Another vessel in the Lemley collection, in this case from Eastern Arkansas, is very similar to the stirrup-handle except that three tubes form the spout instead of the normal two. On the basis of this a somewhat different evolution could be worked out, starting, however, with the same bulbous tripod as the parent form. Such evolutionary schemes are not, of course, to be taken seriously except insofar as they indicate possibilities for local development of forms which are too often regarded as evidence for remote cultural connections.

The last three photographs on Plate LXXXII and the first four on the following plate represent a type which is peculiar, so far as I know, to Eastern Arkansas, occurring in both sub-divisions of that area. I have no suggestions whatever as to the significance of the form or its possible origin.

Compound vessels: Plate LXXXIII: The practice of superimposing one vessel over another, resulting in a "double" or "compound" vessel, is evidently a pronounced Middle Mississippi trait, though it was not present in our Cumberland series. It seems to

a *b* *c* *d*

Fig. 102. Suggested evolution of the "stirrup-handle".

have been associated chiefly with effigy forms in the Cairo Lowland. Here in Eastern Arkansas the commonest type seems to be that in which a standard jar form is surmounted by some sort of bottle as in B1-C1.

The compound vessel is another of Vaillant's "Q" factors, but one which he admits could easily have been independently invented,[1] with which opinion the present writer is heartily in agreement.

Tripartite vessels, D3, are evidently somewhat rare in the Middle Mississippi. One has the impression, difficult to objectify, that their distribution tends more to the eastward. In this connection it might be suggested that the tripod, which also has a distribution extending eastward as far as Georgia, is probably not unconnected morphologically with the tripartite vessel.

The remaining specimens on Plate LXXXIII, which concludes the Polished Drab section, are atypical forms, only the last of which, closely recalling the Cahokia "bean-pot", suggests the

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(1) Vaillant, 1932, p. 13.

possibility of trade. As sorrowfully noted on several occasions already in the course of this study, the lack of indications of trade in ceramics is very disheartening. The general nature of the evidence of relationship between Eastern Arkansas and the Cairo Lowland, more distantly with Monks Mound and the Cumberland, would seem to indicate that the respective peoples were, for part of their history at least, in actual contact with one another, yet material traces of such contact in the form of traded objects, especially pottery, are practically non-existent. Are we to infer that we are dealing with the remains of the same people at different phases of a migratory existence? It seems very unlikely. Or is it simply that trade in material objects was not in the cultural pattern? The answer to this important question can only come with more precise analytical methods than those followed here.

Polished Drab Incised: (1) Plate LXXXIV: An extreme minority factor in Eastern Arkansas, 1.75% in the present series, this ware is herein considered merely as a variant of Polished Drab. It is nevertheless an extremely interesting and important type, since it indicates quite clearly an intrusive influence from the south, where post-fired incision is a very common decorative technique. Examples in A1-C4 do no more than this, since the designs are those more commonly seen in Thin Drab and painted wares, hence quite at

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(1) "Engraved" would have been preferable. The term has recently been adopted by archaeologists in the Southeast to denote any kind of post-fired incision.

home in the Eastern Arkansas area. Decoration of this style seems to be about equally divided between the Mississippi and St. Francis sections of the area. The remaining examples, D1-E4, are more specific in their implications, point squarely as a matter of fact, to Moundville, where such conventionalized symbolic design is very common. With one exception (E1) these are from Mississippi sites. It appears, then, that whereas the technique of post-fired incision, or engraving, reached the entire Eastern Arkansas area, where it was used in connection with current motives, engraving of specific "Moundville" type was far more common in the Mississippi section.

The whole question of engraved ware in the Middle Mississippi merits particular attention. There are, one feels, important chronological factors involved. Referring to our table showing the numerical distribution of the various pottery types in the Mississippi and St. Francis sub-areas (fig. 83), it is probably not without significance that the proportion of engraved ware in the Mississippi is 3.26% against 1.2% for the St. Francis, whereas in the red painted wares the relations are reversed, 3.64% and 3.83% for the Mississippi against 8.29% and 6.76% for the St. Francis. It seems likely that engraving and painting are in a reciprocal position with respect to each other; as one advances the other gives way. The question for us is which, in the Eastern Arkansas area, is advancing and which giving way. The answer would perforce contain chronological implications. Unfortunately we can do no more here than throw off one or two suggestive hints.

In the decorated mortuary pottery at Moundville engraving is the rule, painting the exception. "This water bottle proved to be the only vessel with painted decoration found by us at Moundville".(1) It would seem that here, at any rate, painted ware had scarcely begun to advance. Again, engraved ware is present at Cahokia, whether in the lower or upper levels, unfortunately, I do not know. In any case its presence, unaccompanied by painted pottery, would seem to indicate that the latter's advance had not even reached this important site. We are, of course, falling back upon an old diffusionist principle, to wit, that the more widely distributed of two traits is the older. Hardly a secure foundation for even the most hypothetical conclusion. However in this particular case there are a considerable number of collateral indications supporting such an hypothesis. These will be brought together in their proper place. For the time we may leave it as tentatively indicated that as between engraving and painting in the Eastern Arkansas area, the former seems to be the older.

Redware: Plates LXXXV-LXXXVIII: Redware accounts for 4.6% of our total Arkansas series of 1995 vessels. It is produced on a shell tempered paste practically indistinguishable from that of Polished Drab (except for its lighter color) by the application of a pigmented slip of varying thickness and color. The color of the paste runs through various grays and buffs, the surface immediately

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(1) Moore, 1905, p. 143.

beneath the slip being generally a warm buff to pinkish cinnamon color. Red slips range in color from 3' to 11" on the Ridgeway scale[1] with 3' i (Pompeian red) and 5' j (Dragon's blood red) the most frequently occurring colors. Variations in color beyond the extremes noted are infrequent and are probably due to misfiring, to which the frequent presence of fire clouds may also be attributed. The slip is normally polished to a fairly high lustre with an implement that leaves striations similar to the "rippled" effect characteristic of Polished Drab. The similarity of Redware to Polished Drab is indeed noteworthy. One understands why similar redware has been classified by some writers as nothing more than a surface variant of the dominant drab ware.[2] The only important difference is the pigmented slip itself.

