THE LOWER MISSISSIPPI VALLEY

IN

NORTH AMERICAN PREHISTORY

by
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PREFACE

This report by Dr. Brain is one of three General Background Studies prepared as part of the archeological and historical appraisal of the Lower Valley. These reports are a part of the U. S. Army Corps of Engineers Comprehensive Basin Study of the area.

Through the cooperation of the Corps of Engineers and the National Park Service, the Arkansas Archeological Survey has been able to enlist the aid of geologists, archeologists, historians, and cultural geographers in summarizing the geology, prehistory, and history of the Valley. The other two General Background Studies are: Quarternary Geology of the Lower Mississippi Valley by Roger Saucier, and The Lower Mississippi Valley: European Settlement, Utilization, and Modification by Fred Kniffen.

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Foreword

It is a happy opportunity, but a sad task, to synthesize our state of knowledge for the prehistory of the Lower Mississippi Valley. It is an appropriate time to take stock, and to put into perspective on a broader scale the bits and pieces that have become available over a century of casual study and 40 years of intensive investigation. Many accomplishments may be recorded, but in the classic sense it is obvious that the more we know, the more we realize we do not know. Nevertheless, there will never be a moment of omniscience; and now for the first time we have some feeling for the human presence in the Valley, which it is my pleasure to present.

I should like to acknowledge the helpful suggestions of Philip Phillips, Stephen Williams, and John Belmont in the preparation of this paper. Also, I am grateful to Carroll Kelley, Jack Lancaster, and Robert Neill for permission to illustrate artifacts from their personal collections, and to Jack Lancaster, Dan Ingersoll, and Hillel Berger for their photographic expertise. My thanks to all.

Introduction

The Mississippi Valley is a vast physiographic scar produced by the Mississippi River which, with its tributaries, drains the heart of the continent between the Rockies and the Appalachians. The geologic foundation of the Valley is not within the purview of this study; but on-going geologic formation is, and will be discussed in the appropriate sections. It need only be noted here that the Valley is the product of the River, and that, until man's very recent--and probably only temporary--containment, the River was a major force while carrying out its dynamic role. By its actions, the River was also responsible for the marvelous topographical and ecological diversity that made the Valley such a hospitable environment. It is predictable, then, that this great geographical feature was--as it still remains--central to the major development in man's occupation of the continent.

The Mississippi drainage system, and especially the Lower Mississippi Valley where it all came together, was truly the cradle of cultural development in eastern North America south of the Arctic. All the significant events of prehistory originated in the Valley and contiguous upland regions, or at least were well represented by local manifestations. Here, in microcosm, is the general trend of prehistory, for as the Father of Waters brought many streams together, so also the human phenomena were intermixed; the distillate of this admixture was to reach out at irregular intervals along the myriad fluvial branches, bringing about cultural florescences for great parts of the continent.

As early as 1926, Wissler pointed out the importance of the permissive nature of the environment--rather than determinative nature--as far as man is concerned. For man is unique among animals in that, by virtue of his culture,

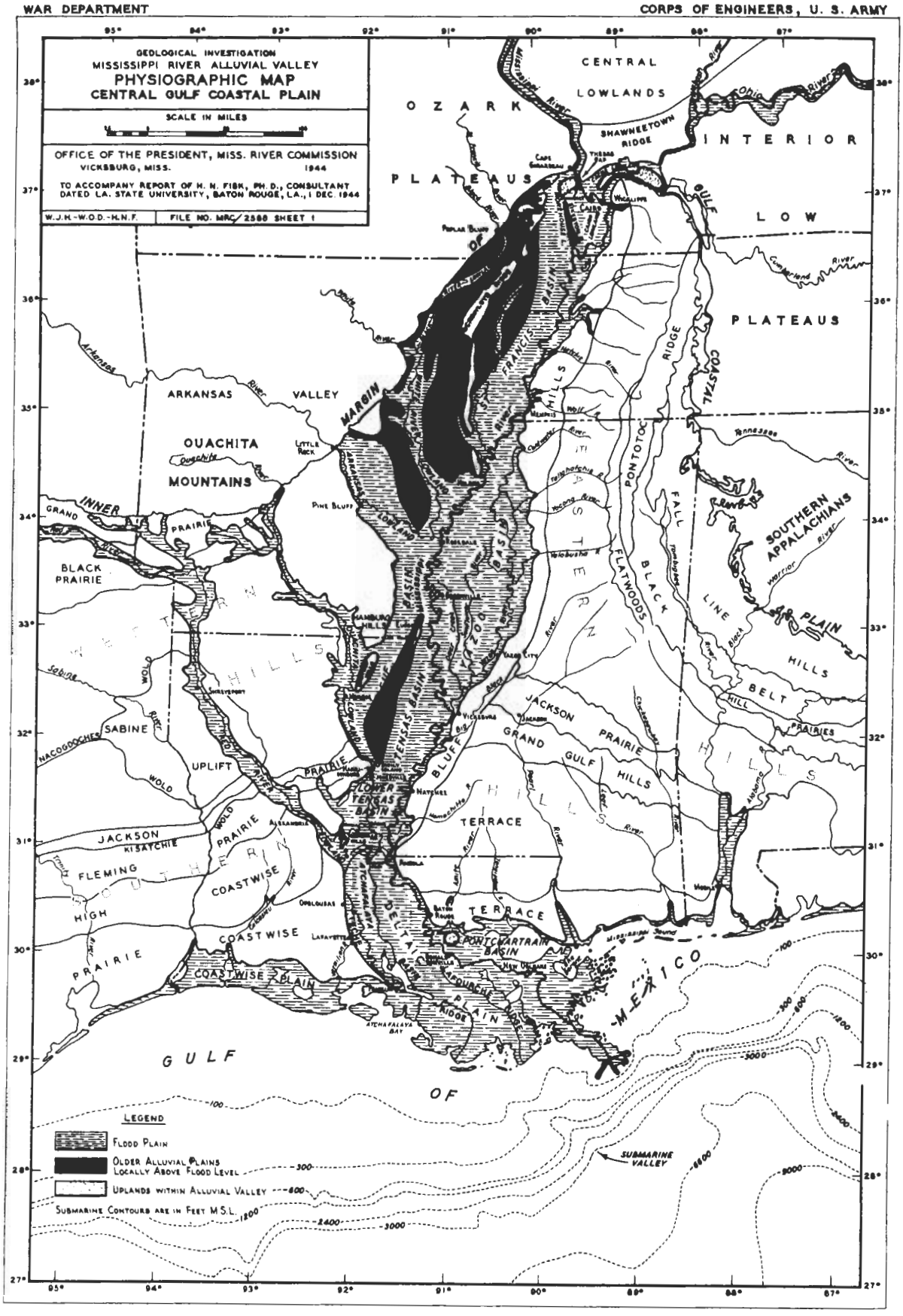

Figure 1. Physiographic map of the Lower Mississippi Alluvial Valley, from Fisk, 1944.

his own creation, he is the least dependent on his environment, and with the passage of time he has been able to modify or control it to an increasing extent. Nowhere is the developmental progression better defined in North America than in the Lower Mississippi Valley. Through the study of artifact complexes, and of settlement patterns in the context of their ecological niches, a picture of environmental adaptation in time and space is beginning to emerge.

At the present, our story is restricted to the post-glacial period of some 12,000 - 15,000 years. No demonstrably earlier remains have been found, nor are likely to be in a geologically young alluvial valley, most of the surfaces of which have been deposited during the Holocene. But during this period, considerable environmental change accompanying significant shifts in ecology may be observed. With these ecological changes we can trace concurrent cultural changes that allowed certain groups to occupy particular ecological niches. Thus, we shall see man coming upon the stage as a nomadic forager, slowly settling down to seasonal migration and then local transhumance in a restricted area, until finally he adopts a relatively sedentary way of life, the efficiency of which he continually refines through the innovation or introduction of new techniques.

In recognition of the general cultural development outlined above, I have adopted a schema proposed by Williams (1963, 1965): the following pages shall be presented in a tripartite format of "eras", designated Paleo-Indian, Meso-Indian, and Neo-Indian. Although there is an obvious developmental connotation in the proposed sequence and nomenclature, eras are not to be conceptualized merely as stages, in the conventional sense, for there is also an added temporal dimension. Eras then become the grossest sort of

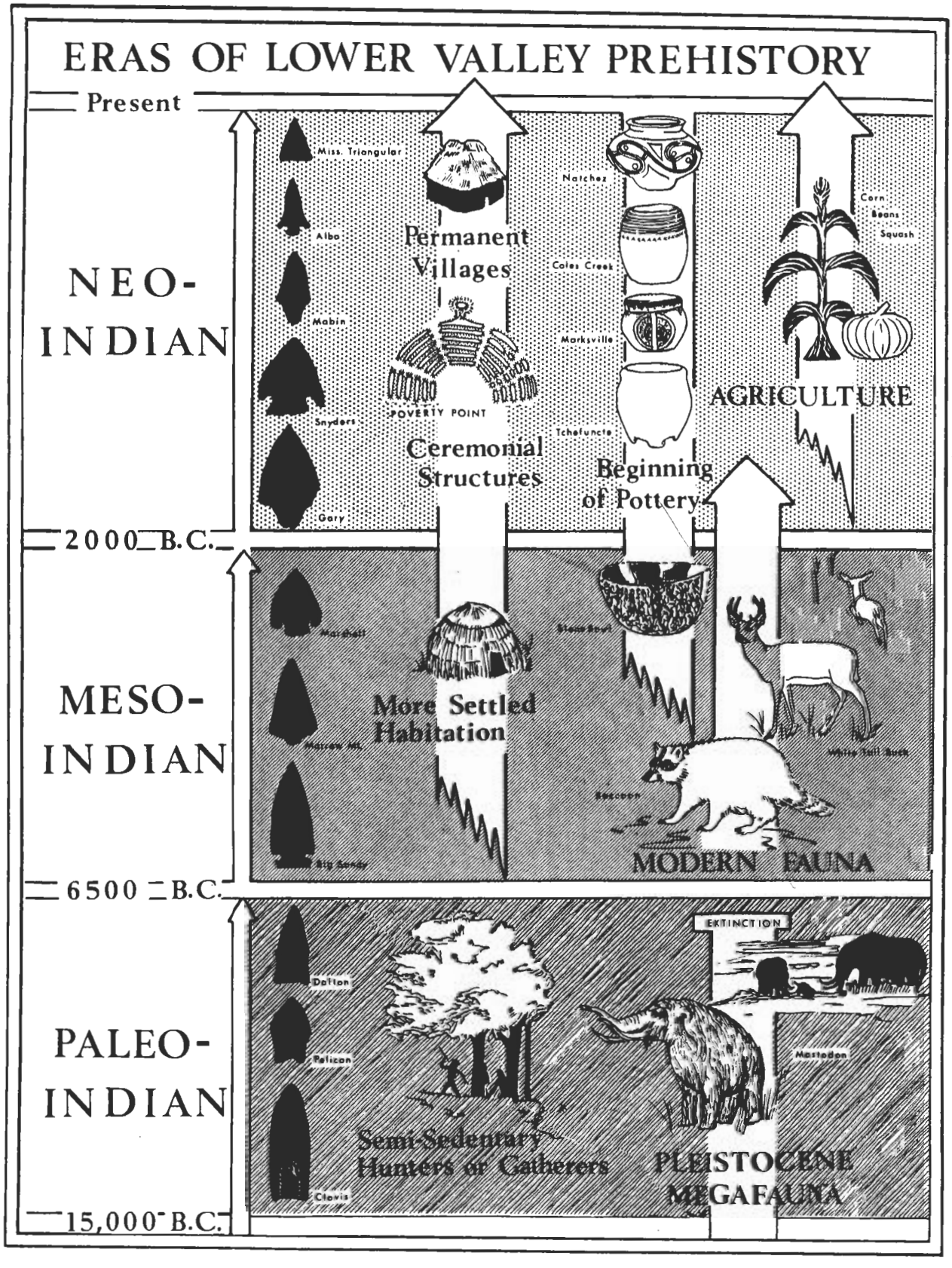

Figure 2. Prehistoric eras of the Lower Mississippi Alluvial Valley.

grouping--a useful heuristic device which facilitates the organization and presentation of the archaeological data. The coincidence of a gross developmental and chronolcgical scale is possible in this presentation because it is apparent that events at one end of the Valley directly influenced, or had their counterpart in, other parts of the Valley. Thus we experience the linear geography of the Valley which channeled, and through its river speeded, contact and communication.

Each of the eras is divided into strictly chronological "periods", which are appropriate units for the delineation and explication of cultural continuities and discontinuities through time. That is, they provide a convenient physical framework within which archaeological cultures can be synthesized and put into perspective on a broader scale. Phases of these cultures will be defined on a regional basis. However, because it will not be possible to delineate here all the phases of the cultures discussed, I have chosen to illustrate this story of prehistory with a single regional chronology--the one which is best known at the present state of our knowledge, and with which I have the greatest familiarity--that of the southern Yazoo Basin, at the approximate north-south center of the Valley. This sequence of phases, and the cultures (or cultural traditions)[1] they represent, is charted in Figure 3 opposite the developmental and chronological scale which will provide the framework for the following discussion.

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[1] Some of the developments, especially the earlier ones, would seem to have dimensions too great for the conventional concept of a "culture". Hence, we may think in terms of a number of unidentifiable contemporary or sequent cultures which share many of the same traits--thus, a "cultural tradition".

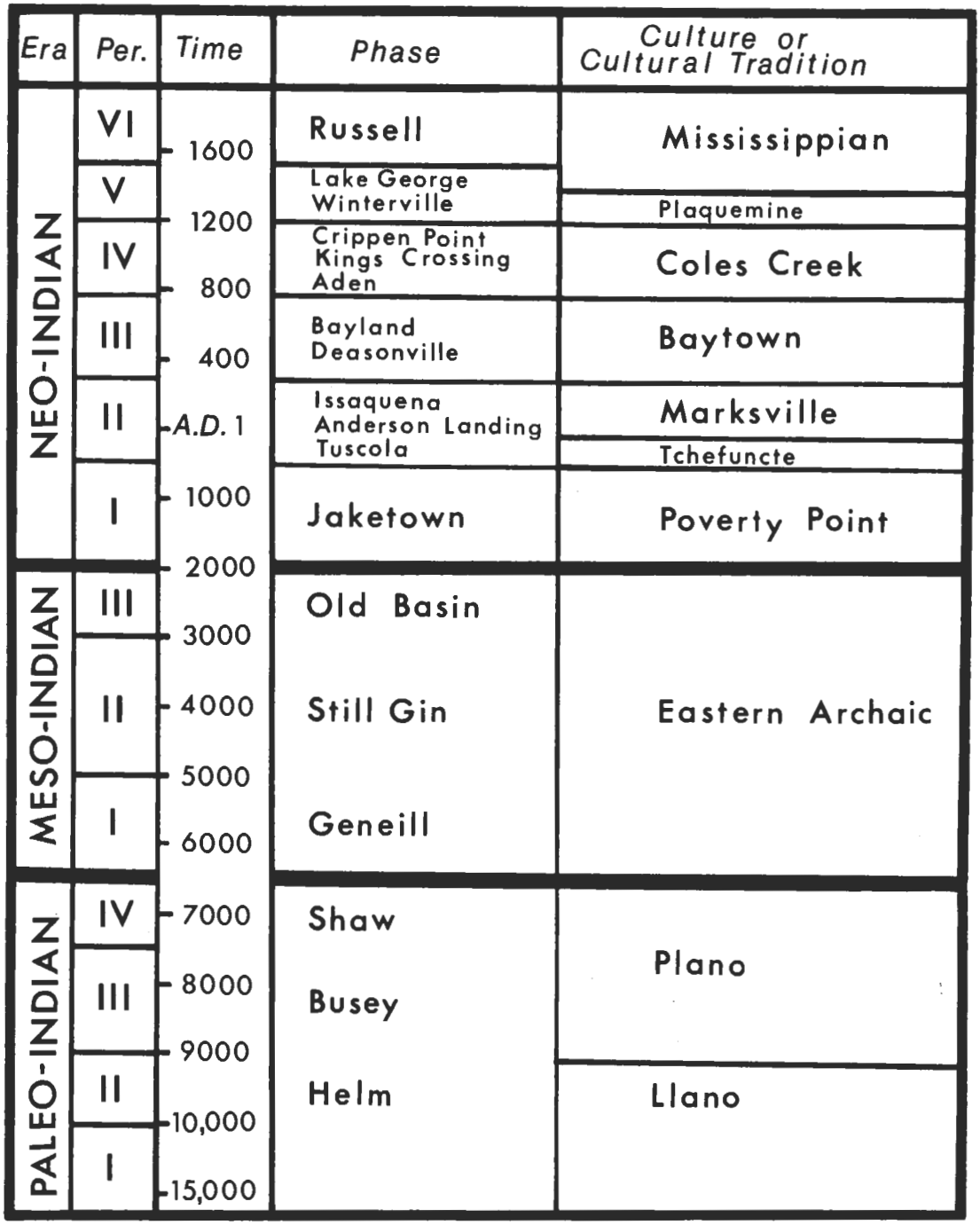

Figure 3. Regional chronology of the southern Yazoo Basin.

Paleo-Indian Era

Background

The lower end of our chronology is arbitrarily pegged at 15,000 B.C. This figure allows us to state the probability of man's presence in the New World by this time without the necessity of having to demonstrate either the fact or the exact event of entry.

Whether or not something on the order of a "Pre-Projectile Point stage" (Krieger 1964) ever existed remains to be substantiated as of this writing. Nevertheless, it appears from what little data are available that poorly defined hunting cultures may have entered the central part of North America--south of the continental glaciers--more than 30,000 years ago. If this was the case, these "first men" were possessed of a limited technology which has not yet been sufficiently defined for satisfactory identification, perhaps because it never developed to the point where distinctive characteristics can be easily identified.

Notwithstanding the possibility that man was already present, it now seems that the principal peopling of the New World took place during the period of post-Wisconsin deglaciation when both the Bering land bridge and the ice-free corridor through Canada were open simultaneously. This coincidence most likely occurred during the Two Creeks glacial retreat of 12,000 to 13,000 years ago, for it was soon thereafter that "something close to a population explosion occurred between 11,000 and 11,500 by mammoth hunters entering from Alaska and finding abundant, relatively untapped resources" (Haynes 1970). These hunters may have evolved their specialized skills from those of their Siberian forebears while they were living in the far north during the several millennia prior to their descent to the central part of the continent. This

would account for the sudden appearance of Clovis points of the Llano culture and the related tool kit, from no demonstrable local antecedents. The success of the Clovis hunters is attested by their rapid expansion throughout the entire continent south of the glaciers. This phenomenal dispersal occurred within a period of less than a millennium--clear evidence of the first American technological revolution.

The Lower Mississippi Valley

Until very recently, it was believed that the alluvial soils of the Mississippi Valley were of such recent deposition that evidence of man's occupation during the Paleo- and Meso-Indian eras could not be found. Such occupation was assumed (Phillips, Ford, and Griffin 1951: 429), but it was expected that those sites which river action had not destroyed would be too deeply buried ever to be recovered (Haag 1961). Thus, Valley prehistory was restricted to that period after standing sea level had been reached and the Mississippi had largely stopped aggrading (Phillips, Ford, and Griffin 1951: 295-296). Fisk (1944) assigned stages A through 20 to this period and estimated a duration of 6000 years, of which only the last 5000 years were thought to be archaeologically recoverable (Haag 1961: 322).

Recent geological and archaeological work has considerably changed the picture. In the Yazoo Basin, relict surfaces untouched by recent alluviation have been revealed which are far more than 5000 years old (Saucier and Kolb 1967). Archaeological finds dating back to the Paleo-Indian era have been found on these surfaces (Brain 1970a).

Even earlier surface deposits have been determined along the western margins of the Valley. Parts of the Western Lowlands in northeastern

Arkansas may date as far back as 35,000 years (Saucier 1968). Although much of the surface has been reworked by subsequent stream action, sites and artifacts pertaining to the Paleo-Indian era have been located both there and on more recent relict braided stream surfaces in the Eastern Lowlands (Redfield n.d.; Perino 1967; Morse 1969, 1970, and personal communication). These sites and artifacts are *in situ* on the floodplain. Although the evidence is as yet inconsiderable, enough has been retrieved to establish clearly an identity--in specific artifactual types as well as in general cultural pattern--with "early man" sites elsewhere across the continent (cf. Mason 1962; Williams and Stoltman 1965).

Period I (16,000 B.C. - 10,000 B.C.):

As elsewhere in the New World, this period is conjectural. There is not yet one shred of solid evidence to support the presence of man in the Valley at this time, and substantial proof of his existence anywhere will probably have to come from an area where geological conditions are more favorable for the preservation of further antiquity.

Period II (10,000 B.C. - 9,000 B.C.):

Period II commenced soon after 10,000 B.C. with the appearance of Clovis points and the cultural pattern that they would seem to represent (often referred to as the Llano culture--see Krieger 1964).

Considerable evidence of the coexistence of man and many species of Pleistocene megafauna has been accumulated in the Valley. Three of the most famous examples are: the possible relationship of an early tool complex and megafaunal remains at Avery Island, Louisiana (Gagliano 1964b, 1967a; Haag 1965), the apparent find of a human pelvis in a fossil-bearing stratum

near Natchez, Mississippi (Dickeson 1846; Wilson 1895: one of the earliest demonstrations of the antiquity of man in the Americas; Quimby 1956), and the association of stone tools and mastodon bones at Island 35 above Memphis, Tennessee (Williams 1957). It is reasonable to assume through these associations that man was also certainly hunting these large animals. If a catalogue of Pleistocene mammalian fossils found on a few gravel and sand bars in the bed of the Mississippi River during a one-year period in 1969-1970 is any indication, then the first Indians in the Valley must have fared quite well. Even in this very limited test 68 specimens were recorded and included *Mammut, Mammuthus, Megalonyx, Bison, Equus and Odcoileus* (Kaye 1970). The author had an opportunity to view some of these specimens in the Fall of 1970, and it was clear that they had not been far removed from their original location, as they showed no effects of water action or wear.

