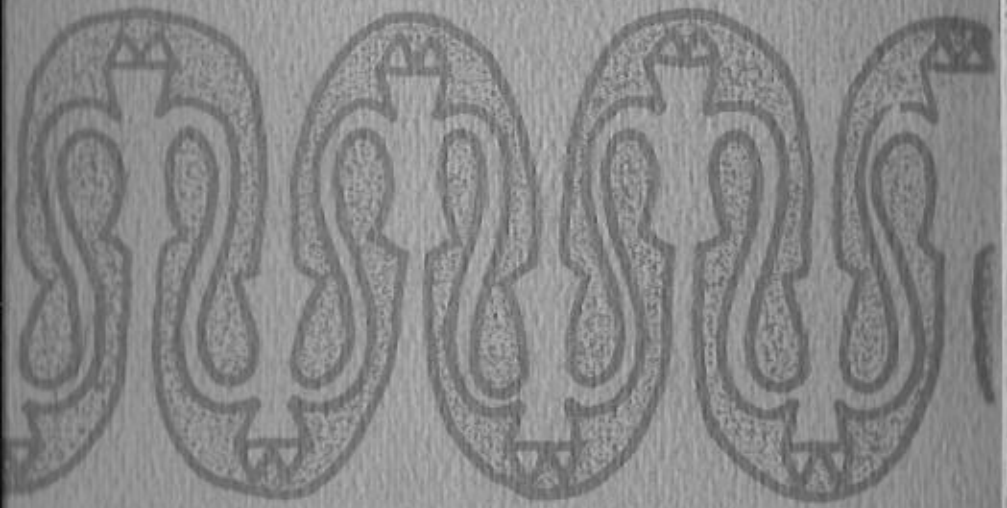

CADDOAN AND POVERTY POINT ARCHAEOLOGY:

Essays In Honor Of

CLARENCE HUNGERFORD WEBB

Louisiana Archaeology 1980

THE LOUISIANA ARCHAEOLOGICAL SOCIETY is a nonprofit organization dedicated to the express purpose of uniting individuals who share a deep and abiding interest in the prehistory, protohistory, and aboriginal history of Louisiana. Its aims are to foster the scientific recovery, analysis, and interpretation of Louisiana's archaeological resources; to initiate and support preservation and conservation policies and nonoffensive displays of archaeological materials and disperse information on Louisiana archaeology; and to encourage a greater public awareness of and interest in the native cultural heritage of Louisiana.

LOUISIANA ARCHAEOLOGY is the annual bulletin of the Society. It contains original articles, reports, comments, and reviews on varied aspects of the archaeology of Louisiana and adjacent areas. Non-Louisiana topics may appear if they have exceptional merit and represent significant methodological and theoretical advances. Information for authors and submission procedures may be found inside the back cover.

CADDOAN AND POVERTY POINT ARCHAEOLOGY: ESSAYS IN HONOR OF CLARENCE HUNGERFORD WEBB

edited by
Jon L. Gibson

LOUISIANA ARCHAEOLOGY
Bulletin of the Louisiana Archaeological Society

Number 6 for 1979

1980

MEMBERSHIP in the Louisiana Archaeological Society is open to anyone in sympathy with the aims of the Society upon payment of annual membership dues: $300.00, sustaining; $100.00, life; $10.00, regular; $5.00, student and $2.00, associate (family member of sustaining, life, or regular member). All membership classes except associate will receive all publications of the Society. Make checks payable to "Louisiana Archaeological Society" and send to: W.S. Baker, Jr., LAS Treasurer, P.O. Box 637, Jonesville, Louisiana 71343. Libraries, museums, and other institutions and organizations may subscribe to the Society's publications by sending $10.00 to the treasurer. Available back issues of the bulletin may be ordered from the treasurer at a cost of $7.50 each and available back issues of the newsletter for $2.50 (for each annual volume consisting of 4 issues). Inquiries about special publications and costs should be addressed to the treasurer.