The similarity to Polished Drab is further emphasized by the close parallelism in shapes. A glance through Plates LXXXV to LXXXVIII reveals at once that no new shapes come in with Redware. Everything on these four plates is already familiar from our consideration of Polished Drab. Even the numerical proportions between the various broad categories of shapes show a close correspondence (fig. 103). The only difference of possible significance is the high percentage of bottles in Redware as compared to bowls. Whether any chronological import can be read into this, I am not prepared to say. In view of the generally late appearance of the bottle in

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(1) Ridgeway, 1912.

(2) Cole and Deuel, 1936, p. 49 et seq.

Mississippi ceramics, one is tempted to infer that Redware is likewise, generally speaking, of late introduction.

As between the Mississippi and St. Francis sections the figures are significant and clearly so, 3.64% for the Mississippi and 8.29% for the St. Francis (see fig. 83). The interpretation of this difference, which is more than two to one, is another matter. One would like, again, to turn it to chronological account on the theory of a late spread of Redware affecting the St. Francis more than the Mississippi. It seems best, however, to defer this discussion until the other pigmented wares have been considered.

Redware	Mississippi		St. Francis		Indeterminate		Totals	
	No.	%	No.	%	No.	%	No.	%
Bowls	4	21.1	20	26.3	10	37.0	34	27.1
Bottles	9	47.4	48	63.2	14	51.9	71	58.2
Effigies	6	31.6	2	2.6	1	3.3	9	7.4
Polished Drab								
Bowls	85	21.6	265	41.1	92	21.5	442	30.2
Bottles	174	44.3	296	45.9	150	35.0	620	42.3
Effigies	71	18.1	67	10.4	51	11.9	189	12.9

Fig. 103. Distribution of shapes in Redware compared with Polished Drab, Eastern Arkansas.

There being nothing really new in the present series of vessels in Redware (Plates LXXXV-LXXXVIII) detailed consideration is unnecessary. The selection presented, which may seem unduly large and repetitious, was made with the view of emphasizing the homogeneity of Polished Drab and Redware so far as shapes are concerned. Since there is a like homogeneity in factors of paste and surface finish, we must conclude that Redware, although it represents a distinct type and should be classified as such, does not stand out morphologically from Polished Drab. Whether it stands out chronologically, a more important question, can only be answered by more detailed analysis of a larger sample than the present, or better, by actual stratigraphic evidence in the ground.

Painted Wares: General: Painted wares in Eastern Arkansas account for slightly less than 5.5% of our total series (1,995 vessels) thereby running slightly behind Redware at 6.6%. In respect to composition and treatment they may be described in precisely the same terms as Redware, the only difference being that, instead of an all-over treatment, the slip is handled as a decorative medium, in a characteristic broad manner necessitated no doubt by its heavy consistency. After painting the vessel is polished as in Polished Drab and Redware, which produces a certain amount of blurring of the edges and contributes somewhat to the effect of crudity. Any refinement of design or delicacy of line is virtually ruled out by the method employed.

When color is applied in this manner to the unslipped buff to pinkish cinnamon surface the result is a two-color ware, which I

have called Red on buff. Often, instead of leaving the buff ground color to count as the background of the design, a heavy slip-like white or pinkish white pigment is applied. The result is still a two-color ware, similar in character to Red on buff, but it seems better to distinguish it by the term Red on white. In this method there is a double opportunity for "blurring" the edges of the design, but in many cases the result is surprisingly satisfactory, the two colors being "lapped" fairly successfully. It is curious that the method of slipping the entire vessel in either color as a ground for designs in the other was not hit upon, which would have resulted in a red on white, or white on red tradition.(1)

In Red and white the buff ground color is entirely eliminated, except in a few instances, and in these, I believe, there was an original coating of black, as I shall presently explain. In other words there does not seem to be in Eastern Arkansas a type comparable to the Red and white on buff of the Cairo Lowland. (see p. 450.) Occasionally, however, the red and white fields do not cover the entire vessel, the intervening spaces being covered with a thin black pigment similar to the stain that was described in connection with the Lost Color ware of the Cumberland and Eastern Arkansas. The result is a three-color ware which I have called Polychrome, not, however, without certain private reservations. This so-called

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(1) One specimen (Plate XC, C1) is noted on my photograph blank as "possibly red on white." There is nothing about the general style of the vessel, however, to suggest a departure from the usual method.

Polychrome raises a very interesting question, already touched upon in the Cairo Lowland section, to wit, the possibility that the lost color process, or, let us say, the process which in the Cumberland and Cairo Lowland we have called lost color, enters into the treatment. We found in the Cairo Lowland, lost color was often combined with direct painting. The suggestion was tentatively offered that the lost color may have been used as a method of blocking out designs, which were subsequently filled in by direct painting (p. 452). It is possible that a similar method was followed here, but it must be confessed that the simple nature of the designs does not suggest a lost color technique. The dark stain could as easily have been applied directly. There may, on the other hand, have been some technical advantage in the negative method which favored its use even in the simple designs before us. In any case some kind of relationship with the combination ware of the Cairo Lowland is evident. The question is an interesting one, but one that requires close technological study. In the meantime it seems best to continue to regard this red, white and black ware as a polychrome rather than a combination of lost color and direct painting.(1)

We have then three painted types to consider: Red on buff, Red and White, and Polychrome. Their distribution as between the Mississippi and St. Francis sections is shown below (fig. 104).

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(1) It may be asked what all the fuss is about since there are only two examples of this famous Polychrome in the entire Eastern Arkansas series. Actually the discussion is based on material from the lower Arkansas river, where the type is somewhat more common.