The artifactual evidence for this period is scanty, indeed, the only certain indicators being a number of Clovis points of the "Ross County" and "convex-parallel-sided" varieties (for typology see Purfer and Baby 1963: 12-18) which have been recorded for northeastern Arkansas (Morse 1969: 17) and a single "triangular" Clovis (Fig. 4 a-b) from the early, multi-component Helm site,[2] which is located on a relict braided surface in the Yazoo Basin. What other tools might be included in a Clovis complex is presently a matter of conjecture as no sites of this period have yet been excavated within the Valley; however, at other sites in the eastern United States, where these

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[2] Although premature, as the present evidence consists of only one artifact, a hypothetical Helm phase is suggested as the local Clovis (Llano) manifestation.

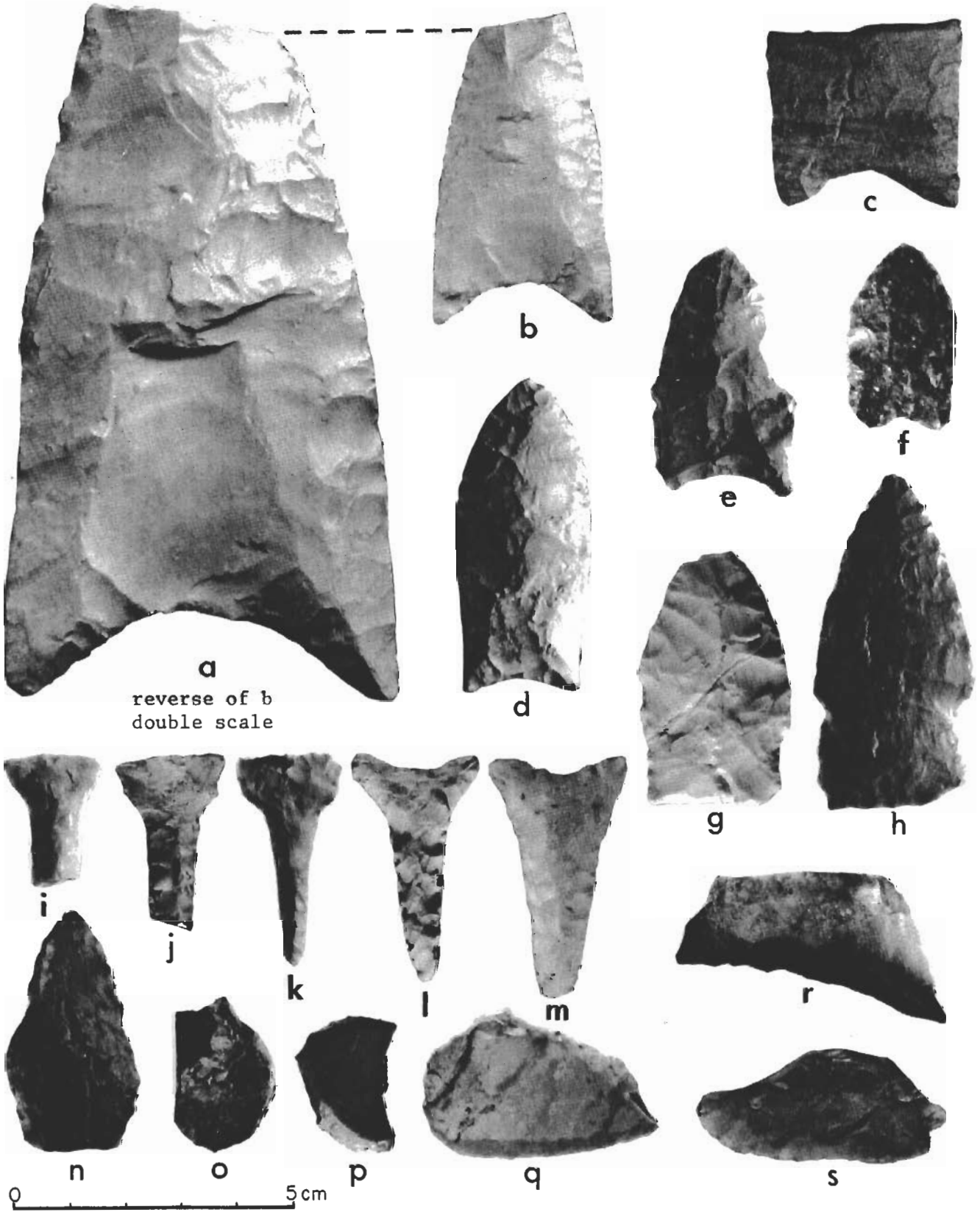

Figure 4. Paleo-Indian II and III lithic tool kit: a-b. "triangular" Clovis (Helm); c-d. Plainview (Townes, Carroll Kelley); e. Quad (Shaw); f. Midland (Busey); g-h. Scottsbluff (Geneill, Grace); i-m. drills (Helm, Carroll Kelley); n. knife (Helm); o-q. scrapers, all with graver points (Helm); r-s. flake knives (Helm, Busey). Provenience is parenthesized.

same varieties of Clovis points have been found, an associated flake-tool and blade industry has usually been present. Included are end scrapers, unifacial side scrapers, knives, blades, gravers, and other miscellaneous stone and bone tools.

A tool kit of the sort described above, well suited for killing and butchering wild game, was not only widespread at this period, but also was present throughout the later periods of this era. Clearly, it epitomizes a basic subsistence pattern, the manifestation of which may vary among diagnostic artifact types according to shifts in emphasis, but which shares a common industry specially adapted to hunting. That the large Pleistocene megafauna may well have been the prime--although certainly not the exclusive--targets of the Clovis hunters is suggested by the historical and cultural evidence, especially the Clovis points themselves, which, when mounted at the tip of a spear, would have been well suited to the thrusting and cutting dispatch of a large animal.

Period III (9000 B.C. - 7500 B.C.):

Although a temporal subdivision--here represented as Periods II and III--is probably justified, it is difficult to defend in cultural terms because of the absence of solid stratigraphic data. Nevertheless, the well established sequence in the western United States, and the local typological discontinuities require an effort at categorization. That the two groups of projectile point types assigned to Periods II and III may yet turn out to be contemporary rather than sequential is a definite possibility, but it is becoming increasingly evident that a time factor is involved, and that the true situation may have been one of overlapping popularities between the point types under consideration.

Period III may be guess-dated at ca. 9000 - 7500 B.C., an interval spanning the earliest and latest known Paleo-Indian manifestations in the Valley. As in Period II, the evidence is still meager. Nevertheless, a few points have turned up in the Yazoo Basin which are suggestive of forms intermediate to earlier and later types, while at the same time showing clear affinities to other established types outside the Valley.

The most interesting find, which may be attributed to the earlier part of the period, is a Folsomoid (Midland) point (Fig. 4f). This is the first known instance of a Folsom-related point east of the Mississippi. Also assigned to this period are a small number of points which may be typed as Plainview, Scottsbluff and Quad (Brain 1970a: Fig. 1), as well as some fine, but untypable, fragments of large lanceolate points. (All points come from multicomponent sites or are isolated surface finds. The Midland is one of the few artifacts--all early--from the Busey site in central Yazoo Basin.) As elsewhere on the continent, then, a diversity of point types is apparent, but continuity is also evident. The diversity was probably the result of regional variation occurring after the Clovis dispersal. While the established types have different, although somewhat overlapping, distributions--Folsom, Plainview and Scottsbluff are western types and Quad is eastern--it is appropriate that they should all come together in the Mississippi Valley.

In terms of temporal continuity, there is an obvious formal relationship between the Folsomoid type of point, and the Quads which probably occur at the very end of the period. The Quads are definitely native products as they are made from local cherts. Thus, here was the beginning of the local lithic tradition which was to dominate Period IV. The Scottsbluffs,

however, were certainly an import, probably representing the introduction of new peoples from the west. The material is a very fine-grained tan or cream chert from some distant source (perhaps Texas, as suggested by Gagliano and Gregory 1965b: 3). The form and workmanship is equally foreign. With these points, also, a new lithic tradition began which was to carry over into the concluding period of this era. The dichotomy between the Folsom-Quad and the Scottsbluff traditions is strong, and it is my belief--unsubstantiated at present--that it was cultural rather than temporal. In other words, contemporary cultural differentiation was already occurring within the general cultural tradition, here identified as Plano (Krieger 1964)[3]. This theme will be elaborated further in the discussion of Period IV where the evidence is more plentiful.

In the face of such diversity, it may seem inconsistent to assume that the same basic flake and blade industry accompanied all of these point, but I do not believe that a major change in subsistence pattern occurred. However, this is mere conjecture until the exact complement of the tool kit has been determined.

Period IV (7500 B.C. - 6500 B.C.):

Period IV is chronologically pegged at ca. 7500-6500 B.C. The inclusion of this interval in the Paleo-Indian era is a moot point, although it is quite defensible on typological grounds. Despite the variation which will be presented, the artifacts were clearly derived from the lithic traditions

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[3] When more is known, it may be necessary to distinguish at least two cultural phases on the basis of these two different lithic traditions. For the time being, however, it suits our purposes to assign all the available data from this period in the Yazoo Basin to an ephemeral Busey phase of the Plano cultural tradition.

of the earlier Paleo-Indian periods. However, this factor of continuity in a limited cultural sphere alone is not enough justification for inclusion since it shall become apparent that continuity of this sort is demonstrable between each of the eras as well. Thus, it is necessary to add that the decision was reached on the basis of distributional and associational data also. The sites which had material assignable to this period often had artifacts from the earlier periods, so that it would seem that while a certain evolution in artifact forms occurred, the basic pattern of life remained relatively constant. Although some of these same sites also occasionally produce artifacts assignable to later eras, there is a clear break (insofar as the present data reveal) in the overall distributions of the artifact types involved.

In this period, no less than during the preceding ones, the Paleo-Indian tradition is clearly evident in the presence of a superb lithic technology, which is often manifested in the selection of "foreign" or "exotic" materials. Also characteristic is the superior workmanship of the projectile points, as exemplified by the fine pressure flaking, retouching, basal grinding and thinning. Many points are "fluted", but this more often consists of multiple small flakes than one large one. There is a great variety in forms, yet even here there is an obvious relationship between categories (another way of saying that all are derivable from the same antecedents).

The points consistently associated, and therefore attributable to this period, are such well-known types as the classic concave-based Dalton and its late varieties, San Patrice (Gagliano and Gregory 1965a, their

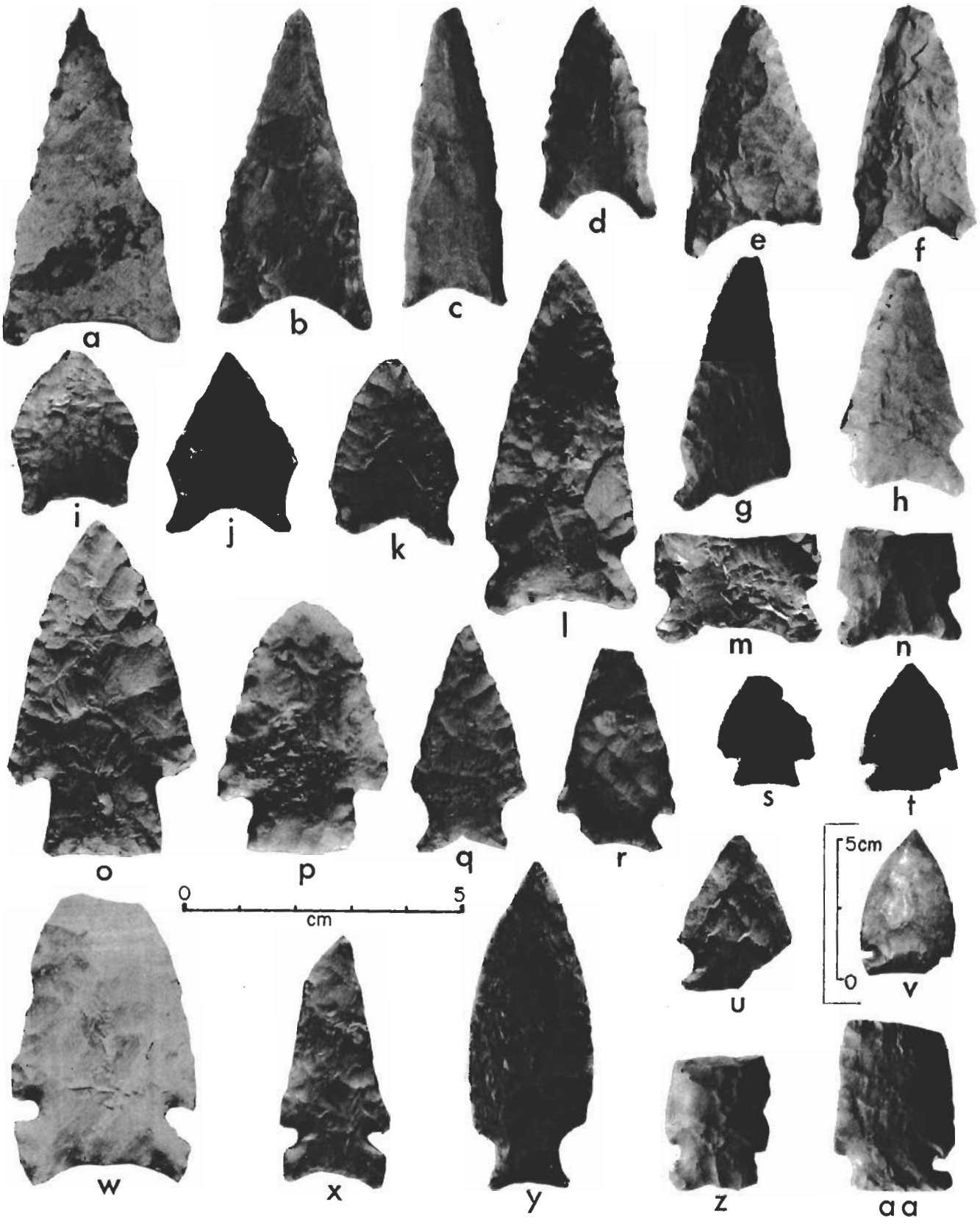

Figure 5. Paleo-Indian IV projectile points: a-d. Dalton, var. Dalton (Helm, Shaw); e-h, l-n. Dalton, var. Carl (Shaw, Croudip Lake, Helm, Cypress Thicket); i-k. Dalton, var. San Patrice (Geneill); o-p. Hardin (Helm); q-u. Geneill (Geneill, Helm); v-w. Cache River (Helm, Cypress Thicket); x. Big Sandy (Geneill); y. unclassified "fish tail" (Helm); z-aa. unclassified fine side-notched (Geneill). Provenience is parenthesized.

variety 'hope') and Carl (Redfield n.d.: 74-76; Gagliano and Gregory's San Patrice variety 'st. john'[4]); the square-based Hardin,[5] which is probably a lineal descendant of the Scottsbluff (Perino in Redfield n.d.: 103; Lucherhand 1970: 9); and a number of side- and corner-notched forms, including the Cache River (also known as Kessel (Broyles 1969[6])), Big Sandy. Geneill (a new type[7]), and some other unclassified, but related, forms. The latter types seem to occur at the very end of the period, and continue into the beginning of the Meso-Indian era. The contemporaneity of the older traditions with this new one at this approximate time horizon has also been suggested by Rolingson and Schwartz (1966: 122). The Cache River and Big Sandy were certainly imports into the Valley from the east, while the Dalton varieties and Hardin represent the local traditions in the south and north respectively. These distributions may be interpreted as reflecting native groups, as well as the periodic introduction of new items into the Valley, with or without the movements of new peoples. It will probably be desirable

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[4]I have followed Gagliano and Gregory's (1965a) lead in introducing type-varieties, but consider that both should be later varieties of Dalton. The relationship of the Hardaway, which the Carl closely resembles, is a moot point, but I would tentatively suggest that it should also be made a variety of Dalton, the latter being the diagnostic type of this period. The Pelican should also probably figure here as a Louisiana variety of the type.

[5]Once thought to have been much later (e.g., Bell 1960; Redfield 1966), the latest consensus is that it belongs to this period (Morse 1969: 18; Redfield n.d.: 103; Redfield and Moselage 1970: 34). Certainly, the associated data indicates this; nor the points illustrated in Figure 5 came from three of the prime Period III and IV sites in the Yazoo Basin.

[6]A carbon 14 date of 7900±500 B.C. was recorded for a hearth with which these points were associated at the St. Albans site.

[7]First recognized at the Geneill site, a Period III-IV site in the Yazoo Basin, this point is characterized by its small size, slightly concave base, delicate flaking, basal thinning, and corner-notching. This point represents the very end of the Paleo-Indian lithic tradition, and chronologically may well continue into the Meso-Indian era.

eventually to group these distinctions into discrete cultural phases, but we do not yet have the necessary distributional data to do so. As a small start, however, phases initially defined by points of the Dalton type may be tentatively recognized for southeast Missouri (the Bloomfield Ridge phase, Williams 1954) and for the Yazoo Basin (the Shaw phase, Brain 1970a).

In discussing the artifacts assignable to this period, it is at last possible to consider the total lithic artifactual assembalge in addition to the projectile points. Since these tools are recognized as Paleo-Indian forms, the same basic assemblage has been hypothecated for the earlier periods; now, however, we have a certain association.

While there is considerable evidence that the points were often reworked and used as knives, scrapers, gravers, or drills, the tools were also manufactured as specific types. In addition to the drills, which are similar to the points in manufacture, there are many forms of unifacial tools. These were made from flakes or true blades which were then gracefully retouched and made into knives and scrapers. To many of the latter, especially the smaller and scrapers which were probably hafted, were also added extra graver points. Rough, bifacially flaked tools are also known from contemporary sites in northeast Arkansas, such as the Lace Place (Redfield and Moselage 1970). These tools may be indicative of other aspects of the lifeway which are not yet fully understood.

The large number of artifacts from this period which are beginning to turn up on the old braided stream surfaces suggest that there must have been an increase in population. The tool kit, although showing variety in forms, was really composed of only a few functional types, and those clearly intended for killing and butchering game. Whatever other food resources

may have been utilized, the tool kit had not yet been adapted to exploit them. Game was obviously the principal subsistence base, especially the larger forms, including any survivals of the Pleistocene megafauna.[8] Essentially, however, the mammalian fauna was completely comparable to today's, and these same species were certainly plentiful enough to have provided the basic sustenance for an increase in population then (Haag 1965: 281). The evidence at hand definitely suggests that by this time deer were the prime target (Webb 1965: 6; Morse 1970; Luchterhand 1970: 42). The smaller game may be reflected in the smaller average size of the point types of this period (e.g., the San Patrice variety of Dalton, and the Geneill), as well as the greater number of sites which probably functioned as temporary hunting camps.[9]

Summary

It now appears that man first entered the Lower Mississippi Valley as the contemporary of the late Pleistocene mammalian fauna, which included the horse, ground sloth, mastodon, mammoth, and a number of now-extinct bison. It is probable that climatic conditions were such at that time that a prairie environment conducive to such forms of life bordered the Valley and covered much of the continent.

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[8]Mastodons, at least, are believed to have survived this late (Morse 1969; Williams 1957, note that the point associated with the Island 35 mastodon bears a certain similarity to a Hardin, although it is impossible to so type it without the base).

[9]In 1965, Perino (p. 19) mentioned a figure of "60 Dalton sites" for the Western Lowlands of Arkansas, and in 1970 Redfield and Moselage (Fig. 3) plotted some 49 in a 100-square-mile area alone, of this same region. I personally know of at least a dozen such sites along the banks of fossil streams in the Yazoo Basin, and these without even the benefit of an intensive survey.

Thus, as the game was far ranging, so was the hunter, and this is reflected in the remarkable homogeneity of artifactual remains from one end of the continent to the other. This distribution is especially the case with the earliest, and most widespread, diagnostic artifact--the Clovis point. The rapid and wide spread of the Clovis argues that it was introduced by the first immigrants to the continent, but in any case it is a testimonial to the effectiveness of this tool and its associated technology (the Llano cultural tradition).

The bearer of the Clovis point was a nomadic hunter and forager; he probably traveled in small bands following in the wake of the large herds of mammalian megafauna, and cooperated in cutting out, surrounding and spearing a beast when the need arose. The lack of occupation sites belonging to this period, as well as the scattered pattern of small numbers of artifacts, is clearly suggestive of this casual way of life.

Following the Clovis dispersal, there is some indication of an increase in population and a change in subsistence activities, perhaps concomitant with a change in climate and availability of prey. Whatever the case, while still nomadic, the hunters were not quite as wide ranging, and a certain regionalization is evident in the assemblages of projectile point types. For all of these--loosely grouped here under the general concept of the Plano cultural tradition--the Clovis served as the prototype, and thus there were such similar variations as the Folsom in the west and the Quad, followed by the Dalton, in the east. The Plainview, or unfluted Clovis, may well have served as an inspiration for the Scottsbluff-Hardin tradition. And both the restricted base of the Dalton (the tail end of the fluted tradition) and the fine flaking of the Scottsbluff tradition

may have combined to give rise to the fine side- and corner-notched points which terminate the Paleo-Indian era. All of these point types were still very widespread, but did not share the same distributions. Therefore, it is significant that by fusing eastern and western lithic traditions the Valley was already assuming its unique position in North American history.

In consideration of the overall typological homogeneity, the wide distributions, and the variability of men's skills, it is logical to assume that there were localized areas of tool production outside the Valley where choice materials were available, and that finished tools were made and imported into the Valley (Gagliano and Gregory 1965: 4). The mechanism of exchange may have been some sort of barter between small shifting populations who were constantly upgrading their tool kits. The only other possibility is that these people were all extraordinary craftsmen who either ranged afar from a central point or kept very close contacts with prime petrologic areas.

But there is also additional evidence of the development of local traditions, utilizing Valley materials, which indicates that, while wide-ranging wandering may have been the case in the earlier periods, a trend towards localization--perhaps even a kind of territoriality--was beginning to take hold by the end of the era. Thus, the concluding period was a time of transition, as the old traditions became attenuated and replaced by the new, so that by its close a new era had begun.