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CONTENTS

DEDICATION

This issue of *Louisiana Archaeology* is dedicated to Clarence Hungerford Webb. There is no special occasion signaled by this volume—no birthday, no retirement farewell, no publishing event. We of the Louisiana Archaeological Society seek to honor the man, not an event. We hope this gesture may in some way convey to Dr. Webb a small measure of our respect, appreciation, and love.

Clarence Webb was born August 25, 1902, in Shreveport, Louisiana. He grew up on farms in DeSoto and Caddo parishes. After receiving his M.D. from Tulane in 1925 and his M.S. in pediatrics in 1931 from Chicago, he returned to his native Red River Valley with his lovely wife, Dorothy Dodd Webb, and founded the Children's Clinic.

A devoted husband, father, pediatrician, and Christian, Webb still managed time for innumerable civic, community, and professional duties. In 1934, Webb discovered archaeology and began a distinguished career in that avocation, a career remarkable enough of itself but made more so because it was pursued despite a full-time medical practice and other time-consuming responsibilities. His enormous contributions to Caddoan and Poverty Point archaeology are a matter of record.

Webb was one of the founders of the Louisiana Archaeological Society. He served as its first president. He has been the assistant editor of its publications and the most frequent contributor to its newsletters and bulletins. As old friend, R. King Harris of Dallas has remarked, "....if one would suddenly remove all of Webb's work and writings....., the state of Louisiana would become almost blank archaeologically".

We can never hope to return to Clarence Webb what he has given to Louisiana archaeology and to the Louisiana

Archaeological Society. We only wish to publicly recognize his untiring efforts and immeasurable contributions. On behalf of the Louisiana Archaeological Society and other friends and colleagues, we dedicate this issue of *Louisiana Archaeology* to Clarence Hungerford Webb. It is a small gesture but it is offered with sincerest appreciation and humility. From all of us to you, Dr. Webb, thanks.

Jon L. Gibson
Editor

Foreword

This volume has been almost four years in the making. Calls for papers went out in late 1976 and many of the articles published herein were submitted by the editor's first deadline, March 1977. In order to preserve the timely integrity of these papers, dates of submission are provided below. This should insure that the lengthy production span is not mistaken for a lack of updatedness in some of the earlier articles. Abbreviated article titles, authors names, and dates of submission are listed: World of CHW (Neitzel), March 1977; Doctor and Caddology (Gregory), February 1980; CHW and Poverty Point Archaeology (Gibson), December 1979; Bibliography (Gibson), January 1980; Pictorial Essay (Gibson), February 1980; Fourche Maline (Bell), May 1977; Confederacies (Woodall), February 1977; Southern Cult (Skinner), February 1977; Coral Snake (McClurkan, Jelks, and Jensen), written by February 1977 but not submitted until March 1980; Natchitoches Engraved (Harris and Harris), January 1977; Atlanta State Park (Harris, Harris, and Miroir), January 1977; Lithic Technology (Shiner), February 1977; Social Organization (Johnson), September 1979; Intrasite Structure (Bruseth), February 1977; and Origin and Development (Gibson), October 1979.

This volume was originally slated for private publication but that prospect was soon shelved with the growing realization that *Louisiana Archaeology* was the most appropriate outlet for a book which sought to honor Clarence H. Webb, a man whose works and personality are such a large part of Louisiana archaeology. Plans to devote an entire issue of *Louisiana Archaeology* to Webb's honor were enthusiastically received by the executive committee of the Louisiana Archaeological Society.

The editor would like to thank several individuals for their

assistance in bringing this special honorary issue to fruition. To Clarence Webb go particular thanks for answering requests for providing various kinds of information without question, and for just being a friend. Sincere thanks are extended to Dorothy (Mrs. C.H.) Webb for sending the photographs of her husband which have so enhanced this volume. Appreciation is extended to Edward and Lanier Simmons of Avery Island for their thoughtful aid.

The production staff of the University of Southwestern Louisiana Printing Services also deserves special commendation: Myrtis Abraham (type-setting), Gerald Tribe (page mock-up and shooting), George "Boonie" Hoffman (photo and figure preparation and general overseeing), and Dan Tribe and Glen Laurents (press, collation, binding, and trimming).

I would also like to thank Paulette L. Burch for seeing to many loose-ends and typing and retyping several of the manuscripts.