Painted wares	Mississippi		St. Francis		Indeterminate		Totals	
Type	No.	%	No.	%	No.	%	No.	%
Red on buff	8	1.53	35	3.81	8	1.44	51	2.55
Red and white	12	2.3	26	2.84	13	2.32	51	2.55
Polychrome	-		1	.11	1	.18	2	.10
	20	3.83	62	6.76	22	3.96	104	5.21

Fig. 104. Numerical distribution of Eastern Arkansas painted wares.

Only in Red on Buff is there a significant difference, to the clear advantage of the St. Francis. One should perhaps refrain from interpretations without a larger series. However in this case honesty compels the admission that the interpretation seems to run counter to certain chronological indications already noted. That is to say, Red on buff being probably the earlier and more fundamental type, its greater incidence in the St. Francis would seem to point to an earlier date for that center. So far the indications have pointed the other way.

Shapes in painted wares: Examples of Red on buff and Red and white are to be seen in Plates LXXXIX-XCIII. Except for one or two effigy forms and the famous head vessels, there are no new shapes to be considered. There are, however, some aspects of the numerical distribution of the various shapes that may be worth considering briefly. The distribution, with comparative figures for Redware are given below (fig. 105). The comparison brings out fairly clearly the tendency for bottles to pile up in the painted types, even more than in Redware, which, in turn was in excess of the Polished Drab situation.

Distribution of shapes in painted wares	Mississippi		St. Francis		Indeterminate		Totals	
	No.	%	No.	%	No.	%	No.	%
Jars	-	-	-	-	-	-	-	-
Bowls	-	-	8	13.1	-	-	8	7.1
Bottles	15	75.	49	80.3	14	63.6	78	75.7
Effigies	5	25.	3	4.9	7	31.8	15	14.6
Eccentric	-	-	1	1.6	1	4.5	2	1.9
Totals	20		61		22		103	

Fig. 105. Numerical distribution of shapes in Eastern Arkansas painted wares.

To the generalization that the bottle is the dominant shape in Redware may be added the further generalization that it is still more dominant in the painted types.

One or two additional factors of detail may be of interest. Though jar forms were occasionally slipped in red, they were apparently never painted. Bowls maintain a fairly high percentage in Redware, but are seldom painted, and evidently only in the St. Francis. On the other hand, effigies, both red and painted, are far commoner in the Mississippi section. Such details suggest interesting possibilities, but it would be well to have a larger sample before exploring them.

Decoration: Analysis of designs brings out no significant differences between Red on buff and Red and white. Between the two sub-areas, it is perhaps of interest that of the 19 motives recorded the St. Francis has 15, the Mississippi only 5. This may be taken

simply as corollary to the main fact that the Mississippi is considerably behind the St. Francis in the use of paint -- quantitatively at least (3.83% as against 6.76%). In quality there is no observable advantage either way. Distribution of motives occurring more than once is shown in fig. 106, from which it appears there is surprisingly little difference between the two sub-areas. The two dominant motives, the swastika spiral and alternate vertical panels are about equally dominant in both sections, the Mississippi showing only a slight preference for the latter over the former. Other differences are expressed in figures too small to be accounted significant. Analysis also fails signally to bring out any differences between Red and buff and Red and white. In setting out the material, therefore, in Plates LXXXIX-XCIII, I have made no attempt either on the basis of geography or type, but have arranged the specimens purely according to design and shape.

Plate LXXXIX: This plate brings together various types of spiral meander motives, single, double, triskele and swastika executed on bottles. This most frequently occurring body design is associated with various motives on the neck. D4 is an interesting example in which the neck design represents a highly conventionalized rattlesnake.

Plate XC: In A1-C3, a continuation of spiral designs on bottles is shown. The remainder of the plate shows various motives, the last four examples showing a style somewhat different from the characteristic broad treatment of Eastern Arkansas painting. This shows particularly

in El,3,4, three specimens from the same site on the St. Francis. In these vessels a thinner pigment is used and advantage taken of its greater flexibility in designs of a more graphic character. If this

	Mississippi		St. Francis		Indeterminate		Total
	R on B	R & W	R on B	R & W	R on B	R & W	
	1	2					3
			3			2	5
	1	4	12	12	1	2	32
	3	6	10	8	2	2	31
	1	2	2	10	1	2	18
		1	5	4		1	11
			2	4			6
			2				2

Fig. 106. Numerical distribution of principal design elements in Eastern Arkansas painted wares.

sort of thing had been pursued further the result would have been a style of pottery painting more like that of the Southwest.

Plate XCI: A simpler type of bottle decoration is that made up of alternate vertical panels of red and buff or red and white on

the body combined with the same variety of motives on the neck as in the case of the spiral meander designs. It appears to have been somewhat more inclined to be associated with flattened and carinated bottles. This style of decoration adapts itself readily to "gadrooned" forms, as in E4.

Plate XCII: In bowls (A1-B4) precisely the same simple designs are seen adapted to different surfaces. Effigies (C1-D3), on the other hand, are embellished in somewhat freer style. The duck-pot or shoe-form (depending on whether one follows Southwestern or Middle American terminology) seen in C2 originally had four legs. Owls (C2-3) are interesting because of the total absence of owls in Polished Drab and Redware. These two specimens are from Pecan Point, the famous old site on the Mississippi that has produced so many fine head vessels. The relationship to the owls of the Cairo Lowland (Plate XXXVI, C3-E4) is very close.

The single decorated human effigy (D1-2) also from a Mississippi site shows a remarkable ugliness. E1-2 shows our two examples of Polychrome. The thin black stain shows fairly clearly in the first. The last two vessels (E3-4) are decorated in lost color, which I shall presently discuss.