In line with the artifactual changes, it is also clear that by the concluding period of the era a slowly changing hunting culture began a certain shift from dependence on Pleistocene megafauna to the hunting of smaller game, such as the deer that began to thrive and multiply in

an environmental setting which was changing from prairie to woodland conditions. This smaller game was not as far ranging as the larger forms and, in fact, tended towards seasonal migrations in established regions. By the end of the era, then, the pattern of life would have changed to one of random migration, wherein small bands of Indians followed one herd or another, occasionally switching targets, or exploiting in accordance with availability. The concentration on migratory animals meant that the early "Valley man" was not yet a full-time citizen of the Valley as he would only have visited it seasonally; it also meant that since established routes were followed there was a greater possibility that the same sites were used repeatedly as butchering stations or temporary camp sites. So it is that sites are available for the terminal periods of the era, although attempts to find actual occupation levels have not yet been very successful.

The commitment to this new way of life was settled with the disappearance of the Pleistocene megafauna at the close of the era. Whether man was responsible, or the climate, the change in the environment made up the difference through the regional increase of smaller life forms. The resultant cultural specialization along lines of regional exploitation tells the story of the Meso-Indian era.

The Meso-Indian Era

Background

At the present state of our knowledge, the Meso-Indian is the most poorly documented era in the Lower Mississippi Valley. The lack of information is an accident of research rather than a fact. (I have seen amateurs

collections which contain large numbers of artifacts which can only date from this era on typological grounds.) Until the last decade, almost all scholarly attention was focused on the Neo-Indian era, largely because of the belief that the surface of the Valley floor was too young geologically to bear significant evidence of earlier occupations. Then, when this was found not to be the case, efforts were directed towards establishing the Paleo-Indian presence within the Valley. Thus, to date few important contributions have been made towards an understanding of the intervening era.

The Lower Mississippi Valley

The lack of data for the Meso-Indian occupation of the Lower Mississippi Valley does not mean that we can not make a hypothetical reconstruction of the artifactual assemblages and patterns of life that may have characterized some 4500 years of prehistory. Extrapolating from what we know of the Paleo- and Neo-Indian eras within the Valley, and from what we know of contemporary developments outside the Valley, we may make some assumptions about the Meso-Indian era and the Valley. There are scattered surface finds of artifacts to reinforce these assumptions.

Probably because our lack of knowledge has distorted the picture, the Meso-Indian era is looked upon as a time (albeit lengthy) of major transition. Thus, the following presentation shall be framed in a somewhat arbitrary three part division which recognizes, first, a carryover from the Paleo-Indian era, followed by a settling-in period, which then led to a regional florescence; the latter in turn setting the stage for the primary developments of the Neo-Indian era. Although our sketchy knowledge does

not truly warrant such a superstructure, it is theoretically defensible. It is to be hoped that future research will arrive at a more substantial structure, but for now this hypothetical outline will serve the purpose of presentation.

Period I (6000 B.C. - 5000 B.C.):

By approximately 6500 B.C. most of the Pleistocene megafauna had become extinct so that whatever position they may have held in earlier exploitation patterns ceased to exist. That this extinction coincided with a major climatic change may be no accident. The shift to the warmer period of the Hypsithermal brought about the growth of woodlands and the multiplication of smaller faunal forms at the expense of the larger ones. Although his predecessors had certainly not ignored these small animals, the Meso-Indian now turned his full attention upon them and developed appropriate exploitation patterns, many of which were so successful that they survived in some form well into (and in some cases throughout) the Neo-Indian era.

The success of the basic subsistence pattern brought about a more settled, although by no means sedentary, way of life. Bands, probably composed of related families, followed a seasonal round, exploiting one food source after another as each reached its maturation peak or was otherwise plentiful. With the greater dependability of food supply, a selection of food sources could be made, and each selection brought about a greater degree of adaptive specialization. As these small groups became more familiar with their region of exploitation, their annual transhumance became more rigidly established in a set pattern, and the area--as well as the food resources it contained--far more restricted. Thus, there would

have been a tendency to select the same locations each year for the temporary camp sites, especially in the Valley floodplain, where the coincidence of dry land, fresh water, and a natural food source would not have been a frequent occurrence. "Established" sites are evident, and they seem to have been situated along the shores of many of the same braided streams that the Paleo-Indians had favored, although there was certainly a much wider distribution, especially along the younger channels. That these were only seasonal occupations is indicated by the presence of the same artifacts at sites back in the hills as well as on the floodplain.

At this point, only a very few diagnostic artifacts have been recognized for this period, and we certainly do not yet have even the entire lithic tool kit. The latter probably changed in composition throughout the year anyway, as different subsistence activities were pursued. The flexibility of the tool kit would have been a prerequisite to the successful exploitation of restricted, yet diverse, ecological zones. Nevertheless, several basic tool types, particularly projectile points, were always present.

The fluted point tradition had finally died out at the end of the Paleo-Indian era[10], and this fact is a major artifactual criterion in distinguishing these eras[11]. Although the tradition and the way of life

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[10]This is a general rule, and like most such rules there are exceptions. Sometimes, fluting does seem to occur on occasional artifacts which on the basis of form, manufacture, and associations must date from this era. Whether this is a conscious holdover, or an accident of manufacture, remains to be determined.

[11]Here is an example where events outside the Valley help. The break appears to be demonstrated at the Yadkin River in North Carolina (Coe 1964), and at Stanfield-Worley (DeJarnette et al. 1962) and Russell Cave (Griffin 1964) in Alabama. However, it must also be noted in Kentucky this same break is glossed over in favor of the strong elements of continuity (Rolingson and Schwartz 1964; 1966).

it represented were no more, a certain continuity in the lithic technology is evident. For example, square-based points made of exotic materials continued to be made in the same general Scottsbluff-Hardin tradition, although some deterioration in craftsmanship is evident (Fig. 6 d-e). Some of these points may be classified as a local variety of the Kirk point, but without the serrations (Gagliano 1967b; Broyles 1969)[12]. Also present, in addition to the Big Sandy and Geneill points[13], were various side- and corner-notched points which bear a formal resemblance to earlier Paleo-Indian prototypes, but which are sufficiently inferior in quality of workmanship to consider them entirely different. This overall deterioration in lithic technology was equally marked in all artifact categories, so that while the same basic tool kit may have been present--although with greater emphasis upon bifacial rather than unifacial tools--the individual specimens are recognizably different.

However, lest the impression of overall cultural devolution is erroneously given, I hasten to emphasize that we do not have the entire tool kit. It is probable that other materials of a perishable nature, such as wood and bone, absorbed much of the creative energies of these peoples. Whatever the case, a poorly flaked point pierces about as well as a finely flaked one; and no matter what the actual composition of the tool kit might

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[12]Broyles has a carbon 14 date as early as 6980±160 B.C. for this point, but it is obviously a long-lived type that probably reached its peak in this initial period of the Meso-Indian era. Kirk points are dated at 6200 in Russell Cave, Alabama, between 6000-5000 in North Carolina, and at about 5000 B.C. in western Tennessee (Rolingson and Schwartz 1966: 153).

[13]Although originating at the conclusion of the Paleo-Indian era, these types probably reached their peak of popularity during this period, even though the quality of workmanship decreased while the variety increased. These are the "various side- and corner-notched points." In the Yazoo Basin, I have lumped all of these together and made them diagnostics of the Geneill phase, vaguely related to a generalized "Eastern Archaic" cultural tradition.

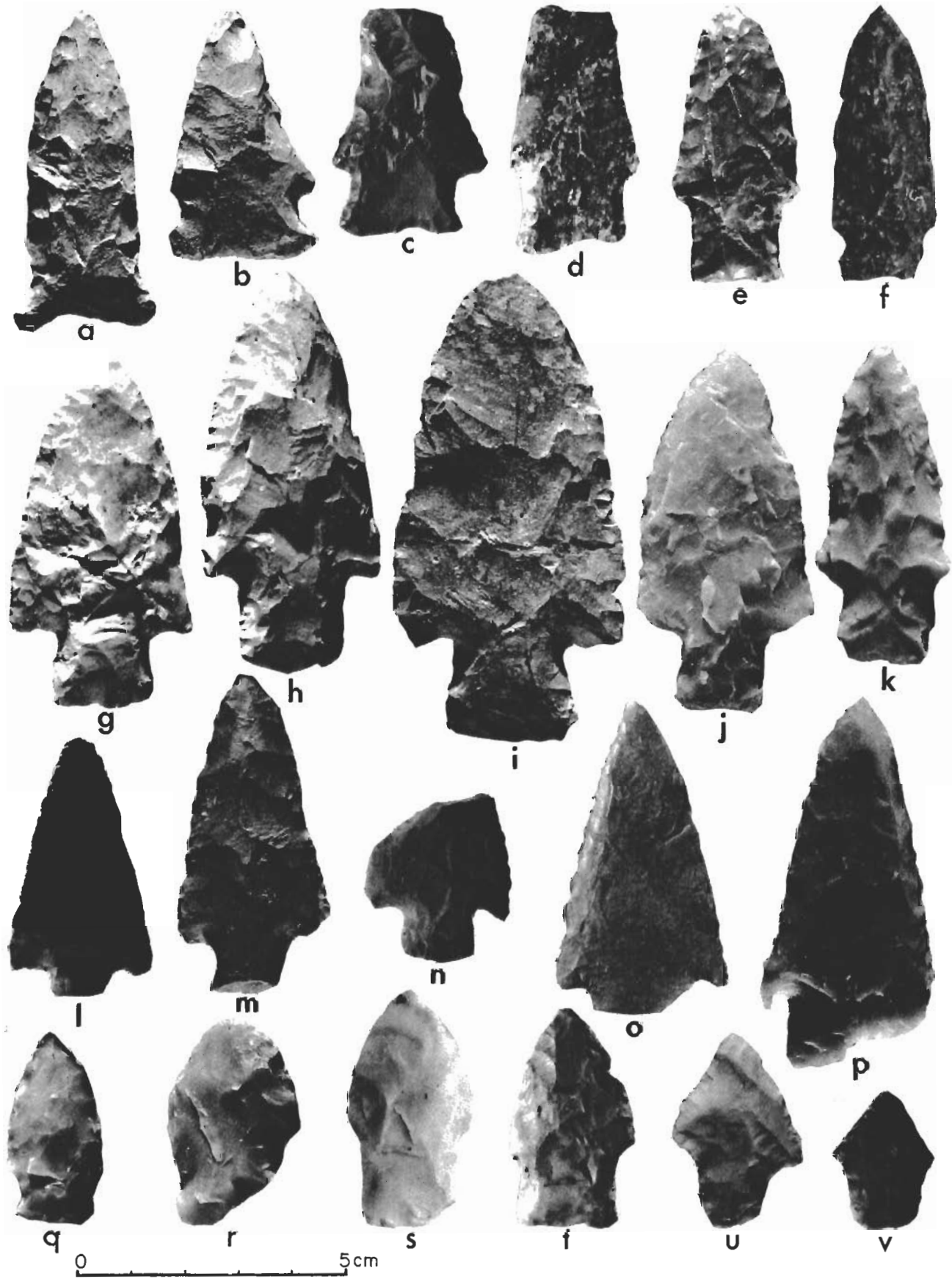

Figure 6. Meso-Indian projectile points: a-i. various unclassified Period I and II points (Helm, Cypress Thicket, Bear Lake); j-k. Kent (Helm); l-o. Delhi (Helm, Geneill, Cypress Thicket); p. unclassified tanged (Carroll Kelley); q-r. Elam (Helm); s-v. Carrollton (Helm, Busey, Geneill, Cypress Thicket). Provenience is parenthesized.

have been, it is clear that it was sufficient to bring about major advances in the exploitation of available food resources, if the growth of population, already documented in contiguous upland areas is any indication. (Lewis and Kneberg 1959; Lewis and Lewis 1961; McNutt and Graham 1965; Rolingson and Schwartz 1966; Morse 1969).

Period II (5000 B.C. - 3000 B.C.):

A dateline at approximately 5000 B.C. for the separation of Periods I and II is a frankly arbitrary one for the purposes of this presentation. It does correspond, however, with two major environmental events. First, there was the general ameliorative trend to the warmer and drier climate of the Altithermal (dated ca. 5000-2500 B.C.). Even more important in a purely local sense was the approach of the modern standing sea level; it is entirely possible that because of the attendant lessening of the alluvial gradient the Mississippi-Ohio River system had already shifted to a meandering pattern at this time (at least in part--see Saucier 1968: 75, and Fig. 4c). If that was the case, then major adaptive changes must have ensued. Although it cannot be documented at this writing, it is hypothesized that a more localized adaptation occurred--one that was more closely attuned to the benefices, as well as drawbacks, of a major riverine environment. The changes would not have been dramatic, nor even immediate; in fact, it must have been a cumulative process of small commitments made throughout the entire period. The local zones of exploitation probably remained much the same, although the actual areas may have become more restricted as subtle shifts in subsistence activities became more productive. The latter may have been due, in part, to the technological innovation discussed below.

Artifactually, the impression is one of overwhelming continuity from antecedent forms, although with greater variety evident. The basic lithic tool kit still included unifaces, but bifaces were far more common. The tools themselves were generally larger and more suited to working forest products. Besides knives, scrapers, and drills already in use, were added choppers, axes, adzes, and sharply bevelled side scrapers. They were not especially well made, but their variety made them effective. That they were mostly made from the coarse-grained chert cobbles available in the Valley is a further indication of the local orientation that was being adopted.

Even the projectile points were crude and coarse, and made of local materials. Unprepossessing square-stemmed and corner-notched forms predominated carrying on the general tradition of the Kirk point (Fig. 6g-i); yet the unexciting appearance of these points may be misleading. There is every indication that they averaged slightly larger in size than before, and it is possible that this was a direct function of an innovation--an innovation which may have been responsible for a significant increase in production, even from a smaller sphere of exploitation. It is at this time that certain evidence of the atlatl, or spear thrower, is found in the southeastern United States (Williams and Stoltman 1965: 679), and there are weights for such mechanisms from sites in the Lower Mississippi Valley.[14]

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[14]The Still Gin site produced the two weights shown in Figure 7q-r and has given its name to the phase into which I have summarily lumped all artifacts attributable to this period in the Yazoo Basin.

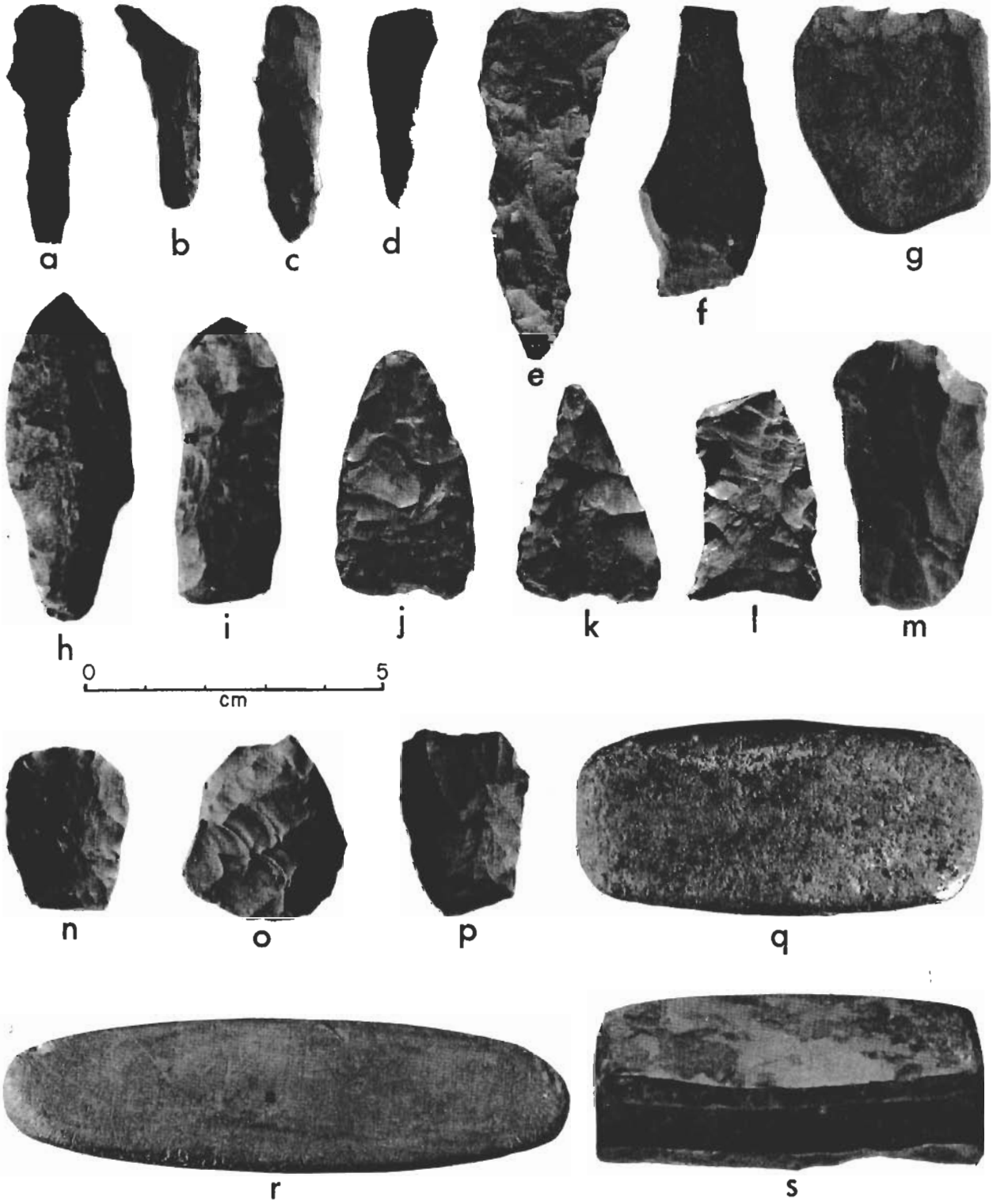

Figure 7. Partial Meso-Indian tool kit (Geneill, Helm, Cypress Thickett, and Still Gin): a-f. drills; g. chopper; h-l. knives; m-p. scrapers, q-s. atlatl weights. Provenience is parenthesized.

The spear thrower was a mechanical device that lengthened the throwing arc of the hunter and ao increased the range and velocity of his weapon.[15] The weights provided an extra impetus. Such a device was a major technical innovation which had the potential of bringing about an economic revolution. To say that it did is a different matter, of course, and it is probable that at the time of its introduction the assimilation was gradual. Nevertheless, whereas before it was necessary for a group of hunters to stalk, surround, and dangerously spear a cornered animal, or follow an even more complicated routine, it was now possible for a smaller number--even individual hunters--to wait in ambush and then spring after their prey with telling effect (Caldwell 1965: 67). Such a mode of attack would have depended upon intimate knowledge of a limited area, so that here again is evidence of a localized adaptation--one that was possible through a profound shift in patterns of exploitation.[16]

As a final technological point, the atlatl weights also represent an innovation in lithic manufacture. (It is perfectly possible that this "innovation" has greater antiquity, but its first appearance in the Valley

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[15]I have personally seen untipped shafts pierce a piece of 1" plywood from a distance of 20 paces. The effectiveness of the atlatl is testified to by the fact that it was still a major component of the armament of the Aztec warrior at the time of Cortez.

[16]It must be noted that this is an example of blatant speculation (I would prefer to say educated guess). But if it bears any semblance to reality, it is also an example of the futility of the prehistorian's concern with formal continuities in individual artifact classes. There are chronological, and perhaps genetic, implications to be sure, but, while the forms may be the same, the functions--the way of life they represent--may be entirely different. And, after all, this is what we are ultimately striving to predict.

can only be documented for this period at present writing.) They belong to the category of artifacts known as "ground stone." The production of stone artifacts through a process of pecking to approximate shape and grinding to final form is distinctly different from a flaking technique. A drastic departure, it represents more than a new technique. It is a differential approach to different materials. Sandstone, limestone, quartzite and many igneous rocks do not lend themselves to the flaking techniques of the old traditions. Stone grinding, then, represents a major change in tool production. There is no reason why a ground atlatl weight would perform better than a chipped one. This must be a technique, therefore, which was introduced with the mechanical innovation, and continued, perhaps, because of some unwillingness to tamper with effectiveness. (This is sometimes cast in the role of the supernatural.) In any case, the technique carried over to other artifact categories, such as axes and pestles, possibly because there was indeed an improvement in performance in those cases.

The way of life of the Meso-Indian peoples at this period was undoubtedly effective. They had the advantage of familiarity with the area, as well as certain mechanical and technological innovations. It was a period of settling into what has been labelled "primary forest efficiency" (Caldwell 1958, 1965), a way of life being developed throughout the entire eastern United States at the time (and here subsumed under the concept of an Eastern Archaic cultural tradition). But at the same time, there was the adoption of a local emphasis in the Valley which was to become apparent during the next period.

Period III (3000 B.C. - 2000 B.C.):

The millennium which began approximately 5000 years ago was an extremely important period in the development of the culture history of North America, and especially of the Lower Mississippi Valley. By 3000 B.C., the entire Mississippi-Ohio River system had definitely settled into a meandering hydraulic pattern. This fact, alone, is of great significance because it established the environmental setting that was to play such an important role in developments characterizing the later prehistory of the Valley, and which in turn influenced so large a part of the continent. It was during this terminal period of the Meso-Indian era that the stage was set for the future.

In general, the Valley cultures of this period still showed a basic similarity to others in the southeastern and midwestern United States (the "Eastern Archaic" cultural tradition), yet a distinct difference in orientation of settlement and subsistence began to appear--a greater specialization, or localized adaptation, which was to go beyond "primary forest efficiency" to what might be termed "maximum riverine efficiency." The economic adjustment implied by this concept is so important that it must be emphasized: man was finally at home in his environment. He was utilizing the local natural resources to the fullest. This is not to say that he was using all possible resources, which he had probably already explored, but those which had the greatest potential. This maximization of the natural resources was concentrated on the single greatest ecological asset in the Valley, the riverine zone. Other ecological zones were certainly not ignored, however, and it is obvious that a relatively stable lifeway was achieved from diverse resources. In extracting the maximum potential from

his natural environment man demonstrated his ability to adapt, and, in the grossest developmental terms, this is the last time that man accepted his natural environment so equably.