This issue is being published as *Louisiana Archaeology*, Number 6 for 1979. It bears a 1980 publication date to faithfully record the year of printing and distribution.

Jon L. Gibson
Editor

Caddoan And Poverty Point Archaeology: Essays In Honor Of Clarence Hungerford Webb

Part I
Clarence H. Webb, Archaeologist

I Wonder About The World Of Clarence Hungerford Webb, The Man Who Really Does Know, Or Would John Wayne Have Been An Improvement At Gahagan?

(Variously subtitled: "Clarence H. Webb and Grits, That's what I really like about the South"; or "I Buried My Darts in the Red River Valley"; or "Clarence H. Krafty-Webbing"; or to bow to literary [?] casuistry, "Optimal Location in Settlement Space: A Model"; or "A Conceptual Framework for the Study of Artifact Loss"; or "Pathways Revisited: A Quantitative Method of Discard"; or "The Size Effect: An Explanation of Variability in Surface Artifact Assemblage Content or the Aggressive Field Lab"; etc.)

Robert S. Neitzel
Marksville, Louisiana

ABSTRACT

For the first time little known FACTS as revealed recently from Edison cylinders and 78 rpm records. Now it can be told. Verified, no, but truly a stirring revelation. If it weren't for bias Jimmy Griffin would say, "hair-raising".

As usual I must take refuge in a memory that consistently, persistently, and reliably falters in the face of a dreary, factual world. I really *can't* remember the first time I met Clarence. I am certain that he dwelt in my mind before the fact through my close association with Jim Ford, beginning in 1938. That, of course, was the inception of the LSU-WPA Statewide Archaeological Survey. Jim had collected Gordon Willey, Bill Mulloy, Arden King, Ed Doran, and myself in the summer of that year to see what could be put together in the way of a large scale *problem-oriented* archeological project. This is a serious statement since every aspect of Louisiana archeology was a problem then, quite unlike the present-day percipience.

Clarence had already acquired an exacting proficiency in his chosen avocation, archaeology, while building an eminently distinguished career in his profession of medicine. I must have met him after this period during one of his visits to the New Orleans headquarters. But I not only knew little personally about Clarence at this time, I was marvelously ignorant of his special interest, the Caddoan area, and in common with most of my peers, the entire Louisiana spectrum. There are some, of course, who would be quick to aver that I have never improved beyond this formative state. At any rate the deficiences at the time were myriad and complex, and once we became organized Ford moved to set things to rights.

Like prophets of old we fanned out in the dirt, so to speak, each with a copy of Jim's pioneer 1936 report under our arms bound and determined to bring chronological order into the maze of typological uncertainity that confronted us.

It was the custom for us in the field to come into Gordon's New Orleans Laboratory at least once a month. Unwashed but bagged, the field collection *i.e.*, I hasten to say, were hauled along on these occasions. At other intervals the accumulations were carried back by Jim as he made his

episcopate rounds at the digs. He often chaffed wryly at how he had nothing important to do any more since he had organized himself out of useful work.

The New Orleans assemblies were supposed to teach us lessons about what we had been finding in the field. The great quantities of sherds made it very difficult to assess designs and other details in their unwashed condition. It was often startling to see the range of modes and attributes that were revealed once the mud was removed. It also afforded an opportunity to watch the progress of classification that was being done by a staff of unemployed clerks, semi-professional bureaucrats, draftsmen, artists, and the like, taken from the city relief rolls. Jim and Gordon had patiently assembled and trained these individuals into remarkably competent lab crews.

It is in this connection that I have two specific and incontrovertible recollections about this era: 1) I met Clarence Webb, and 2) oh how bothersome it was to immerse yourself dutifully in the prosaic routine of the lab, where we also slept, while the unexplored gaudy ways of careless old New Orleans pulsed around us. There might even have been a time or two when possibly Bill Mulloy and I made it back just in time to greet the lab crew arriving for a day's work. We received a magnificent per diem of $4.00 plus four cents a mile travel, but with limits, for these sinful excursions, and it was worth every cent of it. Something that can hardly be claimed for the present day spectacle.