Plate XCIII: It is perhaps not unfitting to close our "album" of Middle Mississippi pottery with a small series of the celebrated "head vessels" of Eastern Arkansas. All but one, (4A-C) are from Mississippi sites. Though the type occurs in the St. Francis, as attested by our one specimen from the Rose Mound and two more

excellent examples from the same site figured by Moore.[1] The close relationship to the head vessels of the Cairo Lowland is sufficiently obvious, though the advantages in realism are all with the examples from Eastern Arkansas. These two regions, plus the lower Arkansas river are, so far as I know, the only portions of the Southeast that have produced head vessels of naturalistic type.[2] The conventionalized head vessels occasionally found in the Caddo ware of the Ouachita valley are scarcely comparable. Vaillant lists the head vessel as one of his Q factors and states that the Mississippi development is paralleled only in Costa Rica and Peru.[3] Its extremely limited range in the Mississippi Valley is not what we would expect in an old trait with remote connections. Nor is it a type for which an independent local development can be ruled out. Given a tendency toward the proliferation of effigies, which tendency certainly prevailed in the Middle Mississippi as nowhere else, it would seem reasonable that this particular form could have been hit upon without inspiration from an outside source.

Lost Color: Questions having to do with the distribution and significance of Lost Color in the Middle Mississippi have been

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(1) Moore, 1910, Plates XIV, XV.

(2) The naturalism has been frequently exaggerated however. There was at one time even a theory that they were actually death masks. See Dellenbaugh, F. S. in American Anthropology, vol. X, 1897, p. 46; Altamerikanische Totengesicht-Gefässe -- Globus, vol. LXXI, No. 20, p. 328.

(3) Vaillant, 1932, p. 17.

touched upon in a preceding section (p. 454), but a final discussion was postponed until the evidence of Lost Color in Eastern Arkansas could be included. That evidence is, as a matter of fact so slight as to contribute very little, except in a negative sense, to the discussion. Only two specimens in the entire collection seem to have been decorated by lost color (Plate XCII, E3-4) and these are both from St. Francis sites. To these may be added a very fine vessel recently illustrated by Vaillant[1] also from the St. Francis, shown in fig. 107, i. Also the possibility that the so-called Polychrome contains an element of lost color must not be overlooked, though it cannot be proved with the present evidence one way or the other.

Distribution of Lost Color: The distribution of lost color decoration, so far as it can be traced from material in hand -- difficult owing to the fact that the literary sources as a rule make no point of distinguishing lost color from ordinary painted wares -- is shown in fig. 108.

More striking than the wide distribution of the process of decoration, from eastern Georgia to southwestern Arkansas, is the remarkable similarity of designs over the entire spread. Compare, for example, fig. 107, a, a vessel from the Hollywood mound on the Savannah river in eastern Georgia, with d, from the Red river

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(1) Vaillant, 1939, Plate 28. It is interesting that Vaillant, possibly as the result of long-continued exhortation by the writer, unreservedly uses the term "lost color" in connection with this vessel.

Fig. 107. Examples of Lost Color from various sites in the Southeast, a, Hollywood Mound, Georgia (Thomas 1994, fig. 200); b, Etowah, Georgia (Moorehead, 1932, fig. 33b); c, Etowah, Georgia (Ibid., fig. 33c); d, Haley Place, Red River, Arkansas (Moore, 1912, Plate 37); e-g, Cairo Lowland (Peabody Museum); h, Cumberland (Peabody Museum); i, Monette, St. Francis River, Arkansas (Vaillant, 1939, Plate 28).

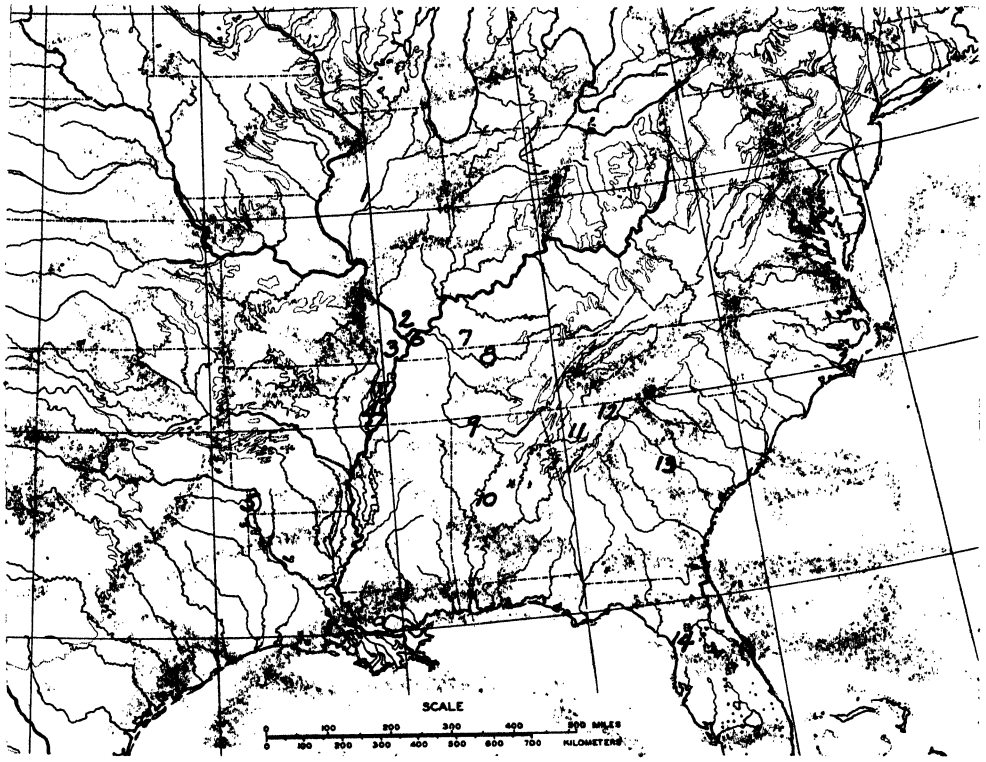

Fig. 108. Distribution of Lost Color decoration in the Southeast.