The life-style of this period has been characterized as a simple, unfettered way of life (Haag 1965), and this characterization is accurate in the general terms discussed above. Yet, as such characterizations tend to be, this is a pale image of the reality which we are given to exhume. Fortunately, recently gathered data makes it possible to give some substance to this shadowy picture. Our knowledge is still spotty, and we must rely on widely spaced bits of information. But, for all that, a reasonably coherent picture is beginning to form.

It has already been suggested that by the advent of this period semi-permanent seasonal settlements had been established in the Valley, and that, while the people were not sedentary in a year-round sense, they were leading a reasonably successful (i.e., secure) life. In this respect, there was probably no great change during this period, but there was a significant change in emaphasis. It is now that we begin to find the great accumulations of shell middens in both the riverine and Louisiana coastal zones. Whether they were fresh-water mussels or oysters, a totally new resource was not only being utilized (which it may well have been before), but also intensively exploited, as the magnitude alone of these middens testifies. Hence, the name "Shell-mound Archaic" is often applied to cultures of this period. Concomitant with the exploitation of this aqueous environment was the growing use of such vertebrate animal forms as fish, reptiles, and amphibians. Added to the more efficient hunting and gathering of terrestrial fauna and flora, a rewarding--perhaps even bountiful--life was possible.

Altogether, an important departure from past patterns is obvious; whereas purely terrestrial exploitation requires seasonal transhumance in response to faunal migration and floral maturation, the relatively constant food supply represented by the riverine/coastal environments presented a comparatively stable food resource which could be transmuted into a heretofore unknown (and still relative) stability of settlement pattern. Of course, there was still a great deal of seasonal movement and shift in emphasis, but overriding this in the purely developmental perspective was the rising trend towards localization as a result of the maximizing of resources.

The above interpretations are reflected in the sites of this period and the artifact assemblages which they contain. The total impression is one of marvelous adaptation in the circumstances. There was both continuity and innovation, but above all there was an artifactual richness which underscores the achivements and previews what was to come.

Throughout the length of the Valley--and whether in reference to a riverine or coastal shell heap, a lacustrine gathering station, or an isolated camp site--a composite picture of the material cultural equipment has begun to emerge.[17] By this period, the atlatl was a standard piece of

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[17]A number of "late Archaic" phases attributable to this period have been, or are in the process of being, formulated. Thus, along the Louisiana coast are the Copell and Pearl River phases (Ford and Quimby 1945; Gagliano 1967a: Table 1, 1968), in the Yazoo Basin the nascent Old Basin phase (tentatively formulated by the writer on the basis of surface collections of Morrow Mountain, Savannah River, and Ponchartrain points, nutstones, millstones, and an incredibly large number of big steeply bevelled scrapers and choppers from a series of sites along what would have been an active channel of the Ohio River--stage B or C--in the southern tip of the basin), in northeast Arkansas the Frierson phase (Morse 1969: 19), and in southeast Missouri a pre-Morehouse phase (a highly tentative formulation, preceding a manifestation of the first period of the Neo-Indian era based on information from Scott Grantham, Southeast Missouri State College, letter dated September 1970). These phases were related to, but quite distinct from, the better-known late Archaic cultures of western Kentucky and Tennessee (e.g., Lewis and Kneberg 1959; Lewis and Lewis 1961).

equipment and the characteristic weights were often carefully and laboriously ground into a wide range of forms. Especially diagnostic of this period was the introduction of the pierced type of weight, wherein a hole was drilled through the center. The origin of this idea may have been in the midwest. This not only represents a new mounting technique, but also a new lithic technique--the core drilling of solid stone.

The points which tipped the darts propelled with the aid of the atlatls included a plethora of sizes and forms, reflecting the localization discussed above. There are far too many types and varieties to describe here, but, in general, fairly rough stemmed points predominated. In the southern part of the Valley, at least, the principal types were the Hale, Delhi, Pontchartrain, Kent, Macon, Gary, Marshall, Elam, Carrolton, Savannah River, and Morrow Mountain (Fig. 6 j-v). It is of great significance that--with the exception of the latter two types, which seem to be restricted along the eastern margins--the center and usual limits of the distributions of these points was within the Lower Mississippi Valley. The individuality of the Valley was beginning to be asserted.

Other elements of the tool kit in the lithic category were a wide range of bifacially chipped knives, scrapers, choppers, drills and "saws", and ground stone mauls, grooved axes, adzes, bowls, pestles, and mortars[18], as well as roughly finished nutstones and hammerstones. Bone tools were also important and included points, awls, flakers, chisels, fish hooks, reamers, and gouges. Bone was undoubtedly used before, but the favorable deposition environment of shell middens preserved them for the first time in quantity.

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[18]Materials suitable for these artifacts had to be brought into the Valley, some from great distances. Thus, contacts were certainly being maintained with other areas, whether directly or indirectly.

It is to be assumed that other, more perishable, materials were used also. One new material, the use of which is documented for the first time, is the very soil itself; amorphous lumps of clay were fired brick-hard and then used for the preparation of food by pit baking or boiling. This trait was to become even more pronounced during the initial period of the Neo-Indian era.

Another very important trait which appears to have its origin in this period, or at least can be documented for the first time, is the production of luxury artifacts. Especially to be noted are ornaments of ground and drilled stone, such as beads, plummets, and gorgets. The fact that non-utilitarian artifacts could be produced, and, moreover, by laborious, time-consuming methods of manufacture, is clear proof of the solid subsistence base which had been achieved. In this act of making an ornament instead of a tool is the first intimation that there may be some other things in life as important as economic activities, or perhaps even more so.

Summary

By 6000 B.C., descendants of the Paleo-Indians had taken up semi-permanent residence in the Lower Mississippi Valley, and had begun the slow process of adapting to the particular environmental setting. With the amelioration of the climate during the following millennia, it is probable that the rich diversity of the Valley and its margins provided a potential exploitation sphere beyond which it was ordinarily unnecessary to venture. Through a combination of changes in emphasis, an increased awareness of the local ecology, and the introduction or innovation of new techniques, there was a clear development towards the maximal exploitation of concentrated natural resources

such as shellfish, fish, deer, nuts, and seeds. Thus, by 2000 B.C., a local, highly specialized equivalent of a "primary forest efficiency"--but with a certain riparian emphasis--had been achieved.

The economic revolution is reflected in the evolution of the artifact assemblages throughout the era. During Periods I and II, the diagnostic artifact types were still fairly wide-spread, and by no means restricted to the Valley, which suggests that the older technologies were being applied to many different uses. Technological innovation and specialization becomes apparent within Period II, however, with the growing variation within individual artifact types, and the appearance of many new forms, techniques, and even tool types. By the end of Period III, there were types of tools, as well as artifact types, found only within the Valley as the result of selection and refinement for the exploitation of a riparian environment.

It can be inferred that the standard social unit throughout this era was the extended family group or small band, with perhaps up to 50 individuals. These units probably grew slightly larger through time, for, whereas they must initially have followed a migratory way of life in which they were committed to a set annual round in pursuit of game and various forest products, their increasing adaptation to the more stable riverine/coastal environments allowed a higher degree of sedentism. Thus, while the sites attributable to Period II are small in horizontal extent, they often exhibit a considerable depth of deposit, which indicates a lengthy temporal continuity of at least seasonal, and perhaps permanent, settlements.

By the close of the era, human life was flourishing within the Valley, but--because of whatever compulsion that has often driven the species along--

the Valley men were not content to sit on their shell heaps, like so many of their brethern elsewhere on the continent. The new technologies, the secure subsistence base, and the stable settlement pattern were great achievements which were to remain basically unchanged for more millennia; they provided the stage upon which the events of the initial periods of the Neo-Indian era were to act.

Neo-Indian Era

Background

During the first two-thirds of man's known occupation of the Lower Mississippi Valley, great economic advances were achieved. The earliest human arrivals were subject to the caprices of their environment, but through a series of technological and adaptive innovations their descendants increasingly turned to their advantage the sustaining potential of the natural surroundings. The maximizing of selected food resources that is apparent in the patterns of exploitation by the close of the Meso-Indian era provided a subsistence base which began to allow a high degree of sedentism and, it may also be assumed, more time for noneconomic activities. Both a stable settlement pattern and a superabundance of creative time and energy were prerequisites for the developments which were to mark the dawning of a new era.

As with the break between the Paleo- and Meso-Indian eras, a major change in life-style is being marked here. Again, an underlying continuity must be emphasized, for the same people were still doing many of the same things as their forefathers. But now there was an added dimension; the basic pattern of life became more complex as the result of the elaboration of the social and religious superstructures. Thus, the Neo-Indian era is

defined here on the basis of socio-religious elaboration, rather than the usual physical innovations, such as pottery and agriculture, which characterized the later periods of prehistory[19]. As important as these innovations were in the technological and economic realms, they were but the more obvious in a series of interrelated events which characterized man's changing relationship with his environment.

Prior to this time, man had made little impact upon his natural surroundings, but during this last 4000 years of aboriginal occupation he increasingly influenced it through conscious and unconscious methods, ranging from subtle manipulation to physical transformation. One of the major symbols of this modification of nature is the propensity for earth-moving projects, which are distinctive of the era and are physical manifestations of the socio-religious elaboration that brought them about. Thus, it is with the first indication of such activity that I have chosen to begin the era.

The Lower Mississippi Valley

Nearly all of the archaeology which has been done in the Lower Mississippi Valley has been concentrated upon this terminal era of prehistory. It has already been pointed out that this emphasis was due in part to a geological misunderstanding, but it was also a direct function of the fact that inspiring sites, i.e., those with large features that have tended to attract archaeologists, date exclusively to this era. Thus, there is not the dearth of

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[19]Thus my change in terminology. The old Formative stage was originally defined on the basis of agriculture (Willey and Phillips 1958), then was later stretched to include nonagricultural but "ceramic" cultures (e.g., Ford 1969) even when the latter could not be successfully demonstrated. There, too, is Caldwell's famous plaint about the term; "formative to what?" (Caldwell 1965: 66). Let us consider the North American situation in its own terms.

information that has plagued us in the preceding pages. To be sure, there are still some very significant gaps in our knowledge, but the overall picture is sufficiently clear.

My job has been greatly simplified by the fortuitous publication recently of an extraordinary synthesis of the last millennia of Lower Valley prehistory by Philip Phillips (1970). The following presentation is basically a greatly abbreviated version of this synthesis, which will attempt to spotlight the principal trends and developments. However, I also have the advantage of being able to incorporate new field data developed over the last five years and unavailable to Phillips at the time he was writing[20].

The Neo-Indian era may be divided into six chronological periods, some of which can be clearly demarcated, but between all of which there remains a basic undercurrent of continuity. Each period is characterized by a major event (artifact complexes and inferred activities)--or sequence of events--which may be taken to constitute an archaeological culture. Phases of these cultures will be defined to impart finer spatial and temporal dimensions and to explicate the socio-cultural implications contained within the data.

Also to facilitate presentation, it is necessary to subdivide the Lower Mississippi Valley geographically. Although the boundaries are arbitrarily drawn, the resulting subdivisions are reasonably coherent, so that the description of one or two regional phases is sufficient to characterize each during a particular period. The four subdivisions which will be

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[20]Readers are urged to consult Phillips for details and source references. In these pages, much of the archaeological data presented will be new and/or previously unpublished.

considered are: Northern[21], Central[22], Southern[23], and Delta[24] (Fig. 8). Among these, a general dichotomy may be noted between the northern and southern divisions of the Lower Valley, the dividing line being at approximately 34° latitude. This complements the dichotomy recognized earlier between the Valley and the uplands. The interplay between these dichotomies is an important part of the overall story and must be carefully documented. While the prehistories of the Northern and Central subdivisions were very similar throughout the era, the events in the Southern subdivision were often quite distinct. Furthermore, the Delta subdivision was always marginal to the developments whichwere occurring in the Valley as a whole--certainly due at least in part to a rather different environment, which, in addition to the fluvial system, featured large inland and tidewater lakes, as well as an extensive coastline. Yet its inclusion here is not in the least gratuitous, for it occasionally plays a significant role in our understanding of cultural developments during certain periods. Period I is a case in point.

Period I (2000 B.C. - 500 B.C.):

The Neo-Indian era began with the appearance in the Southern subdivision of a series of sophisticated traits, which suggested a highly organized and

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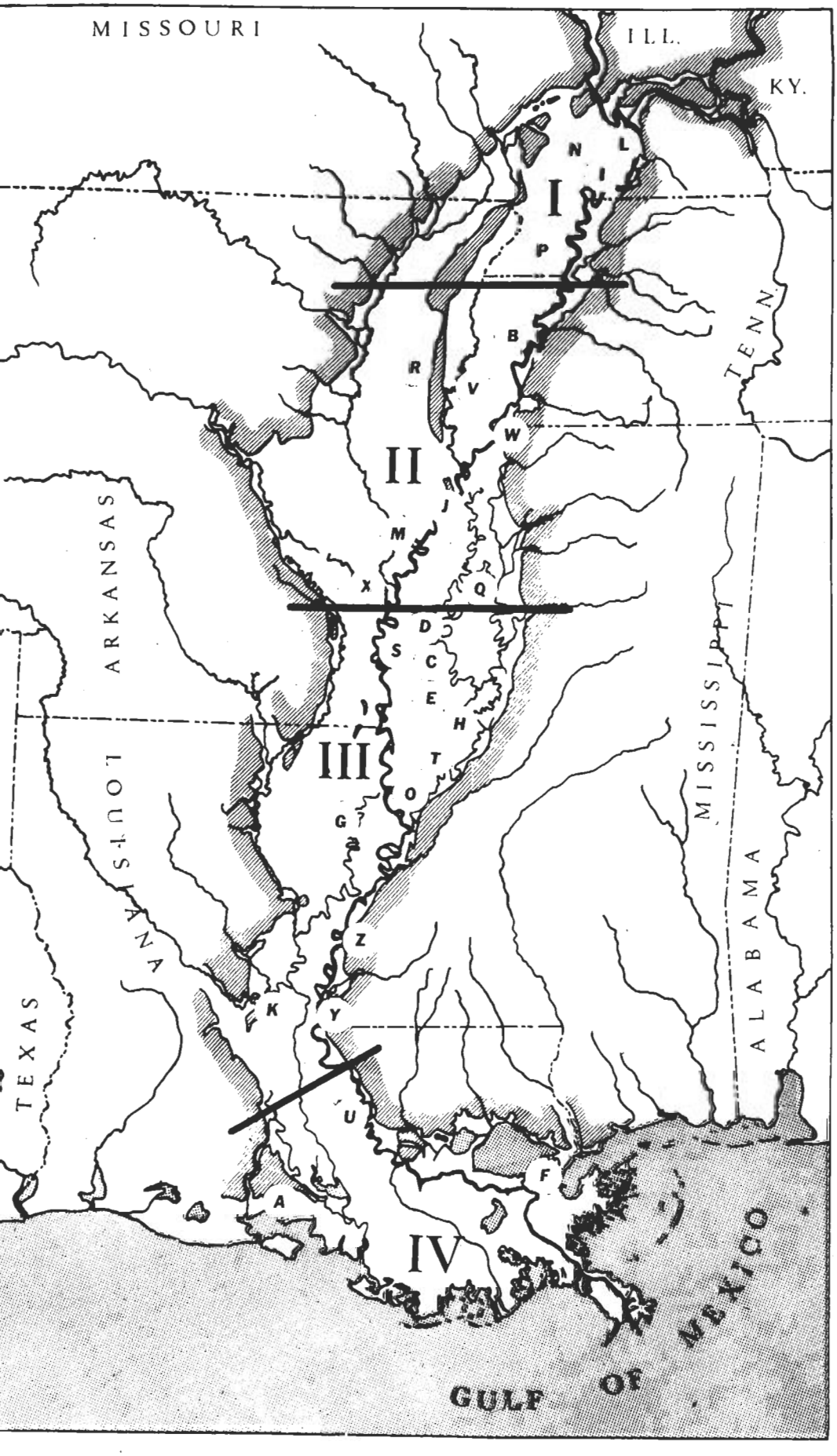
[21]This is comprised of Phillips' regions: Cairo Lowland, Little River (N), and Malden Plain; also, the Western Lowlands are included.

[22]Phillips' regions: Lower St. Francis River, Little River Lowland (S), Arkansas-White River Basins, as well as Memphis and the Northern Yazoo Basin east of the Mississippi.

[23]Phillips' regions: Southern Yazoo Basin, Tensas Basin, Natchez, Lower Red River.

[24]Phillips' regions: Ponchartrain Basin, Eastern Delta, Teche-Mississippi, Western Marginal Plain.



Subdivisions

I. Northern

II. Central

III. Southern

IV. Delta

Sites

A. Avery Island
B. Island 35
C. Helm
D. Shaw
E. Geneill
F. Linsley
G. Poverty Point
H. Jaketown
I. La Plant
J. Helena Crossing
K. Marksville
L. Hoecake
M. Baytown
N. Black Bayou
O. Aden
P. Kersey
Q. Buford
R. Cherry Valley
S. Winterville
T. Lake George
U. Medora
V. Parkin
W. Walls
X. Menard (Quapaw)
Y. Tunica
Z. Fatherland (Natchez)

Figure 8. The Lower Mississippi Alluvial Valley showing subdivisions used in this report, and selected sites from all eras, listed chronologically.

viable religious system, a developed social hierarchy, an elaboration of arts and crafts, and a remarkably far-flung action sphere.

Named after its largest and most imposing site--Poverty Point, in northeastern Louisiana--the phenomenal culture which possessed these traits has long been considered something of an anomaly, rather than as a logical development out of the achievements of the Meso-Indian era. The chief inconsistency which has long bothered culture historians is the magnitude of the earthworks at the Poverty Point site, without evidence of agriculture. Efforts have been made to ascribe such a seemingly improbable development to foreign intervention from somewhere in Mesoamerica which somehow overcame the obvious difficulties, perhaps by also introducing some form of agriculture at the same time (e.g., Ford 1966, 1969; Webb 1968: 318-319). Mesoamerican influence is a possible explanation for some of the socio-religious developments, at least in abstract, but in the face of man's innate creativeness such influence may not have been necessary.

Nor was the presence of agriculture necessary. It has been observed that the Meso-Indians of the Valley had already achieved a highly successful subsistence base by the terminal period of the era, and if, indeed, some kind of incipient horticulture of riverine plants had been invented at this early period it could not have been effective enough to alter substantially the basic economic pattern. It must be assumed, then, that the already established pattern was sufficient to support the dazzling accomplishments of the Poverty Point culture[25]--a striking testimonial to the natural richness of the Lower Mississippi Valley environment, when systematically exploited.

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[25]The success of such a nonagricultural way of life is demonstrated by the resistance of many North American Indian groups to agriculture--even in suitable farming environments--into the historic period (Caldwell 1958). A spectacular example is the case of the Calusa of southwestern Florida, who had an especially sophisticated socio-political system of a kind usually attributed only to agricultural societies (Goggin and Sturtevant 1964).

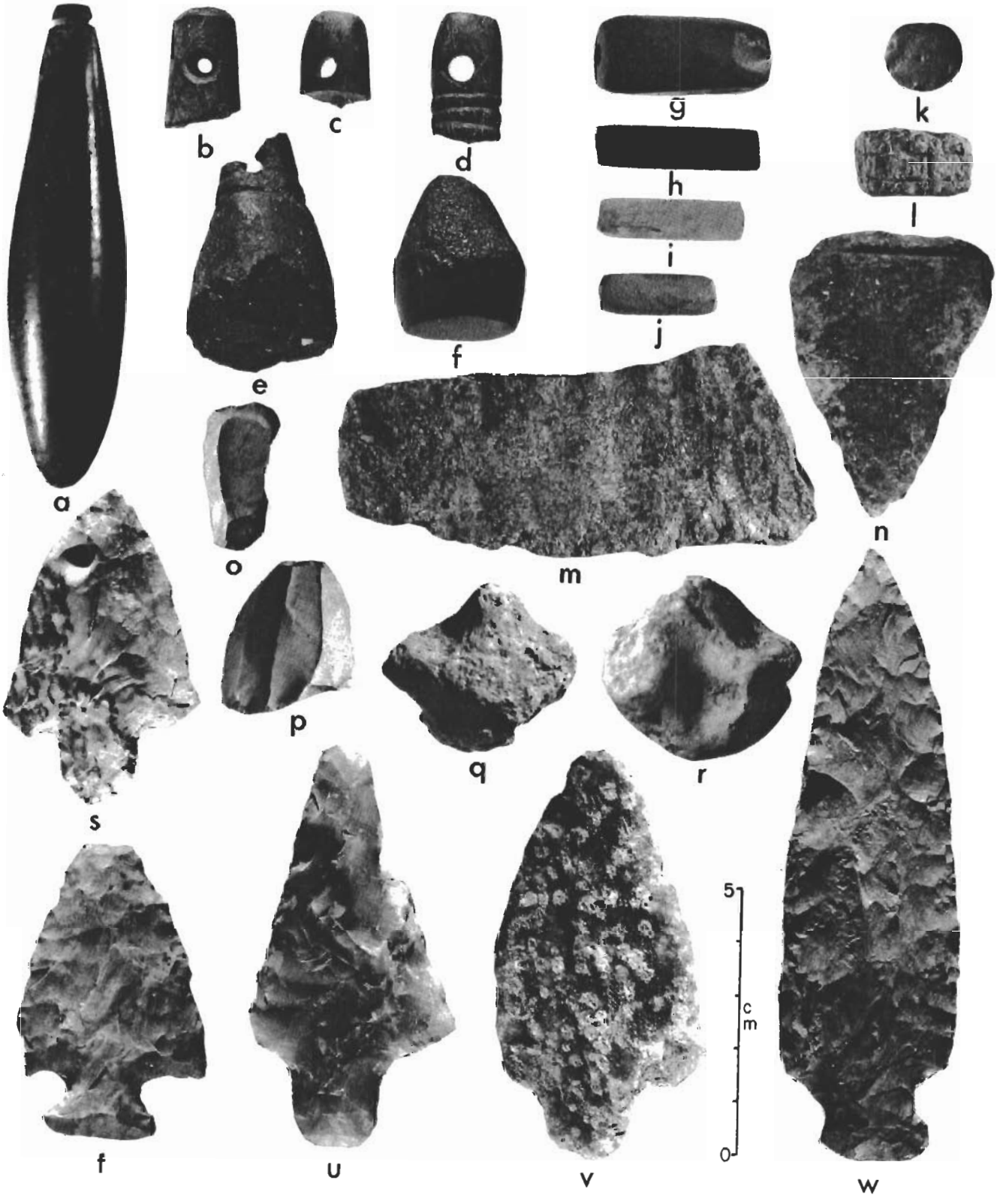

Figure 9. Neo-Indian I artifacts of the Poverty Point culture, Jaketown phase: a-f. hematite and magnetite plummets (Falls, Cypress Thicket); g-j. jasper, quartz, and sandstone tublar drilled beads (Helm, Cypress Thicket); k-l. flat jasper bead and unworked galena (Cypress Thicket); m-n. steatite bowl sherds (Cypress Thicket); o-p. microlithic blade and core (McGary); q-r. baked clay objects (McGary); s-w. unclassified varieties of Motley, Gary, and Epps projectile points (Lake George). Provenience is parenthesized.