1. Spoon River. Cole and Deuel, 1936, p. 53.
2. Kincaid. University of Chicago Museum Collection.
3. Various sites, Cairo Lowland. Plate XXXVII.
4. St. Francis river. Plate XCII, E3-4.
5. Haley Place, Red River. Moore, 1912, Plate XXXVII.
6. Wickcliffe "Ancient Buried City". King, 1934, fig. 1.
7. Glover Mound. Webb and Funkhouser, 1929, fig. 35.
8. Various sites, Cumberland (Nashville district). Plates VII-VIII.
9. Wheeler Basin. Webb, 1939, Plates 96, 97.
10. Moundville. University of Alabama Museum Collection.
11. Etowah. Moorehead, 1932, fig. 33.
12. Nacoochee. Heye, Hodge & Pepper, 1918, Plate V.
13. Hollywood Mound. Thomas, 1894, fig. 200.
14. Crystal River. Moore, 1903a, figs. 27, 28, 31.

in southwestern Arkansas, or with i, from the St. Francis river in northeastern Arkansas. On the other hand it must be noted that

these examples were selected for the purpose of emphasizing similarities, and there remain in each area other types of design more locally characterized. Were we dealing only with the examples before us it might be reasonable to invoke the medium of trade to account for the distribution and indeed such a possibility cannot be ruled out entirely. At the same time it appears evident that the lost color process, and not merely the vessels decorated by it, were transmitted over a large portion of the area in question.

The nature of the distribution is not unlike that of repousse copper, engraved shell and pottery, which also exceed the recognized limits of Middle Mississippi and yet maintain a remarkable stylistic unity. Furthermore the association with these factors is too close to be fortuitous. At Hollywood in Eastern Georgia Lost Color was associated with repousse plates and a remarkable engraved pot with a plumed rattlesnake design[1]; at Crystal river, Florida, lost color was in association with an engraved hand symbol in pottery[2] and embossed copper, cruder than the usual repousse[3]. At Etowah the associations with engraved shell and repousse copper are too well known to require emphasis. The same situation obtains at Moundville

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(1) Thomas, 1894, p. 324. "fragments of thin and very brittle plates of copper bearing Mexican figures in relief".

(2) Moore, 1903a, fig. 18.

(3) Ibid., fig. 60.

and in the Cumberland, though in the latter case the evidence for repoussé copper is not entirely satisfactory. In the remaining locations where lost color has been reported, in Illinois and west of the river in Missouri and Arkansas, the associations with carved shell and repoussé copper are not as well founded, though highly probable. One might even venture the prediction that lost color will ultimately turn up at Spiro, the great western depot for carved shell and repoussé copper.

Returning to the question of distribution of lost color by itself regardless of associations, one is struck by the general easterly trend which does not by any means correspond to my own conception of the geographical domain of Middle Mississippi culture. Particularly interesting in this connection is the occurrence in Northwest Florida in a context that has recently been stated to be Hopewellian,(1) and in any case is definitely not Mississippian. The Hopewellian associations suggest that here in Florida at least lost color is outside the Mississippi orbit, not only spatially, but temporally as well, that its spread actually antedated the spread of Middle Mississippi culture in general. This bears out in very grateful fashion the very tentative hypothesis put forward in connection with the Cairo Lowland, to wit, that Lost Color may have been established in that area before the introduction of a direct painting technique (v. p. 455), an hypothesis without which it would be difficult to explain the lack of painted pottery in the Cumberland.

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(1) Greenman, 1938.

It now appears that factors of typology and distribution unite with actual chronology -- unless Hopewell in Florida is very much later than Hopewell anywhere else -- to give us a glimpse of the true position of lost color as a trait that does not fall entirely within the Middle Mississippi domain, either in space or time. And, since Lost Color is so intimately associated at certain key sites, Hollywood, Etowah, Moundville, with engraved shell, repoussé copper and (at Hollywood and Moundville) with highly esoteric symbols engraved on pottery, it suggests very forcibly that the entire ceremonial complex represented by these traits may also lie outside and anterior to the main Middle Mississippi development. Furthermore, since it is within the said ceremonial complex that most, if not all, the factors most suggestive of Middle American origin lie, and since lost color decoration itself is just about impossible to account for except on the basis of Middle American origin, we have the first satisfactory clue as to the time of the supposed contacts. I shall return to this point in the concluding section of this work.

Miscellaneous pottery objects: Information regarding artifacts that come under this heading is unfortunately not commensurate with the large series of vessels just considered. At the time of collecting, I did not appreciate the importance of minor objects in pottery, which moreover, on account of their small size, do not lend themselves to quick photography. My present belief is that some of these objects, if not all of them, could be very advantageously studied, particularly in connection with the spread of Middle Mississippi cultures, with which they seem to be particularly associated. Eastern Arkansas would, I believe, account for its fair share of such traits,

in fact my impression is that the region would do even better. A region in which raw materials for stoneworking are relatively scarce, in which on the other hand pottery clays are abundant, and in which a high ceramic activity is the outstanding feature of the culture, would naturally be expected to produce a large number of such pottery objects. It is doubly unfortunate, therefore, that our information is so meagre.

Miniature vessels: Are present in great variety and show as elsewhere the tendency merely to reproduce the commoner shapes of vessels of normal size. Without information as to their manner of occurrence, we can only recall that in the Cumberland they were frequently found in the graves of children, are therefore probably to be regarded as toys. We can probably assume the same to have been the case here. In respect to distribution, the close association with Mississippi types of culture is emphasized by the fact that they were present in all manifestations treated in the present study. To what extent they occur in non-Mississippian cultures, I cannot say. It is very likely that the trait is too widely distributed in North America generally to have any significance as a Mississippi diagnostic.

Ladles: The few ladles in the present Museum collections from Eastern Arkansas are of an elongated scoop type, i. e. the lip is drawn out to form a handle. (The type, without pronounced elongation may be seen in fig. 15, 28). Generally speaking, the ladle offers considerable interest on account of its importance in the Southwest and Mexico and the possibility of derivation from either of those areas. Its distribution in the various Mississippi

cultures studied is marked by too many lacunae for any generalizations. At one stage of the present inquiry, I entertained the notion of a distribution co-extensive with red and painted pottery -- based on the absence of both in the Cumberland -- a situation that might be interpreted to mean that the ladle came into the Mississippi Valley along with red and painted wares from the Southwest or Mexico. The evidence is altogether insufficient for any such theory, though it should not be overlooked as a possible line of inquiry.