Systematically: this is the key concept, for in its ultimate refinement there is a qualitative, as well as manifestly quantitative, difference that marks a departure from that which went before and laid the foundations for much of what was to come. The socio-religious hierarchy that is manifest in some of the physical achievements of this period was palpably capable of immense organization, which in economic terms meant the maximization of natural resources through social channels. The basis must have been some kind of redistributive system, whereby an effort was made to provide the necessary resources when and where they were needed. Such a system allows a great deal of economic freedom, because it rises above local restrictions. Thus, several different patterns were formed into an integrated, functioning whole, so that while the essential exploitation patterns themselves remained unchanged, the economic base was strengthened. The principal factor in this accommodation was the interaction of social groupings, which was probably brought about by the development (through whatever as yet unknown means) of a supra-societal religious hierarchy.

In addition to the large-scale earthworks, which so far are unique to the Poverty Point site itself, the diagnostic innovations which characterize the Poverty Point culture and set it apart from the simpler cultures include great quantities of baked clay objects of particular forms, certain projectile points (such as the Motley), a new and specialized microlithic industry, and great increase in the use of exotic materials[26], as well as in the presence of finely wrought, nonutilitarian ornaments (such as beads, plummets, gorgets). Respectively, these traits are indicative of a high

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[26]Those which are not native and must have been brought in include: quartz crytals, hematite, magnetite, galena, novaculite, steatite, most jasper, and the fine or unusual cherts (see Fig. 10).

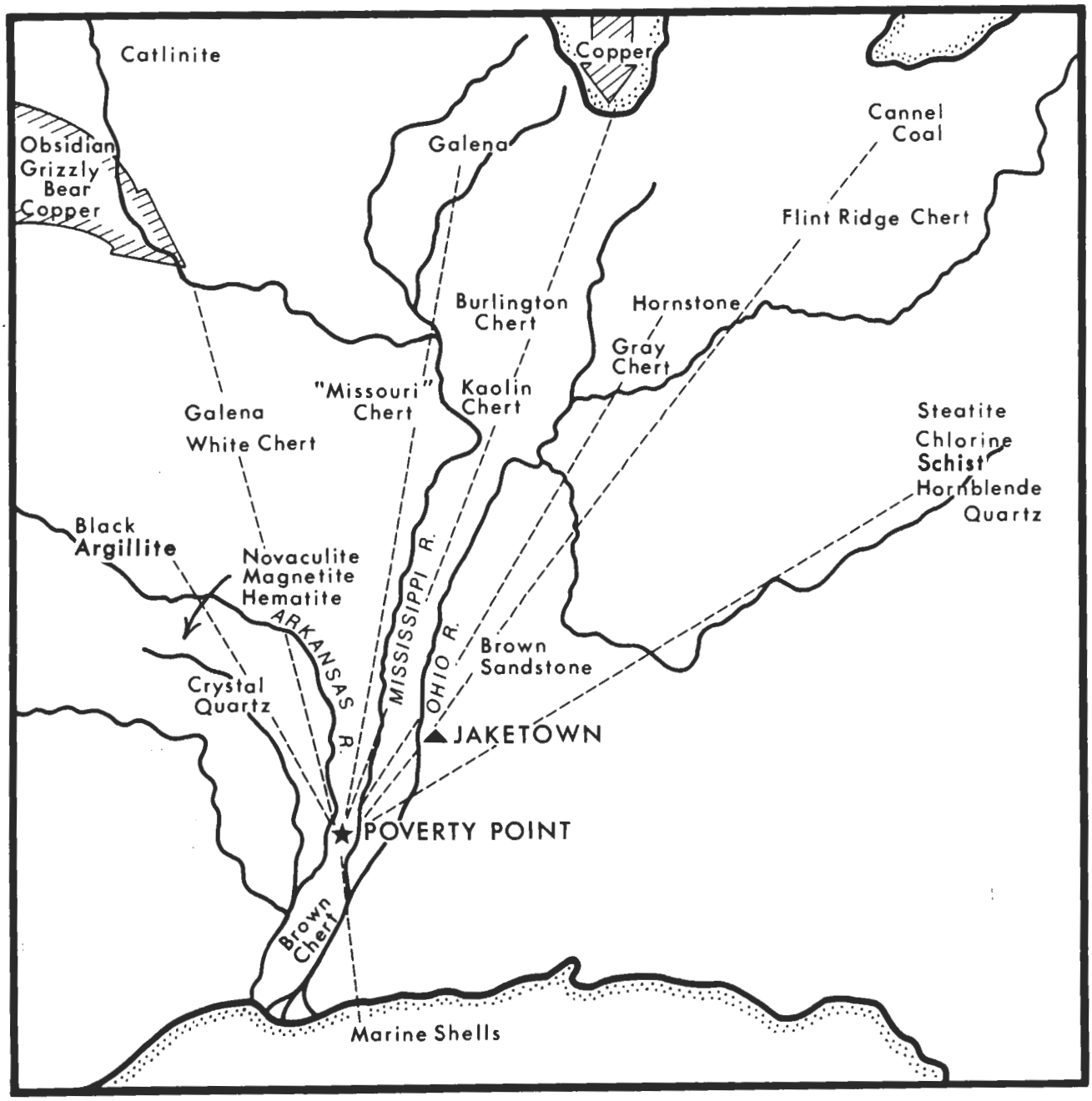

Figure 10. Sources of raw material brought to the Poverty Point site (partially based on Ford and Webb 1956, Fig. 45). In the context of the riverine systems of the time (as reconstructed above), Poverty Point was located on an elevated landform at the most central point between the major rivers, and therefore was most equally accessible from all points of the compass.

order of socio-religious development through which massive public works projects could be organized; a viable economic base with effective methods of food production and preparation; and the development of a nonproductive artisan class, to which may be attributed the various innovations and refinements in lithic technology, especially apparent in the development of a highly skilled lapidary industry (Gibson 1970a).

Many other secondary traits were also present, and the total artifact assemblages differed from region to region. However, the characteristic traits, with the exception of the earthworks, are found from one end of the Valley to the other, and along the Gulf coastal plain (Webb 1968). Thus, in the Northern subdivision there was a poor relative of the Poverty Point culture, the O'Bryan Ridge phase (Williams 1954, 1956; Phillips 1970[27]); in the Central subdivision a tentative Hugo phase (Phillips 1970: 870-871); in the Southern subdivision, two regional variants--the Poverty Point phase itself (Ford and Webb 1956), and the most closely related Jaketown phase in the Yazoo Basin of Mississippi (Ford, Phillips, and Haag 1955); and the Bayou Jasmine-Garcia phases in the Delta (Gagliano 1964a, 1968; Gagliano and Saucier 1963[28]). The Bayou Jasmine phase is especially important because accepted radiocarbon determinations from one

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[27]These authorities did not ascribe this phase to the Poverty Point culture. While certainly contemporary with Poverty Point phases to the south, the lack of evidence left the question open. Recent investigations, however, have revealed a concentration of "several hundred" habitation sites in the Morehouse Lowland, at one of which an excavation turned up 54,000 baked clay objects, many of distinctive southern forms, microliths, and a bird effigy (Grantham, Southeast Missouri State College, personal communication)--clear evidence of the extent of the Poverty Point culture sphere.

[28]These phases are combined here because, while they may represent part of a chronological sequence as the authors believe, it could be that they have been defined on the basis of contemporary artifactual assemblages brought together for different purposes at different times of the year.

of its sites (Linsley, F in Fig. 8) yielded dates of 1590±120 B.C., 1740±120 B.C., and 1890±130 B.C. These are the earliest dates yet recorded for the Poverty Point culture, and are responsible for pegging the start of the Neo-Indian era at approximately 2000 B.C.

The lineal spread of the Poverty Point culture along a north-south axis was, of course, no historical accident. This culture was a phenomenon of the bottomlands, for reasons already suggested, and with rising demand for exotic materials from faraway sources the riverine system[29] was increasingly utilized as a means of communication. As a direct result of these economic considerations, the entire Lower Valley was brought into the Poverty Point culture sphere.

However, not all the social groups in the Valley were drawn into the events described above, or even significantly affected by them, for it is a matter of record that the basic Meso-Indian way of life continued relatively unchanged in some regions long into the Neo-Indian era. This cultural lag must be explained in terms of the hypothecized interaction. Thus, "it has long been noticed that societies lying toward the center of a group of interacting societies will in most respects [and especially in the particular aspect(s) of culture with which most of the interactions were concerned] change more rapidly than those lying at the margins. It can be readily argued that increased interaction among societies results in an increased rate of cultural innovation" (Caldwell 1966: 338). The center of interaction in this case was at the type site in northeastern

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[29]Poverty Point sites of the period are commonly associated with stage H channels of the river system (Fisk 1944), possible earlier associations notwithstanding (Ford, Phillips, and Haag 1955). According to recent geological evidence, stage H channels were still active, or were only recently inactive, during this period (Saucier, personal communication).

Louisiana, and it is probable that the climax was reached there because that location was at the most central point for utilizing the major mid-continental rivers--the Mississippi, Ohio, Arkansas, and Red--that is, at a geographical point where these rivers approached each other most closely at that time (Fig. 10).

It would appear that the Poverty Point site itself was a trade and redistributive center. Exotic raw materials and finished products were brought there for exchange. It was also the primary socio-religious center with a small permanent population which controlled the exchange system and benefited from it, at the same time attracting a large transient population. It was the equivalent of a Rome, Mecca, or Jerusalem in which the quintessence of a culture is distilled because it is the center and crossroads of that culture. The Poverty Point site was a focal point; it was a logical development--not an anomaly. The earthworks were merely one more manifestation of a creative culture, and it is appropriate that of all possible locations this physical extravagance should exist there.

Period II (500 B.C. - A.D. 300):

The Poverty Point culture began to wane by the second half of the first millennium B.C. Or, more accurately, there is a marked indication of the deterioration of the socio-religious superstructure and attendant cultural attributes, while the basic economic and settlement patterns continued much as before. Why this happened is not clear. It may have been a case of cultural exhaustion or a time of retrenchment; or it may have been due to the arrival of new ideas, perhaps brought by new peoples. The latter is suggested by the appearance of the most distinctive artifactual innovation of the period--pottery.

Pottery had been present in other parts of the southeast since the beginning of the Neo-Indian era, and it is difficult to explain why there was such a lag before its introduction into the Valley. It now seems likely that some crude, fiber-tempered pottery was present in the later phases of the Poverty Point culture, but never in significant amounts[30]. A handful of sherds, compared to thousands of steatite bowl sherds, and huge quantities of baked clay objects, clearly show that proven methods of food preparation were preferred.

Marking the beginning of Period II, however, superior sand- and clay-tempered pottery suddenly appeared. It seems to have been sudden because relatively sophisticated decoration was present from the beginning, as though the idea was introduced all at once in a mature form. Some of the decorations, and the selection of sand for temper, clearly indicate that the idea came from the uplands to the east. Whether or not it was brought by the movement of new peoples into the Valley is still a moot point, but such an immigration would serve to help explain the apparent socio-cultural breakdown observable at the beginning of this period. It does not explain the continuity in settlement and economic patterns, but perhaps the latter, at least, can be explained by the fact that such new peoples would have possessed a comparable economic stage of development which quickly adapted to the riverine way of life. If such migration occurred, this would be the

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[30]This brings up a controversy which still rages: some have tried very hard to prove that pottery, as well as agriculture, was an important trait in the Poverty Point culture. This has been necessary to support some pet hypotheses. The evidence is simply not there, however, aside from a very few fiber-tempered potsherds--they often do turn up at sites with Poverty Point components (e.g., McGary and Jaketown in the Yazoo Basin, and Ruth Canal in the Delta). But fiber-tempered pottery is of a different order from that which some would like to see present. It clearly represents an early, pan-southeastern horizon, an indigenous development of doubtful local significance (Brain and Peterson, in press).

first demonstrable instance of significant influence by a primarily upland culture upon the Valley since the Paleo-Indian era. This two-way interplay between the peoples of the uplands and the Valley was to continue throughout the remaining periods of prehistory.

But even though the Valley and uplands appear to have drawn closely together for a brief interval, a basic dichotomy between cultural manifestations in the northern and southern divisions of the Valley has been observed (Phillips 1970: 15-16). At this point the distinctions are only ceramic, but if the very appearance of pottery is possibly as significant an event as discussed above, then distributional disconformities within it may well be indicative of other cultural distinctions. In any event, whether real or a delusion inspired by the archaeologists' preoccupation with pottery, various early phases of the period are grouped into the Lake Cormorant culture in the Northern and Central subdivisions, and into the Tchefuncte culture in the Southern and Delta subdivisions (Phillips, Ford, and Griffin 1951; Ford and Quimby 1954; Gagliano 1968; Phillips 1970).

The Lake Cormorant and Tchefuncte cultures had a brief florescence--if such a term is appropriate--in respect to the overall span of time with which we are dealing. During the last centuries before Christ, developments which had been occurring in the Ohio and Upper Mississippi valleys (for the Ohio and Mississippi Rivers had joined at a point south of the present location of Cairo, Illinois, by this time) began filtering down into the Lower Valley.

Although the Poverty Point culture had died and been replaced by simpler cultures in the Lower Mississippi Valley, there is ample reason to suspect that it was responsible, in large part, for the northern

Hopewell development. Such a cause and effect relationship cannot be empirically demonstrated at this point, but there are many superficial similarities between the two cultures: socio-religious elaboration dependent upon interacting societies, propensity for earth-moving projects, a rich refinement of the lapidary art, and a desire for exotic raw materials realized in a far-flung trading network. All of these traits were integrated along religious lines, which in the Hopewell case, at least, had a very strong mortuary aspect. The exotic raw materials were made into fine ornaments and status symbols, many of which were eventually placed in the mounds erected over the most honored dead of the socio-religious hierarchy. A very important distinction between the Hopewell and Poverty Point phenomena is that the Hopewell "interaction sphere" embraced a number of societies belonging to different cultural traditions (Caldwell and Hall 1964; Streuver and Houart 1971), unlike Poverty Point which possessed a relative cultural uniformity. Part of the reason for this difference is that the Hopewell interaction sphere covered a far larger territory so that many more peoples and environments became involved, especially when the Lower Mississippi Valley was included.

The Hopewell radiation into the Lower Mississippi Valley brought about the development of many regional phases, of which the strongest are grouped into the Marksville culture, centering in the Southern subdivision. The earliest indications are suggestive of an actual intrusion of small groups of people (perhaps traders) from the north. The most likely point of origin appears to be Illinois, for pottery like that of the Havana phase of Illinois Hopewell has been found at the La Plant site in southeast Missouri, at the Helena Crossing site in eastern Arkansas (Ford 1963), and at a

number of sites in the Southern subdivision, most notably Anderson Landing[31] in the Yazoo Basin, and Point Lake[32] in the Tensas Basin. At these and other sites the introduction of fine pottery was marked by such traits as broad "U-shaped" incised lines, zoned rocker and dentate stamping, the "Hopewell" crosshatched rim, and the raptorial bird motif[33], Also associated were specific Hopewellian mortuary artifacts, as found at Helena Crossing, and the large conical burial mounds themselves (Fig. 11).

This time of initial Hopewell influence seems to have coincided with the maximum development of the burial mound tradition in the Lower Mississippi Valley. Marksville, the type site in eastern Louisiana, was an extremely complex settlement with many different kinds of mounds and earthworks, including circular embankments and a great enclosing wall around the entire site. This kind of earth moving, and the organization required to effect it, is again reminiscent of Poverty Point, but there would seem to be no direct link at this level of socio-cultural development. The new traits appear to have come out of the north[34].

The early Marksville sites, as listed above, are few, and it is clear that first Hopewellian intrusion into the Lower Valley involved

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[31]At this site on the Sunflower River, C. B. Moore found what can only be Hopewellian trade vessels (Moore 1908, Figs. 3-5).

[32]A sherd from Point Lake has been identified as Neteler Stamped, a Havana phase type (Toth 1966; Phillips 1970: 895).

[33]Conceptualized in the local ceramics: Marksville Incised, *var. Marksville;* Marksville Stamped, *vars. Marksville, Crooks, and Mabin.*

[34]Although indirectly, there is the well-founded suspicion that they were ultimately derived to some extent from earlier Poverty Point influences. Thus, this may be a case of the reintroduction of certain elements or concepts after they had been lost.

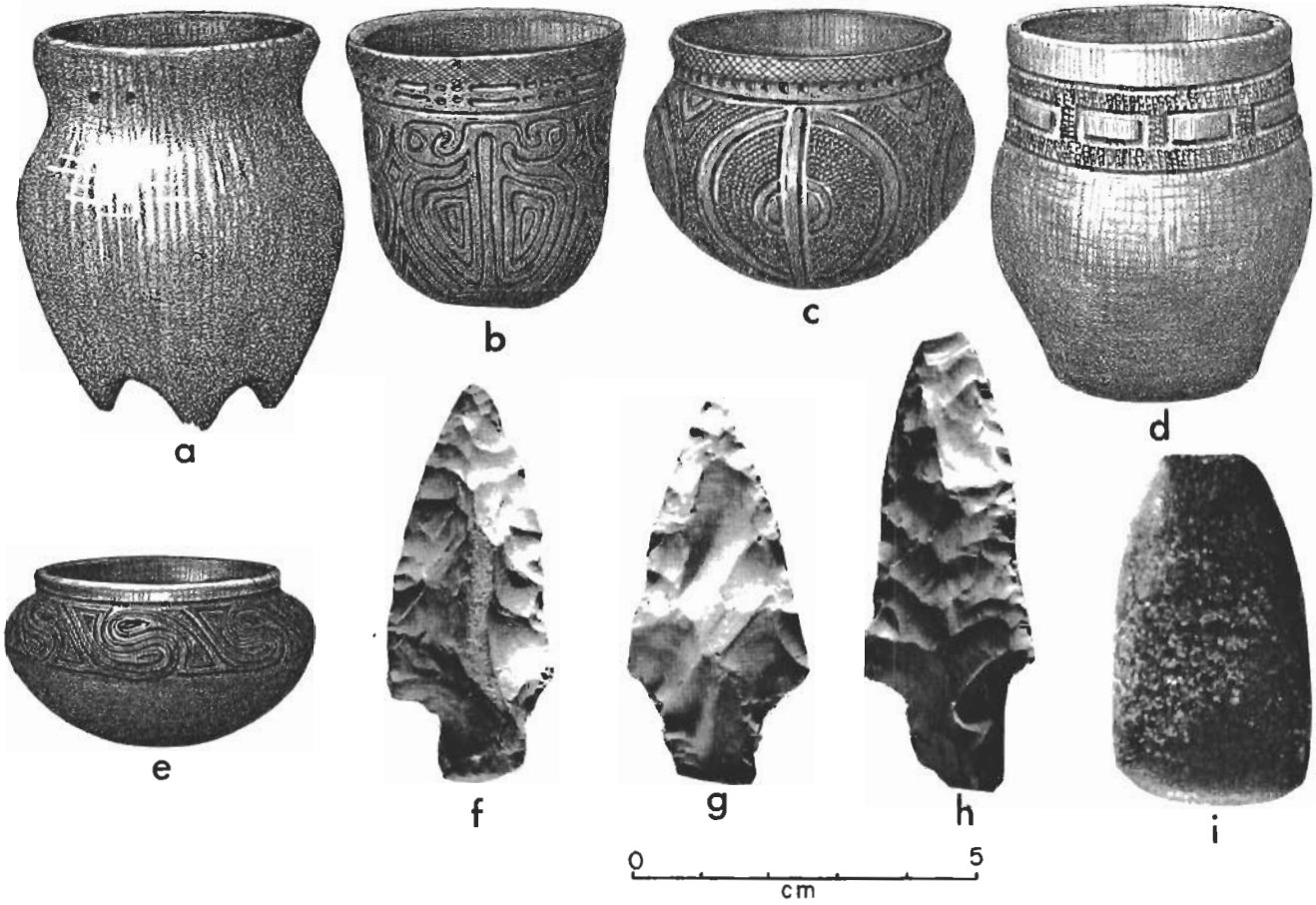

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Figure 11. Neo-Indian II artifacts of the Tchefuncte and Marksville cultures: a. Tchefuncte Plain; b. Marksville Incised, var. Marksville; c. Marksville Stamped, var. Mabin; d. Marksville Stamped, var. Manny; e. Marksville Incised, var. Leist; f-h. Gary projectile points (Lake George); i. ground greenstone celt (Leist); j. large burial mount (Black). Provenience is parenthesized where known. Vessels are from Phillips 1970, scale varies.

small groups which were established in widely scattered communities--possibly trading outposts. Certainly there was no immediate socio-cultural transformation of the entire Valley, and phases demonstrating a continuity from the precedent Tchefuncte and Lake Cormorant cultures were still very much in evidence. These phases were concentrated along the eastern margins of the Valley (for example, the Twin Lakes phase in the Yazoo Basin, Phillips 1970: 891-892), and like their antecedents represent a spilling over into the Valley of an upland culture which centered further to the east, e.g., the Womack site in Yalobusha County, Mississippi (Koehler 1966), Baker's Creek and White in Granada County, and Clear Creek in Lafayette County, Mississippi (Thorne 1968). While basically derived from the earlier traditions, they possessed traits, including ceramics and burial mounds, which prove their contemporaneity and interaction with the Hopewell incursion.