Disks: Pottery disks worked from sherds are common in Eastern Arkansas, both perforated and unperforated types. Like miniature vessels, this is a trait highly characteristic of Mississippi cultures from Arkansas to Ontario -- a one-one correlation with all Mississippi manifestations encountered.(1) Unfortunately I have very little information about the role of pottery disks in non-Mississippian cultures of the Southeast. They are reported from Etowah in the stamped ware dominant at the site,(2) and at Nacoochee in a like non-Mississippian context.(3) Their presence in pottery of the Deasonville complex and in the "Caddo" wares of southwestern(4)

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(1) Furthermore not with the usual diminution with increase of distance from the central area of Mississippi culture. Wintemberg got over 300 unperforated disks at the Roebuck site, near Ottawa (1936, p. 67).

(2) Moorehead, 1932, fig. 73.

(3) Heye, Hodge & Pepper, 1918, p. 72.

(4) Ford, 1936, fig. 32 s.

Arkansas,[1] takes them outside the range of Middle Mississippi but into the uncertain realm of Lower Mississippi. One would require far more information for any positive statements, but it seems highly probably that the pottery disk is widespread and fundamental in the Southeast. Its strongest associations may very well be with cultures of Mississippi type but it is certainly not confined to them. So far as remoter connections are concerned the score, as between the Southwest and Middle America is about even.[2]

Pottery discoidals: To be distinguished from the disks described above, which are reworked from sherds, are discoidals made like any other pottery object. The latter are fairly numerous in the Eastern Arkansas collections, far more so than stone, which illustrates the tendency in this alluvial region for pottery to supplant stone as material for various common artifacts. One of the Museum specimens is by-concave recalling closely the beautiful discoidals of Tennessee.

"Trowels": The pottery "trowel", or "anvil" (v. figs. 49, 68) as some prefer to call it, is not present in the Museum's collections from Eastern Arkansas, nor have I encountered any reference from other sources. It may be not accidental that salt-pan pottery

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(1) Writer's field-notes, Ouachita survey.

(2) Roberts, 1931, p. 149.
Haury, 1937, p. 242.
Nesbitt, 1931, p. 89.
Vaillant, 1930, p. 63.
Vaillant, 1931, p. 297.
Vaillant, 1935, p. 237.

also failed to put in an appearance, in view of Webb's theory that trowels were used in the manufacture of salt-pan ware.[1] Such a theory, however, is not supported in other cultures examined. In both Aztlan and Spoon River, for example, trowels were reported, but no salt-pan pottery. On the other hand there can be no doubt that trowels, whether functionally associated with salt-pan ware or not, are highly characteristic of Middle Mississippi culture so far as we have examined it.

Ear-plugs: The Museum collections contain a considerable variety of rather crude ear-spools or plugs (fig. 109). Compared with the stone ear spools (sometimes overlaid with copper) occasionally found in Middle Mississippi cultures, these things look miserably degenerative. Possibly such is actually the case, the pottery ear-plugs representing a somewhat later stage when the potters were taking over earlier crafts of the stone workers. The few examples encountered heretofore (in the Cumberland) have been quite evidently in imitation of stone forms. Here they seem to have become independent pottery forms, with implications of later date suggested thereby.[2]

Pipes: A representative series of pottery pipes is seen in fig. 110. How closely they compare with pipes from the Cumberland

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(1) Webb, 1931a, p. 408.

(2) A fairly strong case could be made out on the basis of what little chronology is available. The presence of stone ear-spools at Aztlan, which site is said to equate with the early period at Cahokia would be a sample argument.

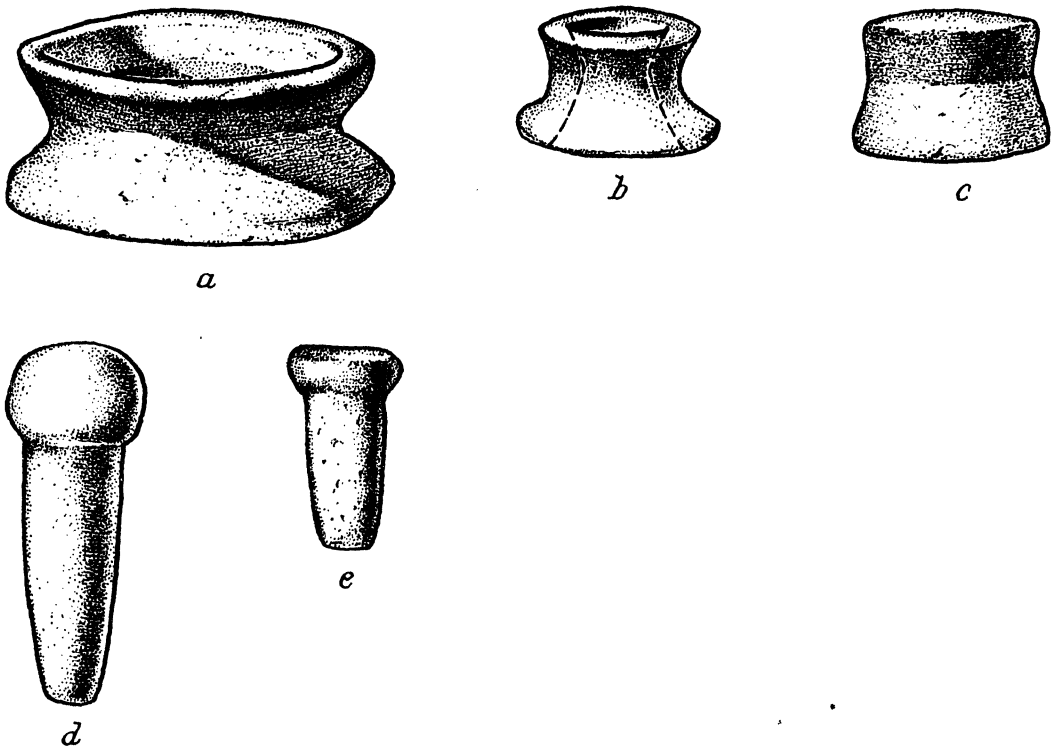

Fig. 109. Pottery ear-plugs, Eastern Arkansas. (Peabody Museum).

and Cairo Lowland may be seen by reference to figs. 50 and 69. The series are far too small for valid generalizations, but one cannot help noticing that the peculiar characteristics of the type, the heavy base and enlarged stem hole are progressively more fully expressed as we proceed from Cumberland to Cairo Lowland to Eastern Arkansas. Again one suspects a chronological factor but can no more than suggest it as a line of further inquiry.(1)

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(1) Some day, it is to be hoped, advantage will be taken of the opportunities for typological seriation offered by the various smaller pottery objects of the Middle Mississippi.