With the passage of time, however, there was a marked change in settlement pattern and characteristic artifacts. The change was rather more quantitative than qualitative as the Marksville culture came to dominate the Southern subdivision and greatly influenced the Central and Delta subdivisions. Our data for the Northern subdivision at this period is insufficient; nevertheless, the developments in the Lower Valley during the closing centuries of this period were essentially southern. The climax phase was the Issaquena phase (Greengo 1964; Phillips 1970), which centered in the Yazoo and Tensas basins of the Southern subdivision.

The most significant change which is manifest in the Issaquena phase is demographic. There appears to have been a substantial growth in population, which occupied a larger number of sites, more thickly distributed over a wider area. It is possible, but presently undemonstrable, that

such a change resulted from an economic refinement, viz., an increased dependence upon horticulture of native plants, such as the sunflower, marsh elder, and perhaps others, to supplement the basic diet[35]. This was certainly a major feature of Hopewell culture, and it is to be expected that it would also have been transmitted along with the noneconomic traits already enumerated.

The expansion of population and reduction, or perhaps termination, of direct ties to the north resulted in a dilution during the Issaquena phase of the strong Hopewell cast observed earlier. There were no more specific Hopewellian artifacts, and the pottery became highly stylized, as a regional ceramic tradition developed[36]. There was a definite decrease in emphasis on mortuary ceremonialism, although many of the related practices continued, such as building small burial mounds and, possibly, other earthworks (Phillips 1970: 965-966). Clearly, much of the old social organization was still viable in that it could draw together portions of the scattered population for nonproductive labor.

Period III (A.D. 300 - A.D. 800):

The half millennium from about A.D. 300 to A.D. 800 is the least understood period in the entire Neo-Indian era, and yet in economic terms it was potentially the most significant. Largely ignored, very little data has been accumulated on cultures of the period, and it is suspected that even that has been misinterpreted. Thus, the following pages will supplement the meager descriptive content with an over-abundance of speculation.

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[35]It remains to be determined just how sophisticated such plant management became, i.e., whether domestication actually occurred, but, whatever developed, the economic base remained primarily dependent upon hunting and gathering.

[36]Ceramic markers are Marksville Incised, *vars. Yokena, Goose Lake, Leist,* and *Steele Bayou;* Marksville Stamped, *vars. Manny, Bayou Rouge,* and *Troyville.*

The basic reason why this period has not commanded more archaeological attention is that it falls between two far more colorful periods, and as a result it appears drab by comparison, characterized only by "good gray cultures" (Williams 1963: 297). This characterization is accurate in describing the artifactual and other physical attributes of the phases of the dominant Baytown culture, such as Hoecake (Williams 1954; Phillips 1970: 902) in the Northern subdivision and Baytown (Phillips, Ford, and Griffin 1951; Phillips 1970: 903) in the Central subdivision. Especially indictive is the ubiquitous pottery which is found the length and breadth of the Valley, and which is distinguished in being particularly undistinguished. Coarse plain pottery predominated, and decoration was almost entirely limited to overall crude surface roughening or red painting. An exception, to be noted later, was the diffusion of fine ceramics from the Florida Gulf coast; this was basically an overlay, however. The ceramic art generally reached a nadir, a fact which the archaeologists have not forgiven, and their judgements have been reinforced by the relatively inferior quality of the stone artifacts, as well as the unimposing nature of the sites of this period, which are small and often featureless.

The obvious question, then: what brought about the rapid decline of the Marksville culture and replaced it with such a colorless way of life? The first way to answer this question is to counter a long-held notion that this period represents an interval of cultural recession. While certainly there seems to have been a certain deterioration in aesthetics, the overall impression is one of solid achievement and at least a modest florescence.

It will be noted that no mention of "agriculture" was made in the preceding pages, the reason being that I suspect it was not until this

period that significant agriculture was introduced into the Valley. By significant agriculture I refer to intensive practice which was probably based upon an early race of corn and perhaps other cultigens from Mesoamerica (Yarnell 1964), rather than a sometime horticulture of native North American plants[37]. Those who are committed to seeing the presence of significant corn agriculture in Hopewell times (or even Poverty Point!) can, of course, only see this period as a "dark age"; but let us look at the physical evidence, and then speculate.

Because of the lack of archaeological research, there are no definite remains of corn from this period which may be used as evidence. (Of course, it should also be noted that the abundance of food remains in the archaeological record is a much more accurate reflection of food preparation than of food production (Belmont 1967a).) On the other hand, a great deal of work has been done at sites from the bracketing periods and, while remains of cultigens characterize sites from Period IV and later, there is very little evidence for them from Period II[38], and none of an unquestionable nature from the Lower Valley[39].

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[37]Horticulture is but a logical extension of a food-gathering way of life. While some sort of selection and management of plants is implied, this is not of the same order of magnitude as the ground preparation, breeding of high-yield cultigens, and field tending from sowing to harvesting that is required in a way of life that comes to depend upon agriculture.

[38]Some Ohio Hopewell sties, e.g., McGraw (Prufer et al 1965: 107-109), and even more poorly documented Turner, Renner, and perhaps Ansell and Harness (see Streuver 1962; Yarnell 1963), have produced a few ears of corn, and a single ear from an Adena burial mound in Athens, Ohio has recently been dated in context at 280±140 B.C. (Murphy 1971). See also Cutler and Blake 1969: Table 10, but use with care, as few of the dates are radiocarbon determinations (R.A. Marshall, personal communication 2/23/71).

[39]There is only a Marksville Stamped pottery vessel from Moncla Ferry, Louisiana, which purports to exhibit "a possible stylized maize element" (Gibson 1970b), an interpretation which requires an inordinate amount of imagination. It should be noted at this point that, like Caldwell (1965), I am not suggesting that corn could not possibly have been present, but that, whether it was or not, at that time it was of little import--of historical interest, yes, but of economic significance, no.

Artifactually, the case for agriculture at this period is somewhat better. Though crude, the pottery is distinguished by the larger size and jar shape of many of the vessels, which suggests their use as storage containers for grains or seeds. Shell hoes are also a common artifact type, but whether they are a specific indicator of agriculture, or were also used for grubbing out natural roots, is a moot point, for they are also found in Period II sites. Williams notes the Hopewell distribution of shell hoes, as well as their frequency in an early occupation at the Lake George site in the Yazoo Basin of Mississippi (quote in the Southeastern Archaeological Conference Bulletin, No. 3, p. 41 1965). Better evidence, perhaps, is provided by the stone tool inventory which included many chipped implements that could have been used for cultivation, and a variety of grinding stones. While none of these alone are convincing markers for agriculture, together they are suggestive of a tool kit adapted to food production at a time when an agricultural economy was being woven into the fabric of cultures in the eastern United States.

Aside from agriculture, another major economic innovation which certainly occurred during this period is manifested in the appearance of small projectile points, commonly called arrow heads. The bow and arrow was the greatest invention in weaponry since the atlatl, and alone it had the potential of bringing about a sweeping economic revolution--with concomitant changes in other spheres of the cultural pattern. The great advantage of the bow and arrow was that by increasing fire power it was more efficient, and as a result the hunt could be more successful with fewer participants. Whereas before a group of men armed with atlatls and darts relied upon the ambush to surround and get close enough to their prey, now the solitary hunter, or a few companions, could stalk and slay the game from afar. In

other words, less manpower and effort were required to produce the same amount of food.

The bow and arrow was not a local invention--it was introduced into the Valley. Its ultimate origin was Asiatic, and once the idea caught on it spread rapidly through the woodlands of North America. Whether it was initially brought into the Valley from the north, east, or west is of no real consequence, but it may be significant that varieties of the Collins point, the type characteristically associated with sites of this period in the Valley, are found in the uplands to the east, and are certainly related to the Swan Lake point in Alabama (Phillips 1970, Figs. 79, 130, 151, 217: his "Claiborne"; Collins 1932, Pl. 9t-v; Cambron and Hulse 1964, A-81; also see Fig. 12a-e, this paper). The Deasonville phase in the Yazoo Basin appears to represent a people who came down out of the hills, one of the periodic incursions, and it is conceivable that they and their like may have been the initial carriers.

Thus, it would appear that during this period two new and entirely different economic innovations came together in the eastern United States from opposite directions--Asia and Mesoamerica--and in coming together wrought a profound economic revolution, the highest order of which was eventually to be achieved in the Mississippi Valley because of its exceptional fertility for agriculture. In terms of basic subsistence, a stable and well-rounded diet was now possible through the efforts of the minimal social unit: the family. Practicing a form of milpa corn-squash agriculture, which allowed sedentism with only occasional short moves as the soil and game became depleted, a single family could conceivably meet all of its dietary, and most economic, requirements. Also, naturally gathered

Figure 12. Neo-Indian III through V artifacts of the Baytown, Coles Creek, and Plaquemine cultures: a-c. Collins, var. Collins points (Lake George); d-e. Collins, var. Claiborne points (Lake George); f-g. scrapers (Lake George); h. Mulberry Creek Cord Marked; i. Baytown Plain; j. French Fork Incised; k. Chevalier Stamped; l. Coles Creek Incised, var. Coles Creek; m. Harrison Bayou Incised; n. L'Eau Noire Incised, var. L'Eau Noire; o. L'Eau Noire Incised, var. Anna; p. Plaquemine Brushed; q-t. Alba Stemmed, var. Alba (Lake George); u. drill bit (Lake George); v-x. knives (Lake George). Provenience is parenthesized where known. Vessels are from Phillips 1970,

foodstuffs continued to be utilized as a seasonal supplement, the most striking example being the characteristic shell middens that are found in many parts of the Valley.

Demographically, such a subsistence base meant a larger and more dispersed population. Settlements were isolated homesteads, small villages or hamlets, and there were no apparent "centers." By the end of the period, the number of sites testify to the fact that the Valley was being well occupied, but despite the abundant remains there is little "structure" observable, unlike the earlier periods. There was a general overall cultural conformity, but it is also clear that peoples in each region were doing their own thing; this was a time of regionalization and introversion. Each social grouping was operating under the same general set of new rules, but in their own way and without a higher, imposed organization.

If a systemic approach is adopted in the study of culture, then it must be assumed that such major changes in the economic and demographic patterns must have resulted in corresponding changes in other aspects of the culture. Thus, in answer to the question phrased earlier, a speculation: if the introduction of corn agriculture and the bow and arrow led to the development of self-sufficient household economic units which dispersed widely over the floodplain as they grew in number[40]; and

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[40]It must be noted that the far larger number of sites attributed to this period (e.g., see Phillips 1970, Fig. 445) may also have been due to factors other than population growth: viz., the movement required for corn agriculture, a notorious depleter of soils. This movement need not occur any oftener than every few years, but it makes for a constantly shifting population with ill-defined territorial (and hence socio-political) limits. It also means that rather than reoccupying the same sites, as in a seasonal round, new sites were constantly being established.

if a population of such self-sufficient units does not require an elaborate organization for the gathering and redistribution of natural resources; and if a dispersed and shifting population with a purely local orientation may be expected to be fragmented into many small sociopolitical units (which is substantiated by the obvious lack of political sophistication during this period); then this sequence of events was at least contributory to the "Hopewell decline." At the same time, it was also building a solid foundation for the events yet to come.

This, then, was truly a period of transition, and in keeping with such periods it was characterized by heterogeneity as new traits (and perhaps new peoples) were mixed with old in varying combinations--as though in experimentation for the ideal formula. Thus, although the Hopewell social structure may have collapsed rather abruptly, it is apparent that many of the religious-mortuary practices were retained. Small burial mounds were often still constructed, but now they usually contained only one individual, who was buried with few artifacts. This practice may represent simply a link with the past, or it may also reflect connections with the Santa Rosa-Weeden Island cultures on the Gulf Coast. Weeden Island was a vibrant culture[41] which manifested a late survival of burial mound mortuary practices and was especially characterized by exotic funeral ceramics. Many of these ceramic ideas, as well as actual trade pieces, have been found in sites of the Whitehall phase in the Delta (Phillips 1970: 911-912), and the Black River and other phases in the Southern subdivision of the Valley (Belmont 1967b; Phillips 1970: 908-910).

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[41]It has been suggested that the success of the Weeden Island culture was due to the subsuming of milpa agriculture within a redistributive economic system (Fairbanks 1965).

It was certainly no accident that it was to be there that the first indications of the developments which characterize the next period are to be found.

Period IV (A.D. 800 - A.D. 1200):

The centuries between A.D. 800 and A.D. 1200 represent an interval during which a basic synchronic dichotomy existed between events in the Northern and Southern divisions of the Lower Valley. Diachronically, however, there was a certain relationship, in terms of cultural development, which established an internal continuity. It is also probable that both areas were reacting to similar stimuli from the same source--Mesoamerica. The pattern of interplay between northern and southern phenomena which was to be such a significant factor throughout the remaining periods of prehistory had its origins during this time. The period began with the emergence of a new cultural tradition in the Southern subdivision and ended just as a related, yet very distinct, culture approached a climax in the Northern subdivision. The Central subdivision was caught in the middle of these developments and played a largely transitional role, while the Delta seems to have retained its marginal position.

It has been suggested that by the time Period III drew to a close, a stable subsistence pattern, based upon corn agriculture, bow and arrow hunting, and supplemental gathering, had been firmly established in the Valley. The settlement pattern was one of dispersed, slowly shifting households, which had no use for major centers. Functionalism aside, the material culture appeared to have reached an aesthetic low. Then, in the Southern subdivision, there was some indication of the regeneration of the ceramic art at the end of the period, and this was followed by an overall

cultural quickening manifested in other innovations. Put all together, it was clear that a new culture--Coles Creek[42]--had been born, and that this had occurred by A.D. 800. The precise region of birth centered on the Tensas Basin, but by the end of the period it had expanded to include the entire Southern subdivision and a large part of the Delta.

Early Coles Creek culture is best described by the Aden phase (Phillips 1970: 552-555). It is now clear that this phase was a local development which drew heavily upon antecedents. The basic artifactual assemblage continued much as before, and where changes are observable, such as in the ceramics, intermediate forms often may be found. Thus, while favored ceramic decoration now emphasized incising and/or punctating, usually on the upper portion of the vessel[43], some potters also surface roughened the body in the earlier tradition.

The economic base had just been established in the previous period, and so with only minor refinements it appears to continue unchanged throughout this period in the south. Its success is indicated by a definite increase in population as Aden peoples moved to exploit the rich levees of every stream they could find (Belmont 1967a); especially favored were old cut-offs and inactive channels, rather than active river channels, which are more limited ecological niches.

The bounty of the land and new patterns of exploitation were also revealed in the major new characteristic which defines the Coles Creek culture. The appearance of "centers" marked by one or more small

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[42]More is subsumed here under Coles Creek culture than is traditionally done; what used to be considered earlyphases of the Plaquemine culture (Ford 1951; Phillips 1970: 558) are included.

[43]The types Coles Creek Incised, Mazique Incised, French Fork Incised, Evansville Punctated.

pyramidal mounds is a most significant departure from the past. While the dispersed settlement pattern seems to have continued as the basic way of life for the population as a whole, the recognition of some central socio-religious authority is manifest. Moreover, this authority once again had the power to commission and carry out large earth-moving projects. This was not a case of history repeating itself, however, for the authority and organization seem to have derived from very different precepts, if the function, form, and arrangement of the earthworks is any indication. The mounds were now being built for a different purpose. They were built to serve as platforms, most commonly substructural platforms, probably for religious buildings. The classic site plan for such a center consisted of three of these mounds, which were retangular in shape and averaged a modest 15-20 feet in height, arranged on three sides of an open plaza (e.g., the Aden site, itself, see Williams 1956, Fig. 4).

The immediate impression is of a religion which included all of the people; those who could not participate on the mounds were at least included within the plaza. Moreover, it was a life-oriented religion, rather than a mortuary one[44]. Thus, there is no indication of the elaborate and careful interment of privileged individuals which characterized the earlier burial mound tradition. In fact, known burial instances of the Aden phase show that precisely the opposite was the case: e.g., at the Lake George site in the Yazoo Basin of Mississippi, hundreds of individuals were found to have been literally thrown into ill-prepared graves at various levels within a pyramidal mound, without even the

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[44]It is tantalizing to speculate that here was the origin of the sun-oriented religion known from ethnohistoric accounts. Certainly, such a religion is compatible with the development of agriculture.

most rudimentary accompaniments (Williams and Brain n.d.). The dead seem merely to have been disposed of, and their inclusion within the mound appears to have been of little significance. At least it is certain that burial was not the primary purpose of the mound.

The succeeding phases of the Coles Creek culture show little change from the lifeway established during the Aden phase. Except for a few minor refinements, there was an over-whelming continuity throughout the rest of the period, which registers the eminent satisfaction felt by the Coles Creek peoples for their creation. For example, the Kings Crossing phase in the Yazoo Basin (Phillips 1970: 535-537; Williams and Brain n.d.) and the Greenhouse phase in the Lower Red River region (Ford 1951; Belmont 1967b; Phillips 1970: 918-919) are differentiated from Aden primarily by their ceramics, which are especially well made and of a high order of aesthetic accomplishment. These phases probably represent the climax of Coles Creek culture, for during the following phases, e.g., the Crippen Point and early Gordon phases[45] in the Yazoo and Natchez regions (Phillips 1970: 558; Williams and Brain n.d.; Cotter 1952), there was a marked regression in ceramics, while other elements of the culture appear to remain constant.

By A.D. 1200, the Coles Creek culture had reached to its maximum extent. Although obviously successful, it was a very local culture which stayed within its zone of original adaptation, the lower half of the Valley. This may have been due to dependence upon a variety of Tropical

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[45]The inclusion of these phases in the Coles Creek culture, rather than the Plaquemine, is the result of the redefinition of Plaquemine as set forth below, as well as the obvious continuity from the past. Furthermore, to bring this about it has been necessary to split the Gordon phase into two phases, designated here early and late.

Flint corn which required such an environment and did not do well outside it (Cutler and Blake 1970). The northward radiation of Coles Creek culture reached about the latitude of Greenville, Mississippi, when a group of Crippen Point peoples settled at the Winterville site. There, and at other sites on the northern fringes of Coles Creek dominance, the separate, yet similar, traditions that had been developing in the north and south were first to meet in a direct confrontation.

While the Coles Creek culture had been establishing itself in the Southern subdivision, the earlier Baytown culture continued to prevail in the north. Only the overlap of a few ceramic markers in such northern Baytown phases as Black Bayou in southeast Missouri (Williams 1954; Marshall 1965) prove that the north indeed slept for a century or two while the south was experiencing a socio-religious revival. The reasons for this lag are not presently clear, but it is supposed that at least part of the explanation lies in the possibility that Mesoamerican in-- fluences took a little longer to go a little farther.

An even more likely explanation for the later awakening of the north, however, probably derives from the fact of a new economic revolution which did not occur until about halfway through the period. The new development was a shift from "significant" to "intensive" agriculture, which was made possible by the introduction of two very important cultigens about A.D. 1000 (Yarnell 1964: 107, 110). The first of these was a native race of corn, Northern, sometimes called Eastern, Flint (Cutler and Blake 1965, 1969, 1970). The other was an entirely new genus: *phaseolus*, the common bean. The first of these cultigens was developed somewhere to the east of the Valley, while the other was transmitted from Mesoamerica, probably by way of the southwestern United States (Yarnell 1964). Their

combination was to have a profound effect upon agriculture in North America, and especially for the Valley where they first seem to have come together. The Northern Flint was particularly adapted to the shorter growing season of the more northerly latitudes, and thus provided a dependable basis for a predominantly agricultural economy[46]. The beans complemented the corn for nutritional balance; the amino acids present in each are necessary for full utilization of the protein content. Altogether, the corn-bean-squash complex provided a well balanced diet, as well as a dependable food source.

The beans also have a function as significant as their food value; they are agriculturally complementary, as well as nutritionally. Being a legume, they return nitrogen to the soil, thus replacing that removed by the corn. By interplanting the two crops, a common Indian practice in historic times, the fertility of the soil could be maintained even after continuous and intensive cropping (Ward 1965: 44). Add to this the benefit of annual deposition of fresh silts in the alluvial valley, and it may be concluded that soil exhaustion was no longer a major consideration in environmental adaptation. The immediate result would have been that the population could settle down permanently, as it would no longer have been necessary to clear new fields every few years. As the people settled, they grew in numbers and concentrated in new demographic patterns--geographic nuclei to which they could devote their extra time and energies. Concomitantly, an increasingly sophisticated socio-religious structure grew apace.

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[46]Of course, wild foodstuffs were not neglected; that they were still gathered and substantially supplemented the diet have been dramatically illustrated at the Turner site in southeastern Missouri where, in addition to corn and sunflower seeds, charred remains of hickory nuts, acorns, persimmon seeds, black walnuts, and hackberry seeds have been found (Price 1969: 22). At the Lake George site in Mississippi, native products, such as the pecan and mulberry, were also utilized (Williams and

The surplus and organization which characterized this new cultural phenomenon--identified as the Mississippian culture--are manifest in the sheer size and complexity of some of the early Mississippian ceremonial centers. The greatest of all was Cahokia (Fowler 1969), a site situated on the northern peripheries of the Mississippian heartland (the heartland centered on the confluence of the Mississippi and Ohio rivers.) At Cahokia was built the largest mound in all of North America--the 100-foot-high Monks Mound--and the site at its greatest extent included more than 3700 acres. These centers, of which Cahokia was but the largest, represented a new concept. While like the Coles Creek culture in that pyramidal mounds grouped around a plaza were the principal physical features, the centers were of a far larger order of magnitude, and they functioned for more than ceremonial purposes. They also became residential loci, incipient towns where, at the very least, important personages and their retainers lived year-round. A sizable percentage of the ordinary population probably also inhabited the immediate environs for some part of the year. What a very different idea this was from the small sacred centers serving a scattered population on religious occasions, but otherwise permanently inhabited only by a small caretaker group.

How the two ends of the Valley, both of which were being stimulated by the same general influences from Mesoamerica, arrived at these two rather different manifestations is a moot point, but it is suggested that it was largely due to the profound difference in the subsistence base. In the case of Coles Creek, shifting corn agriculture was obviously adapted to the rich bottomlands, perhaps because it was based on a less advanced race

of maize. The result was a local phenomenon[47], which was carried on by the practitioners within the Valley alone, and even then only where it was successful. The Mississippian development, however, prospered because it was supported by intensive corn-bean agriculture which was also widely adaptive.

By A. D. 1200, the Coles Creek culture had probably expanded to the very limits that its people could carry it without some major modification, but the Mississippian culture was on the very threshold of a great period of expansion far beyond its area of original development at the northern end of the Lower Valley. Far beyond even the Valley itself, Mississippian peoples and ideas were to influence almost every corner of the eastern United States.

Period V (A.D. 1200 - A.D. 1600)

This was the great period of Mississippian expansion and climax. The Mississippian culture had developed in that part of the Alluvial Valley which was contiguous to the confluence of the Mississippi and Ohio rivers. This geographic location was to be of immense importance for the dissemination of Mississippian culture, as it had also been a significant factor in the original development. Many traits and peoples had been brought together by these rivers and their tributaries, and when the new corpus had evolved through *in situ* interaction it was only logical that ideas and peoples should return along these routes in a reverse direction.

Within the Valley, the direction of Mississippian expansion was predominantly southward, and the Lower Valley came increasingly under its

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[47]There was obviously some sort of influence exerted upon the Caddo to the west, but the exact nature of this is unknown.

influence. The manner in which this was achieved seems to have been due to both demographic and religious motivation, as well as the ordinary diffusion of superior technological innovations. Thus, the "Mississippianization" of the Valley must be considered from various angles--it was not a single, unique event, but a series of multiple events which were manifested in various forms throughout this period.

In addition to the economic, inferred social, and constructional features which characterized the Mississippian culture, there were a number of artifactual traits that are sure indicators of Mississippian influence; the number and combination of all markers in any given context may suggest the degree and form of that influence. Of course, there was also a wide range of temporal and spatial variation within artifact categories, which distinguish individual Mississippian phases.

The classic Mississippian marker was its pottery, which featured shell tempering, a technological breakthrough that allowed the making of larger containers. Vessel forms were also distinctive--bottles, plates, and especially the jar (an all-around form equally suitable for storage of agricultural surplus and for food preparation). In addition, there were a number of characteristic chipped and ground stone artifacts, most notably triangular and leaf-shaped arrow points, such as the Madison, Cahokia, and Nodena types (Fig. 13d-e). Other Mississippian markers included an apparent revival of respect for the dead, who were often laid to rest with care and surrounded by grave offerings, the more important personages being interred in the pyramidal mounds and often accompanied by unusually rich offerings. The basic building was another distinctive feature, for it was rectangular in form and of wattle and daub construction; earlier examples were framed

by setting small poles in slit trenches, while later ones tended to be of large posts set individually. Moreover, houses were now often erected on small mounds, which was a change in settlement pattern, as well as being the introduction of a new functional type of mound (domiciliary--Nash 1968).

By A.D. 1200, the Mississippian culture was well entrenched in the Northern subdivision of the Lower Valley and several regional phases, such as Cairo Lowland and Hayti-Pemiscot Bayou (Williams 1954; Marshall 1965), were flourishing. They seem to have been a source of many of the general Mississippian traits--especially ceramics--which were already radiating as far southwards as the Southern subdivision[48].

In between, the Central subdivision was being brought into the Mississippian sphere even more directly. The early Big Lake phase in northeastern Arkansas (Morse 1969) seems to have been a case of acculturation inspired by influences transmitted down the secondary rivers in the Eastern Lowlands. It does not appear that large movements of people were involved in this case. But, on the other hand, in a related event the isolated Buford site in the Yazoo Basin was certainly an example of a direct colonization from southeast Missouri at approximately 1200[49].

Also very early in the period, another quite distinct Mississippian influence had a very strong impact upon the Lower Valley. Probably for demographic or religious reasons groups of people left the great center of Cahokia in western Illinois. Some of these seem to have entered the

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[48]Shell tempering and the characteristic jar form are present in Crippen Point phase contexts at both Winterville and Lake George in the southern Yazoo Basin (Brain 1969; Williams and Brain n.d.).

[49]This classic example of a "site unit intrusion" (Willey et al 1956: 9) does not appear to have survived the colonists: it soon expired, or was absorbed, and later Mississippian manifestations in the area seem to have derived from other sources.

Lower Valley via the main channel of the Mississippi and, bypassing the already acculturated Northern subdivision, concentrated on the Central and Southern subdivisions. In eastern Arkansas, the large mounds and distinctive ceramic assemblage of the Cherry Valley phase are an example of this contact (Perino 1967; Morse 1969). Even further to the south, the appearance of Cahokia pottery [50], followed immediately by a burst of mound construction, at the Winterville, Lake George, and related sites in the Yazoo Basin provides further evidence of the far-flung attentions of Cahokia.

The florescent Winterville phase (Brain 1969) which followed this contact at the northern outposts of the Coles Creek culture sphere is clear proof of the basic similarity of these two cultures. Whatever the Cahokians offered (probably of a religious nature), it seems to have been attractive to the local inhabitants. (The contact, itself, may not always have been peaceful. Two Mississippian burials at the contemporary Bonds site in Tunica County, Mississippi, appear to have been executed by peoples using stone arrow heads of the southern tradition (Connaway and McGahey 1970: 8).)

Equally significant is the fact that the Mississippian culture did not immediately overwhelm the obviously still viable Coles Creek culture. Thus, a hybridization of cultural traits is manifest. While specific Cahokian ceramics did not persist, there was an acceptance of general Mississippian elements, and the resulting pottery was an eclectic blend of both southern and northern styles. Even more interesting was the settlement pattern. A carefully planned construction project was executed on a grand scale at both Winterville and Lake George. The resultant multi-mound ceremonial

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[50] This pottery was a mixture of Old Village and Trappist phase types--Powell Plain, Cahokia Cord Marked, Ramey Incised--therefore, this event may be dated soon after A.D. 1200 (Hall 1966).

centers, each dominated by a large mound some 60 feet in height, were obviously of northern inspiration so, too, probably were the organization and religious precepts which may be inferred. But unlike a northern center, these sites seem to have been strictly ceremonial in function, and in the southern manner were inhabited by only a small resident population. Obviously, the demographic pattern did not change significantly at this time. During the later part of the period the situation seems to have changed, and the Lake George phase was a full member of the late Mississippian culture (Phillips 1970: 560-567; Williams and Brain n.d.).

As Mississippian influences slowly permeated the southern half of the Lower Valley--a process which was still going on at the end of the period--the mixture of northern and southern elements, such as the emphasis upon large-scale mound construction but adherence to native settlement and ceramic traditions, gave rise to a new cultural phenomenon: the Plaquemine culture. In addition to the Winterville phase in the Yazoo Basin, other prehistoric components of the Plaquemine culture were the Fitzhugh phase in the Tensas Basin (Phillips 1970: 945), the late Gordon phase in the Natchez-Lower Red River region (Cotter 1951, 1952; Phillips 1970: 947-948), and the Medora phase in the northern Delta (Quimby 1951; Phillips 1970: 950-951). The ceramics of these phases feature some late Coles Creek types, some new types such as Plaquemine Brushed and L'Eau Noire Incised, and occasional shell tempering.

At the same time, the Gulf coastal region of the Delta was being subjected to a whole new set of Mississippian influences. Mississippian radiation throughout the eastern United States had established outposts at Moundville in Alabama, and along the Florida coast (e.g., Fort Walton). If ceramics are any certain indication, it appears that Mississippian

peoples--or acculturated natives--from these phases moved along the Gulf Coastal Plain, entered the Delta subdivision of the Lower Valley, and brought about the development of the Bayou Petre phase (Kniffen 1935; Phillips 1970: 951-953). Thus, by means of an end-run around the Plaquemine culture, the Lower Valley was being Mississippianized from two directions by the end of the period.

Moundville also had direct ties with the Central subdivision, where Moundville ceramic traits were present in the late Mississippian phases, such as Walls and Nodena (Phillips, Ford, and Griffin 1951; McKenzie 1966; Phillips 1970: 933-938). These late phases continued into the historic period--at least these were the people DeSoto encountered. They are characterized by a centralized settlement pattern (towns of the "St. Francis type"), de-emphasis upon mound construction, and elaborately modeled and painted pottery. Here was the Mississippian climax. This backwash appears to have been part of an even larger phenomenon: a new religion, which brought about the last florescence of prehistoric aboriginal culture in the eastern United States.

The Southeastern Ceremonial Complex, or "Southern Cult" as it is more often termed, seems to have been a religious event of major proportions (Waring and Holder 1945; Williams 1968). Certainly drawing from an ultimate Mesoamerican inspiration, a brilliant spark of religious fervor spread dramatically across a great expanse of the southeastern United States sometime about the middle of this period[51]. It was typically characterized by a highly sophisticated aesthetic expression which used a variety of techniques and media--intricately engraved shell, repoussé copper plates, stone sculpture, and finely incised or modeled pottery--to accompany, and often depict, an elaborate ceremonialism.

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[51] I don't wish to press the suit too closely at this point, but it is my impression that the cult may be rather late, the zenith perhaps occurring in the 14th century.

Whatever the basic tenets of this new religion may have been, the symbolism constantly evokes a vitality, a concern for an all-encompassing supernatural, rather than an inward preoccupation with death. The sun is represented repeatedly, along with many animalistic deities, especially a fearsome olympian with serpent-bird-feline attributes. Yet there remains the impression of man's control over his destiny--he does not seem to be so much in awe of his gods as in communion with them. Of course, there was a mortuary aspect, especially exemplified at Moundville.

It was, perhaps, to act as intermediary that a priestly class was supported in all the luxury that indigenous culture could muster. And it must have been this class that was responsible for the rapid spread of the "Cult", and the remarkably close contact which was maintained between the various far-flung centers, such as Etowah in Georgia, Moundville in Alabama, and Spiro in Oklahoma.

This geographic distribution of Cult centers is most significant. Not only were they quite different from the earlier Mississippian centers, but they were located on the peripheries of the Mississippian culture sphere, and even in non-Mississippian areas. Obviously, a certain religious discontinuity from the past is represented, and the new religion operated both within and without the Mississippian context. The concepts must have had an appeal to other native cultures as well as to the established Mississippian world view. This pan-cultural aspect immediately identifies it as a distinct phenomenon--a cult interaction sphere, perhaps--reminiscent of past events, but quite a different affair. Most important of all, the Cult does not seem to have originated in the Valley, and therefore it represents one of the very few significant events of late prehistory in the eastern United States for which the Lower Valley was not the principal cradle and arena.

Figure 13. Neo-Indian V and VI artifacts of the Mississippian and Plaquemine-Natchezan cultures: a. large pyramidal mound (Winterville); b. pebble celt (Winterville); c. bone projectile point (Winterville); d-e. Madison points (Winterville); f-i. Mississippian incised and punctated pottery of various types; j. Walls Engraved bottle with Cult mofit; k. Nodena Red and White painted bottle; l-m. Bell Plain modeled effigy vessels; n-p. Leland Incised, vars. Leland, Ferris, and Fatherland. Provenience is parenthesized. Vessels

The Cult was also the last homogenizing agent in eastern prehistory prior to European contact. A large part of the continent was briefly united at the socio-religious level. But the florescence was brief and apparently within a few generations the unity had fragmented into the regional autonomies so characteristic of the terminal period of the era.

Period VI: (A.D. 1600 -

The DeSoto entrada into the Lower Mississippi Valley during the Spring of 1541, and the subsequent travails, provide us with the only ethnohistoric glimpse of the native Mississippian culture while it still retained much of its vitality. Perhaps forewarned, the local Indians received the Spaniards with curiosity and suspicion, used them with guile, and finally drove them away with hostility. Often bested in individual encounters, they nevertheless were not awed by the strange interlopers.

In fact, it was the Spaniards themselves who demonstrated a certain and quite uncharacteristic awe when confronted by the overlord of a large portion of the Central subdivision. This personage, identified as Aquixo, arrived by barge in June, just as DeSoto's carpenters had finished building the piraguas in which the army was to cross the Mississippi. Aquixo came in full panoply and was accompanied by an entourage which filled 200 canoes. This was no rabble, but a carefully designed show of strength. The ranks were ordered, and discipline was apparent in every move (see Phillips, Ford, and Griffin 1951: 352-353 for further description and discussion). Clearly demonstrated in this one episode was a highly sophisticated socio-political organization, a glimpse of native development while still near its height. This is a satisfying insight to the prehistoric story, a rare affirmation of the events inferred.

With the eventual disheartened retreat of the "conquistadores", the Mississippi Valley receded once more into the realm of the unknown. It was nearly a century and a half before European contact was again established, and during this period the Valley cultures went through a vast metamorphosis. It was the French who made the next tentative explorations and it was apparent then, only 140 years later, that a great change had occurred. Whereas the Spaniards had encountered large populations concentrated in fortified towns, agricultural surpluses even after a long winter, and autonnomous provinces loosely confederated under antagonistic paramount chiefs, the French found a scattered and much reduced population, only occasional pockets of which were organized into petty chiefdoms [52].

The basic factor responsible for the socio-cultural regression was certainly the dramatic decrease in population, which has been estimated to have dropped as much as 80% in the Central subdivision alone (Phillips, Ford, and Griffin 1951: 419), and some regions, e.g., the Yazoo Basin, seem to have been completely depopulated. The causes of this depopulation were certainly manifold, but one probably had a far greater impact than any other; the Spaniards may have exerted little cultural influence during their contact, but they certainly contributed a physiological factor in the form of new diseases to which the Indians had no natural immunity. The results were disastrous, and the effect was later compounded as waves of new poxes and plagues swept through the indigenous population of the

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[52]There does not seem to have been a major change in subsistence activities, although there is no indication of men tending the fields as reported for the Mississippi River town of Quizqui by the DeSoto chronicler, the Gentleman of Elvas (Phillips, Ford, and Griffin 1951: 351). If Elvas is to be believed, a significant development occurred in late Mississippian culture and then disappeared by the last quarter of the seventeenth century.

continent from the colonists on the eastern seaboard. Following the pestilence, in good biblical fashion, were wars and famines, and man's fragile constructions rapidly disappeared.

There were survivals, of course, and some semblance of the past seems to have been preserved in isolated cases. The most famous example was that of the Natchez, whom the French considered to be the most "civilized" of the tribes they encountered within the Valley. The Natchez were heirs to the Plaquemine culture and had somehow managed to retain a high degree of sociocultural complexity, centered on an all-powerful chief who formed the apex of a hierarchy of status-ranked classes. The unusual operation of this social system seems to reveal clearly the disruptive context in which the Natchez were existing (Brain 1971).

The chiefdom of the Natchez consisted of less than a dozen villages, yet it was one of the largest and best organized political units encountered by the French. (For this reason, of course, it was inevitable that the two should eventually come into conflict.) Other groups were often little more than small tribal units of two or three villages. There were the Quapaw in the north, the Tunica and Taensa in the Southern subdivision--in addition to the Natchez--and the Chitimacha in the Delta. Single settlements composed of refugees from several remnant tribes were not unusual, and were especially prevalent at the old cultural divide between the Mississippian and Plaquemine-Natchezan cultures (e.g., the Koroa, Yazoo, and Tioux along the Yazoo River--see Swanton 1911: 327-336). Mixed populations became increasingly the rule throughout the 18th century as more dislocations occurred (striking examples being the Tunica migration recorded by Swanton 1911: 306-326; and

the repeated reoccupation of the Bayou Goula site within a 25-year period by at least five, and perhaps seven, different tribal groups, as discussed by Quimby 1957: 162).

Beyond the ethnohistoric evidence, a considerable amount of archeological data relating to this early French contact period has recently been accumulated. Excluding strictly Colonial sites, such as forts and trading posts, a number of historic native sites have been identified through the presence of European trade goods (Williams 1962; Brain 1970b). These artifacts include metal tools and ornaments, glass beads, gun parts, and glazed ceramics--a small residue of the great quantity of goods listed in the 18th century trading accounts.

The dispersal of the Natchez and their allies, after their unsuccessful revolt against the French in 1729, opened the Lower Valley for European colonization. Many French Canadians took advantage of this, following the loss of the northern provinces to Great Britain during the French and Indian war. The remaining Indians then began a rapid decline from which few viable tribal groups emerged, according to records prepared after the assumption of American control of the Valley in 1803. It is worth noting, as an ironic postscript to our story, that the Chickasaw and Choctaw were the most important of these last groups--hill tribes that had moved into the vacuum in the central part of the Valley--until they were removed to Oklahoma after the Treaty of Doak's Stand in 1820.

Summary

With the advent of the Neo-Indian Era after 2000 B.C., a major change is observable in the archaeological record of the Lower Mississippi Valley. Whereas during the preceding eras events in the Valley differed little from

those occurring elsewhere in the eastern United States, it was at this time that a developmental primacy was first established and increasingly affirmed. Because of various geographical and geophysical features already enumerated, the Valley became a gatherer and disseminator of ideas and people. The results of such interaction in an exceptionally rich natural environment may be briefly reviewed.

The first indication of the new developments at the beginning of Period I is found in the Poverty Point culture, which centered in the southern half of the Valley. During its ascendancy, Poverty Point influenced not only the whole Valley, but peripheral areas as well. Derivative of the local late Meso-Indian cultures, with which it shared a similar riverine-lacustral-coastal subsistence orientation and settlement pattern, the Poverty Point culture showed a distinct difference in the production of luxury artifacts of high technical quality, the erection of earthworks at selected centers, and the trade and redistribution of goods over great distances. Of the greatest significance is the socio-religious elaboration which may be inferred from these physical attributes. It is clear that the human and natural resources were being efficiently marshalled and utilized.

The eventual decline of Poverty Point seems to have been followed by a brief interval of cultural recession at the beginning of Period II. For whatever reason, the socio-religious structure deteriorated, as did the quality of attributes which characterized it. In place, a number of local, less colorful cultures evolved. All of these, however, shared an important innovation--pottery. The technology of pottery making was probably diffused into the Valley from the east, the first foreign influence of the many which occurred during the era.

Hard upon the introduction of pottery, came a strong thrust from the northern Hopewell culture. This brought about the development of a local expression in the Southern subdivision--the Marksville culture. Like its northern progenitor, this culture was characterized by an elaborate mortuary ceremonialism, the erection of burial mounds, and the manufacture and trade of status artifacts. Once again, a complex social organization is implied. An increase in the number of sites also indicates an increase in population. To account for this, the more even distribution of sites throughout the Valley suggests the exploitation of all possible econiches plus the controlled redistribution of all resources. There is also evidence that some form of food production was being added to the hunting-gathering subsistence base. This almost certainly began with the sometime horticulture of native plants, such as chenopod, marsh elder, and sunflower, and probably even included the incipient cultivation of a primitive corn.

It is not until Period III, however, that significant corn agriculture can be inferred. A putative economic revolution brought about by the cultivation of corn, squash and other plants, and by the introduction of the bow and arrow, as well as the continued gathering of selected natural resources, is held to have brought about household self-sufficiency. These techniques were refined over the centuries, and the basis was laid for the later great developments. The immediate impact, however, was population growth and non-nucleated settlement dispersal, localization of orientation, and a complete breakdown of foregoing social institutions. The archaeological record of these cultures is quite uninspiring, but it may be that this was the necessary pupa stage--a period when the Valley was gathering its strength for a fresh florescence.

Era	Per.	Time	Cultural Characterization of Period
NEO-INDIAN	VI	1600	Historic Contact
	V	1200	Mississippian Climax and Southern Cult
	IV	800	Rise of the Pyramidal Mound
	III	400	Agricultural? Revolution
	II	A.D. 1	Hopewell Radiation
	I	1000	Poverty Point Development
MESO-INDIAN	III	2000	Maximum Riverine Efficiency
	II	3000 4000	Primary Forest Efficiency
	I	5000 6000	Regional Adaptation
PALEO-INDIAN	IV	7000	End of Fluted Point Tradition
	III	8000	Regional Variation
	II	9000 10,000	Clovis Dispersal
	I	15,000	Man's Entry into the New World?

Figure 14. The chronology and cultural characterization of the prehistoric development in the Lower Mississippi Alluvial Valley.

already present in the Paleo-Indian tool kit and suitable for killing and butchering animals are to be found nutting and milling stones, axes, and a variety of other tools.

One of the most important new innovations in the tool kit, however, was the atlatl. This mechanical device greatly increased the firepower and effective range of the prehistoric hunter, and must have had a profound effect on hunting technique. Whereas the Paleo-Indian probably used his spear in a thrusting manner to wound and dispatch cornered game, and rarely threw it, it was now possible for a smaller number of men to spring from ambush and strike down the surprised game from a much greater distance.

Thus, man's inventiveness made up for the changed situations. The basic cultural pattern expresses a series of adjustments to a mixed hunting and gathering economy within a riparian ecological setting ("maximum riverine efficiency") supported by the forested uplands. This was a way of life so in tune with the environment that it survived along the smaller tributaries in some of the more isolated uplands long after the mainstream had seen and participated in the great developments characterizing the Neo-Indian era.

The beginning of the Neo-Indian Era some 4000 years ago coincided with the attainment of modern physiographic and environmental conditions in the Valley. At this same time, certain major socio-cultural changes are also manifest. Elaborations in these spheres continue to characterize the entire era, and each period is distinguished by one or more technological, social, or ideological innovations. These innovations occurred unevenly in time and space, but they had a cumulative effect which was ultimately transmitted throughout the entire Valley and beyond.

In the realm of technology the most important innovations were, in probable order of introduction: pottery, horticulture and agriculture, and

the bow and arrow. With the possible exception of some form of horticulture, none of these were local inventions, yet their appearance and ultimate combination in Valley cultures was to have far-reaching effects. The significance of pottery has perhaps been overdone by archaeologists, but it is a convenience. The economic importance of agriculture and the bow and arrow is self-evident, and because they allowed an increasing degree of sedentism they substantially influenced social and ideological development.