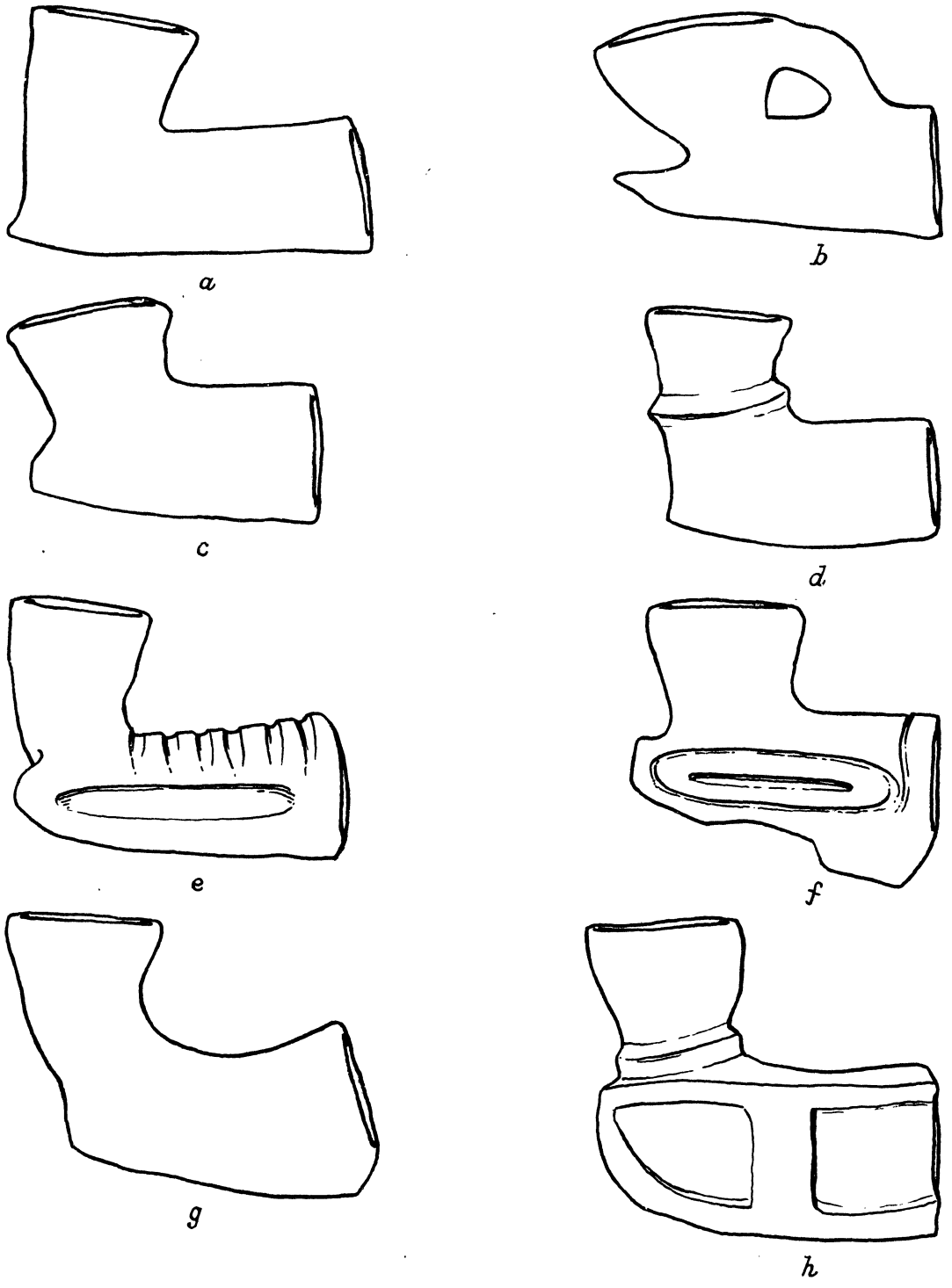

Fig. 110. Pottery pipes, Eastern Arkansas. Scale 1:2. (Peabody Museum).

Rattles: A small pottery rattle from the Museum collection is shown in fig. 111. Similar objects have appeared previously only

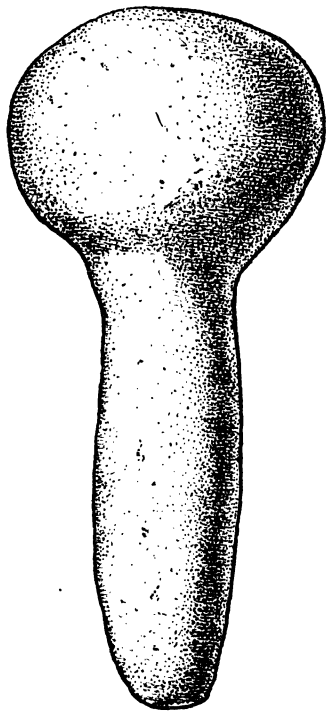

Fig. 111. Pottery rattle, Eastern Arkansas. Scale 1:2. (Peabody Museum).

in the Cumberland. In both Cumberland and Eastern Arkansas the practice of providing effigy heads on bowl rims with pellets of clay is fairly common. Its failure to turn up in the Cairo Lowland was probably due to careless observation. It is, one feels certain, a general Middle Mississippi feature, a corollary of the high ceramic development of that culture.