Social changes are seen in the steadily growing population, a general trend towards centralization of the settlement pattern (although there were times and areas where dispersal was the rule), and the repeated imposition of a social hierarchy in which highly ranked individuals exerted a great deal of authority. This authority is clearly manifested at intervals by demographic nucleation and the organization required to construct the often associated earthworks.

The ideological development grew apace with technological and social evolution. The Poverty Point and Hopewell climaxes were certainly religious in inspiration and motivation. What the Poverty Point peoples may have believed is uncertain, but the Hopewell practice had a strong mortuary cast. The Coles Creek development also had a strong religious component, probably of Mesoamerican origin, and a certain religious fervor was certainly responsible for the great early Mississippian ceremonial centers and the later dramatic spread of the elaborate Southern Cult.

In mature, late Mississippian cultures in the Valley, there seems to have been a political development which transcended mere theocracy. The cacique who confronted DeSoto on the Mississippi River was a political figure, who wielded political authority; he was a chief. A chiefdom is

a higher level of social integration than a tribal society and is dependent upon certain technological and social achievements, such as those already outlined--increased productivity, population growth, and demographic organization (Service 1962: 142).

The cultural dynamics of man's presence in the Valley during the Neo-Indian era may be expressed in dichotomies. First, there were the Valley cultures which suffered occasional intrusions from the hills (Tchefuncte, perhaps, some of the Baytown phases, the historic Chickasaw and Choctaw), but this happened only during the "low points" of Valley development. When a Valley culture floresced, it swept all before it, and whether it originated in the north or south it generally reached the other end. Thus, Poverty Point emanated from the south; Marksville was inspired from the north, flourished in the south, and participated in the Hopewellian interaction sphere; Coles Creek was of mixed southern heritage, and slowly moved north until it was met, encircled, and overwhelmed (transformed into the Plaquemine culture) by the northern Mississippian culture. Outside the Valley, all of these cultures exerted at least a moderate, and sometimes substantial, influence upon the late prehistoric events in eastern North America.

In conclusion, during the Paleo-Indian era the Lower Mississippi Valley was but one more environment through which the nomadic hunter had to pass in following the game herds; in the Meso-Indian era the Valley was selected for at least seasonal occupation, and eventually year-round utilization through maximization of resources. By the Neo-Indian era the resident cultures were distinctively Valley-oriented and capable of making full use of it. This marvelous adaptation enabled the Valley peoples to

exploit the geographical potential of their environment, and to share their ideas, as well as those of others. It must come as no surprise, then, that the Lower Mississippi River and its tributaries became the cradle of cultural development for eastern North America.

Postscript

The prehistoric Indian had achieved a communion with his land through the adaptation of cultural refinement. The modern occupant has made no such attempt: he has completely destroyed the marvelous biological diversity which once existed in the Valley by clearing and draining the land and instituting one-crop agriculture. The long-term effects of this massive redesign of nature are unknown.

Now, in the continuing campaign to adapt the land to his use, rather than the reverse, the modern farmer is in the process of completely transforming the topography of the Valley--the greatest (and most arrogant) earth-moving project of them all. Mostly through land-leveling, but as a result of other projects as well, prehistoric sites are being destroyed in vast numbers. It has been estimated that 25% of the known sites have been destroyed during the past decade (e.g., Redfield and Moselage 1970: 42). The entire Valley has been declared an archaeological disaster area by professional archeologists. Need this really be the harbinger of the future?

References Cited

Bell, Robert E.
1960 Guide to the Identification of Certain American Indian Projectile Points. Oklahoma Anthropological Society, Special Bulletin, No. 2. Oklahoma City.

Belmont, John S.
1967a The Development of Agriculture in the Lower Valley. Southeastern Archaeological Conference, Proceedings, Bulletin, No. 5, pp. 16-18. Morgantown.

1967b The Culture Sequence at the Greenhouse Site, Louisiana. Southeastern Archaeological Conference, Proceedings, Bulletin, No. 6, pp. 27-35. Morgantown.

Brain, Jeffery P.
1969 Winterville: A Case Study of Prehistoric Culture Contact in the Lower Mississippi Valley. Ph.D. Dissertation, Yale University. New Haven.

1970a Early Archaic in the Lower Mississippi Alluvial Valley. American Antiquity, Vol. 35, No. 1, pp. 104-105. Salt Lake City.

1970b The Tunica Treasure. Lower Mississippi Survey, Peabody Museum, Harvard University, Bulletin, No. 2. Cambridge.

1971 The Natchez "Paradox." Ethnology, Vol. X, No. 2. Pittsburgh.

Brain, Jeffery P. and Drexel A. Peterson
in press Palmetto Tempered Pottery. To be published in a forthcoming Bulletin of the Southeastern Archaeological Conference.

Broyles, Bettye J.
1969 Type Descriptions. Mimeograph. Morgantown.

Caldwell, Joseph R.
1958 Trend and Tradition in the Prehistory of the Eastern United States. American Anthropological Association, Memoir, No. 88. Menasha.

1965 Primary Forest Efficiency. Southeastern Archaeological Conference, Bulletin, No. 3, pp. 66-69. Cambridge.

1966 The New American Archaeology. In New Roads to Yesterday, J. R. Caldwell, ed. Basic Books, Inc.

Caldwell, Joseph R. and Robert L. Hall, eds.
1964 Hopewellian Studies. Illinois State Museum, Scientific Papers, Vol. 12, No. 6. Springfield.

Cambron, James W. and David C. Hulse
1964 Handbook of Alabama Archaeology. D. L. DeJarnette, ed. University, Alabama.

Coe, Joffre L.
1964 The Formative Cultures of the Carolina Piedmont. American Philosophical Society, Transactions, Vol. 54, Part 5. Philadelphia.

Collins, Henry B., Jr.
1932 Excavations at a Prehistoric Indian Village Site in Mississippi. The United States National Museum, Proceedings, Vol. 79, Art. 32. Washington.

Connaway, John and Sam McGahey
1970 Archaeological Survey and Salvage in the Yazoo-Mississippi Delta and in Hinds County, November 1, 1968 - December 31, 1969. Mississippi Archaeological Survey, Preliminary Report.

Cotter, John L.
1951 Stratigraphic and Area Tests at the Emerald and Anna Mound Sites. American Antiquity, Vol. 17, No. 1. pp. 18-32. Salt Lake City.

1952 The Gordon Site in Southern Mississippi. American Antiquity, Vol. 18, pp. 110-126. Salt Lake City.

Cutler, Hugh C. and Leonard W. Blake
1965 Analysis of Corn from the Banks Site, Crittenden County, Arkansas. Southeastern Archaeological Conference, Bulletin, No. 3, pp. 75-77. Cambridge.

1969 Corn from Cahokia Sites. In Explorations into Cahokia Archaeology, M. L. Fowler, ed. Illinois Archaeological Survey, Bulletin, No. 7, pp. 122-136. Urbana.

1970 Food Plant Remains from Nine Prehistoric Indian Sites in the Yazoo Delta Area of Mississippi. Mississippi Archaeological Association, Newsletter, Vol. 5, No. 2.

DeJarnette, D. L., E. B. Kurjack and J. W. Cambron
1962 Stanfield-Worley Bluff Shelter Excavations. Alabama Archaeologist, Vol. 8. University, Alabama.

Dickeson, M. W.
1846 Report at Meeting of October 6, 1846. Academy of Natural Sciences of Philadelphia, Proceedings, Vol. 3, No. 5, pp. 106-107. Philadelphia.

Fairbanks, Charles H.
1965 Gulf Complex Subsistence Economy. Southeastern Archaeological Conference, Bulletin, No. 3, pp. 57-62. Cambridge.

Fisk, Harold N.
1944 Geological Investigations of the Alluvial Valley of the Lower Mississippi River. Mississippi River Commission, Corps of Engineers, U. S. Army, Publication No. 52. Vicksburg.

Ford, James A.
1951 Greenhouse: A Troyville-Coles Creek Period Site in Avoyelles Parish, Louisiana. American Museum of Natural History, Anthropological Papers, Vol. 44, Pt. 1. New York.

1963 Hopewell Culture Burial Mounds near Helena, Arkansas. American Museum of Natural History, Anthropological Papers, Vol. 48, Pt. 2. New York.

1966 Early Formative Cultures in Georgia and Florida. American Antiquity, Vol. 31, No. 5, Pt. 2, 781-799. Salt Lake City.

1969 A Comparison of Formative Cultures in the Americas. Smithsonian Contributions to Anthropology, Vol. 11. Washington.

Ford, James A., Philip Phillips, and William G. Haag
1955 The Jaketown Site in West-Central Mississippi. American Museum of Natural History, Anthropological Papers, Vol. 45, Pt. 1. New York.

Ford, James A. and George I. Quimby
1945 The Tchefuncte Culture, an Early Occupation of the Lower Mississippi Valley. Memoirs of the Society for American Archaeology, No. 2. Menasha.

Ford, James A. and Clarence H. Webb
1956 Poverty Point, a Late Archaic Site in Louisiana. American Museum of Natural History, Anthropological Papers, Vol. 46, Pt. 1. New York.

Fowler, Melvin L.
1969 The Cahokia Site. In Explorations Into Cahokia Archaeology, M. L. Fowler, ed. Illinois Archaeological Survey, Bulletin, No. 7. pp. 1-30. Urbana.

Gagliano, Sherwood M.
1964a Post-Pleistocene Occupations of Southeastern Louisiana Terrace Lands. Southeastern Archaeological Conference, Proceedings, Bulletin, No. 1, pp. 18-26. Cambridge.

1964b An Archaeological Survey of Avery Island. Louisiana State University. Baton Rouge.

1967a Occupation Sequence at Avery Island. Louisiana State University Press. Baton Rouge.

Gagliano, Sherwood M.
1967b Kirk Serrated: An Early Archaic Index Point in Louisiana. The Florida Anthropologist, Vol. XX, Nos. 1-2. Gainesville.

1968 Late Archaic-Early Formative Relationships in South Louisiana. Coastal Studies Institute. Louisiana State University. Baton Rouge.

Gagliano, Sherwood M. and H. F. Gregory, Jr.
1965a A Preliminary Survey of Paleo-Indian Points from Louisiana. Louisiana Studies, Vol. IV, No. 1, pp. 62-77. Natchitaches.

1965b The Paleo-Indian Era: Distribution of Finds, Louisiana. Southeastern Archaeological Conference, Bulletin, No. 2, pp. 1-4. Cambridge.

Gagliano, Sherwood M. and Roger T. Saucier
1963 Poverty Point Sites in Southeastern Louisiana. American Antiquity, Vol. 28, No. 3, 320-327. Salt Lake City.

Gibson, Jon L.
1970a Intrasite Variability at Poverty Point; some Preliminary Considerations on Lapidary. Paper presented at the 27th Southeastern Archaeological Conference, Columbia, South Carolina, October 28 - November 1, 1970.

1970b The Hopewellian Phenomenon in the Lower Mississippi Valley. Louisiana Studies, Vol. IX, pp. 176-192. Natchitaches.

Goggin, John M. and William C. Sturtevant
1964 The Calusa: A Stratified, Nonagricultural Society. In Exploration in Cultural Anthropology, W. H. Goodenough, ed. McGraw-Hill, New York.

Greengo, Robert E.
1964 Issaquena: An Archaeological Phase in the Yazoo Basin of the Lower Mississippi Valley. Memoirs of the Society for American Archaeology, No. 18. Salt Lake City.

Griffin, John W.
1964 Preliminary Report on Excavations in Russell Cave National Monument. Southeastern Archaeological Conference, Proceedings, Bulletin, No. 1, pp. 33-35. Cambridge.

Haag, William G.
1961 The Archaic of the Lower Mississippi Valley. American Antiquity, Vol. 26, pp. 317-323. Salt Lake City.

1965 Louisiana in North American Prehistory. Louisiana Studies, Vol. IV, No. 4, pp. 279-323. Natchitaches.

Hall, Robert L.
1966 Cahokia Chronology. Mimeograph of paper presented to Central States Anthropological Society, April 28-30, 1966.

Haynes, C. Vance
1970 Geochronology of Man-Mammoth Sites and their Bearing on the Origin of the Llano Complex. In Pleistocene and Recent Environments of the Central Great Plains, W. Dart and J. N. Jones, eds. Department of Geology, University of Kansas, Special Publication, No. 3. Lawrence.

Kaye, John M.
1970 Pleistocene Mammalian Fossils Found in North Mississippi. Mimeograph. Geology Department, Mississippi State University.

Kniffen, Fred B.
1935 A Preliminary Report on the Mounds and Middens of Plaquemines and St. Bernard Parishes, Lower Mississippi River Delta. Louisiana Geological Survey, Bulletin, No. 8, pp, 407-422.

Koehler, Thomas H.
1966 Archaeological Excavation of the Womack Mound. Mississippi Archaeological Association, Bulletin, No. 1. Oxford, Miss.

Krieger, Alex D.
1964 Early Man in the New World. In Prehistoric Man in the New World, J. D. Jennings and E. Norbeck, eds. The University of Chicago Press. Chicago

Lewis, T. M. N. and Madeline Kneberg
1959 The Archaic Culture in the Middle South. American Antiquity, Vol. 25, No. 2, pp. 161-183. Salt Lake City.

Lewis, T. M. N. and Madeline Kneberg Lewis
1961 Eva: An Archaic Site. The University of Tennessee Press. Knoxville.

Luchterhand, Kubet
1970 Early Archaic Projectile Points and Hunting Patterns in the Lower Illinois Valley. Illinois Archaeological Survey, Monograph, No. 2.

McKenzie, Douglas H.
1966 A Summary of the Moundville Phase. Journal of Alabama Archaeology, Vol. XII, pp. 1-58. University, Alabama.

McNutt, Charles H. and J. Bennett Graham
1965 Archeological Investigations at Kentucky Lake, Tennessee: 1965. Memphis State University, Anthropological Research Center, Occasional Papers, No. 1. Memphis.

Marshall, Richard A.
1965 An Archaeological Investigation of Interstate Route 55 through New Madrid and Pemiscot Counties, Missouri, 1964. Highway Archaeology Report, No. 1. University of Missouri, Columbia.

Mason, R. J.
1962 The Paleo-Indian Tradition in Eastern North America. Current Anthropology, Vol. 3, pp. 227-278. New York.

Moore, Clarence B.
1908 Certain Mounds of Arkansas and Mississippi. Journal of the Academy of Natural Sciences of Philadelphia, Vol. 13. Philadelphia.

Morse, Dan F.
1969 Introducing Northeastern Arkansas Prehistory. The Arkansas Archeologist, Vol. 10: 12-28. Fayetteville.

1970 Progress Report on Dalton Project '70. Mimeograph. Jonesboro.

Murphy, James L.
1971 Maize from an Adena Mound in Athens County, Ohio. Science, Vol. 171, pp. 897-898. Washington.

Nash, Charles H.
1968 Residence Mounds: An Intermediate Middle-Mississippian Settlement Pattern. Memphis State University Anthropological Research Center, Occasional Papers, No. 2. Memphis.

Perino, Gregory
1965 The Paleo-Indian Era: Distribution of Finds, Arkansas. Southeastern Archaeological Conference, Bulletin, No. 2, pp. 18-20. Cambridge.

1967 The Cherry Valley Mounds and Banks Mound 3. Central States Archaeological Societies, Inc., Memoir, No. 1. Quiney, Illinois.

Phillips, Philip
1970 Archaeological Survey in the Lower Yazoo Basin, Mississippi, 1949-1955. Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, Vol. 60. Cambridge.

Phillips, Philip, James A. Ford and James B. Griffin
1951 Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947. Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. 25. Cambridge.

Potter, Stephen R.
1970 Notes on Some Missouri Projectile Points and Knife Blades of the Early Big-Game Hunter Tradition. The Missouri Archaeological Society, Newsletter, No. 244, pp. 1-6. Columbia.

Price, James E.
1969 Analysis of a Middle Mississippian House in Butler County, Missouri. Museum of Anthropology, University of Missouri-Columbia, Museum Briefs, No. 1. Columbia.

Prufer, Olaf H. and Raymond S. Baby
1963 Palaeo-Indians of Ohio. The Ohio Historical Society.

Prufer, Olaf H. et al.
1965 The McGraw Site; A Study in Hopewellian Dynamics. Cleveland Museum of Natural History, Scientific Publications, Vol. 4. Cleveland.

Quimby, George I.
1951 The Medora Site; West Baton Rouge Parish, Louisiana. Field Museum of Natural History, Anthropological Series, Vol. 24, pp. 81-135. Chicago.

1956 The Locus of the Natchez Pelvis Find. American Antiquity, Vol. XXII, No. 1, pp. 77-79. Salt Lake City.

1957 The Bayou Goula Site, Iberville Parish, Louisiana. Chicago Natural History Museum, Fieldiana: Anthropology, Vol. 42, No. 2. Chicago.

1958 Fluted Points and Geochronology of the Lake Michigan Basin. American Antiquity, Vol. XXIII, No. 3, 247-254. Salt Lake City.

Redfield, Alden
1966 The Hardin Point. The Arkansas Archeologist, Vol. 7, No. 3, pp. 53-57. Fayetteville.

n.d. The Dalton Project, 1961-1962. Manuscript on deposit at Peabody Museum, Cambridge, and the University of ARkansas Museum, Fayetteville.

Redfield, Alden and John H. Moselage
1970 The Lace Place, a Dalton Project Site in the Western Lowland in Eastern Arkansas. The Arkansas Archeologist, Vol. 11, No. 2, pp. 21-44. Fayetteville.

Rolingson, Martha A. and Douglas W. Schwartz
1964 Paleo-Indian Problems in Kentucky. Southeastern Archaeological Conference Proceedings, Bulletin, No. 1, pp. 42-48. Cambridge.

1966 Late Paleo-Indian and Early Archaic Manifestations in Western Kentucky. University of Kentucky Press, Lexington.

Saucier, Roger T.
1968 A New Chronology for Braided Stream Formation in the Lower Mississippi Valley. Southern Geology, Vol. 9, No. 2, pp. 65-76. Durham.

Saucier, R. T. and C. R. Kolb
1967 Alluvial Geology of the Yazoo Basin, Lower Mississippi Valley. Supplement to Geological Investigation of the Yazoo Basin, C. R. Kolb and others. Waterways Experiment Station, Technical Report, No. 3-480. Vicksburg.

Service, Elman R.
1962 Primitive Social Organization. Random House, New York.

Struever, Stuart
1962 Implications of Vegetal Remains from an Illinois Hopewell Site. American Antiquity, Vol. 27, No. 4, pp. 584-587. Salt Lake City.

Struever, Stuart and Gail L. Houart
1971 An Analysis of the Hopewell Interaction Sphere. Mimeograph. Evanston.

Swanton, John R.
1911 Indian Tribes of the Lower Mississippi Valley and Adjacent Coast of the Gulf of Mexico. Bureau of American Ethnology, Bulletin, No. 43. Washington.

Thorne, Robert M., ed.
1968 Archaeological Excavation of the Baker's Creek and Other Mounds. Museum of Anthropology, University of Mississippi, Anthropological Papers, Vol. 1, Nos. 1-4. University, Mississippi.

Toth, Alan
1966 Hopewellian Influences in the Southeastern United States. Unpublished honors thesis, Department of Anthropology, Harvard College, Cambridge.

Ward, Trawick
1965 Correlation of Mississippian Sites and Soil Types. Southeastern Archaeological Conference, Bulletin, No. 3, pp. 42-48. Cambridge.

Waring, Antonio J. and Preston Holder
1945 A Prehistoric Ceremonial Complex in the Southeastern United States. American Anthropologist, Vol. 47, No. 1, pp. 1-34. Menasha.

Webb, Clarence H.
1965 The Paleo-Indian Era: Distribution of Finds,Louisiana. Southeastern Archaeological Conference, Bulletin, No. 2, pp. 4-6. Cambridge.

1968 The Extent and Content of Poverty Point Culture. American Antiquity, Vol. 33, No. 3, pp., 297-331. Salt Lake City.

Willey, Gordon and Philip Phillips
1958 Method and Theory in American Archaeology. University of Chicago Press.

Williams, Stephen
1954 An Archaeological Study of the Mississippian Culture in Southeast Missouri. Ph.D. Dissertation, Yale University, New Haven.

1956 Settlement Patterns in the Lower Mississippi Valley. In Prehistoric Settlement Patterns in the New World, G. R. Willey, ed. Wenner-Gren. New York.

1957 The Island 35 Mastodon: Its Bearing on the Age of Archaic Cultures in the East. American Antiquity, Vol. 22, No. 3, pp. 359-372. Salt Lake City.

1962 Historic Archaeology in the Lower Mississippi Valley. Southeastern Archaeological Conference, Newsletter, Vol. 9, No. 1, pp. 53-63. Cambridge.

1963 The Eastern United States. In Early Indian Farmers and Villages and Communities, W. G. Haag, ed. National Park Service. Washington.

Williams, Stephen, ed.
1968 The Waring Papers. Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, Vol. 58. Cambridge.

Williams, Stephen and Jeffery P. Brain

n.d. Excavations at Lake George, Yazoo County, Mississippi. Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University, forthcoming volume. Cambridge.

Williams, Stephen and James B. Stoltman
1965 An Outline of Southeastern United States Prehistory with Particular Emphasis on the Paleo-Indian Era. In The Quaternary of the United States, H. E. Wright and D. G. Frey, eds. Princeton University Press. Princeton.

Wilson, M. T.
1895 On the Presence of Fluorine as a Test for the Fossilization of Animal Bones. American Naturalist, Vol. XXIX, pp. 301-317, 439-456, 719-725. Philadelphia.

Wissler, Clark
1926 The Relation of Nature to Man in Aboriginal America. Oxford University Press, New York.

Yarnell, Richard A.
1963 Comments on Struever's Discussion of an "Early Eastern Agricultural Complex." American Antiquity, Vol. 28, No. 4, pp. 547-548. Salt Lake City.

1964 Aboriginal Relationships Between Culture and Plant Life in the Upper Great Lakes Region. Museum of Anthropology, University of Michigan, Anthropological Papers, No. 23. Ann Arbor.