Figurines: In view of the rather common occurrence in Eastern Arkansas of rattles of one kind or another, the lack of figurine rattles, or indeed any sort of figurines, hollow or solid, is difficult to account for. Again I am seduced by the nymph chronology. Figurines, both hollow and solid, appear in the Marksville, Troyville and Coles Creek horizons in the Lower Mississippi, all of which manifestations certainly antedate the Eastern Arkansas culture.(1) It is not impossible that the presence of figurines in the Cumberland may be due to a similar time differential. One more small nail driven into the hypothesis of an earlier date for the Cumberland. Enough of them might actually hold it together.

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(1) Information from Gordon Willey. The famous Turner Mound figurines, likewise of early date, might also be mentioned in this connection.

Pot supports: Crude slightly tapered cylinders of clay, concave on the smaller end (fig. 112) are said to have served as pot supports[1] and as such are commonly designated. This appears to be an Eastern Arkansas specialty, though one such object appeared in the Museum Collections from the Cairo Lowland.

Clay "standards": Similarly restricted in distribution are the rounded cones of poorly fired clay (one hesitates to use the term pottery) about six inches high, with holes in the top and sides, as though for the insertion of poles or staffs of some sort. Somewhat similar objects in stone have been found, I believe, on temple platforms in the Maya area. Remarkably similar objects in clay were found at Snaketown and, because of their occurrence in groups of three, regarded by Haury as pot supports.[2] The same designation here would leave us without a name for the clay cylinders described above. The Middle American term "standard" seems preferable.

This exhausts the catalogue of minor pottery objects in the Eastern Arkansas culture. With more information, no doubt, a number of types would be added; beads, pendants, etc. are strangely missing from the list. Even without them, however, the extent to which pottery was used for all sorts of purposes is striking. There are two possible explanations: one that the culture lies at a somewhat later stage in the general ceramic development, a time

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(1) Moore, 1910, p. 281.

(2) Haury, 1937, p. 244.

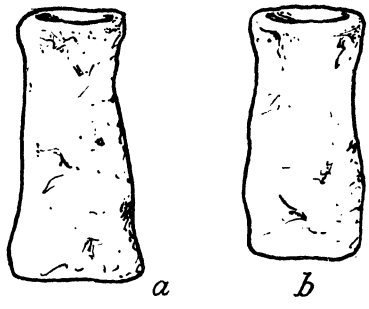

Fig. 112. Pot supports, Eastern Arkansas. Scale 1:2. (Peabody Museum).

in which the possibilities of the fictile art were most fully appreciated; the other, a simple environmental explanation, that the lack of stone together with the abundance of excellent pottery clay forced the development. It is not necessary perhaps to choose between these two alternatimes. Possibly both circumstances are responsible for the condition we have described. In any case there can be no question that if the Middle Mississippi represents the furthest advance in pottery (not so much from the point of view of quality as quantity and diversity), it is the Eastern Arkansas culture in particular that best exemplifies that condition.

4. Conclusions on Eastern Arkansas culture.

The general homogeneity of Eastern Arkansas culture must be sufficiently obvious from the foregoing summarization. Only in ceramics are there sufficient differences to warrant the sub-division into the Mississippi and St. Francis sections. Were more information at hand these differences could undoubtedly be correlated with minor differences in the non-ceramic aspects of the culture. They would not, one feels sure, detract significantly from the homogeneity of the whole. If I have devoted more attention than seems warranted to such pottery differences as do appear, it was in the hope of bringing out significant time relationships between the two areas. Such

factors are briefly summarized below:

Thin Drab:

More distinctive and highly developed in Mississippi, culminating in lunette collar.

Polished Drab:

Finer paste and finish in Mississippi.

Minor shape differences all through, mostly in direction of greater elaboration and refinement in Mississippi.

Marked differences in rim effigy bowls. Greater range of subject in Mississippi, together with far greater success in realization of life forms, especially in serpent group, a particularly vivid concept.

Tendency to flattening of bottles in Mississippi together with sharper profiling, elaboration of rim (beveling, lipping, etc.).

Tripod fairly common in St. Francis, lacking in Mississippi. Tetrapods present in Mississippi but rare.

Shoulder nodes in St. Francis -- dimples in Mississippi, latter showing pronounced Moundville similarities.

Gadrooned bottle a Mississippi specialization.

More effigies in Mississippi greater range of subject, skill in handling. Elaboration on jar forms (the fundamental shape) in Mississippi.

Fish effigies associated with jar and bottle forms in Mississippi, bowl forms dominant in St. Francis.

Effigies in general seem more fundamental in Mississippi, nearer original point of departure, less conventionalization or degeneration (whichever you prefer).

Polished Drab Incised:

Practically confined to Mississippi, with close Moundville connections.

Red and painted wares:

Commoner in St. Francis, especially Redware and Red on buff. Difference in Red and white not so clear.

Bowls painted in St. Francis, not in Mississippi.

Greater variety of decorative motives in painted wares in St. Francis.

Lost Color:

Represented only in St. Francis (3 examples).

In general, then, the Mississippi excels in plastic art and decoration by incision, both before and after firing; the St. Francis

in painting, though here the differences are quantitative rather than qualitative. It seems very likely that painting and incision, particularly post-fired incision or engraving, stood in a reciprocal position, as the one advanced the other retired. Reasons have already been adduced for regarding painting as the advancing member. Unfortunately this highly tenuous bit of reasoning is the only support I can bring at the moment to the impression, which I cannot seem to shake off, of a priority in time (however slight) on the part of the Mississippi section of the area. I hope to be able to insert some more props under this extremely shaky hypothesis in connection with the archaeology of the Lower Arkansas river in a later section. At the same time it must be emphasized again that any possible time differential must be of a minor order. For every difference between the pottery of the two sections listed above there are a dozen close correspondences. The fundamental unity of the Eastern Arkansas culture cannot be called into question.