Our lab and Gordon and Katherine's apartment were in the midst of the French Quarter; then a really honestly inelegant bit of flamboyance. I have retained my aversion for work under many circumstances, but I would like to practice some, and when well rested, recapture a little of the flavor of the old quarter of that time. The present day avowed zest is unsavory, and there is little inducement to return to the

harshness that remains from this formerly twinkling tenderloin. Carnality now suffuses the good old insouciance. Who could ever forget the sheer bliss of walking through the colorfully shabby streets from Bienville to St. Peter's, or was it St. Ann's?--for a twenty cent breakfast of bacon and eggs with toast at Pat O'Briens, or was it the haircut in the adjoining cubicle that was twenty cents? I can't recall now, but the facts are essentially in order, and given the time of day and the priorities, they were a vast improvement on the modern good-time Charlie sing-sings and giant size Hurricanes. The latter like any sensible mule sport insensible kicks in the huge glasses and leave nothing for posterity.

It was not until later after Clarence visited me at Marksville, I think, where I was digging either Greenhouse, Av-22, Av-25, or whatever, and much much later in the course of many regional or local meetings of the minds attended by the faithful, bewildered workers in the business, that I learned more about his distinguished background.

It was always interesting on these occasions to observe Ford, the calculating measurer of human culture, and Clarence, the healer of this same humanity, engrossed in a common weal, tracing and trying to comprehend the historical factors thereof. This does not mean that Ford was inhumane or that Clarence was sentimental about the formulations that evolved as all of our studies proceeded. Most students are aware of, or at least they should recognize, this kind of duality that appears at many levels of anthropological research. For myself I had known and respected numerous practitioners, physicians, scholars, insurance executives and the like whose amateur zeal overlapped very constructively into the occult avocation of archaeology. But with Clarence I first experienced a hard core medical man who was intent upon focusing all of his considerable training, talent, and

drive in the direction of the rather shaky, but interesting, new discipline called archaeology.

Certainly the study had emerged, at some points, from the bonds of polite descriptive antiquarianism, but the then "new" methodology was essentially larval and groping. I know I certainly had my personal doubts in those conditional times about where we were going, but it wasn't exactly the time to start farming, sell insurance, open a variety store, or the like.

At this time Clarence was an established physician and has continued as a devoted professional healer of such long standing that he probably would prefer not to be reminded of it. If this is not of concern to him I should think that Dorothy has given the point a lot of thought.

The point, I think, here is that Clarence as the finished or perhaps rather the consummate physician had unknowingly established a link or bond of interest and a kind of fascination for me. This is not to gainsay all of his other sterling qualities such as suavity, good looks, temperance, kindness, intelligence, and I'm sure he's a good speller. You see, I too had been an incipient medical student in good repute, before I was corrupted intellectually right outside the doors of the dissection lab. As an undergraduate out there in the Nebraska prairies I had fallen in with bad company and had begun to run with guys like Duncan Strong, Waldo Wedel, Loren Eiseley, Earl Bell, John Champe, Bertrand Schultz and the like. Although I was able to convert this abecedarian pre-med regimen into fruitful channels in anthropology by becoming a closet physical anthropologist and remain so to this day. I still harbor a lingering awe and admiration for the elite of the medical world. Clarence is certainly a card-carrying member of this select group. It is comforting to think of the countless lives he has held and comforted in his competent hands; the pain, suffering, and agonizing doubts that he has proven

capable of ameliorating. His home community of Shreveport and his professional colleagues know his art and credit him accordingly. He deserves every bit of this confidence and distinction, and no one would encroach on his privilege. He is worthy of all encomiuns as a healer. But I find it impossible to conceal a degree of envy. I cannot forget that as one who might have once joined this elite medical band I have not received the slightest shred of acclaim or measure of credit for performing an equal service to humanity. There has been no humble word of thanks, nor the slightest recognition for the untold lives I have saved. I am left to reflect unlauded upon the seas of pain and distress, the sweep of human agony, not to mention the malpractice suits that have been avoided by my simple resolve of over two scores years ago. I chose to abandon the study of medicine and take up archaeology instead.

Clarence really began field work and serious study of available collections, local and otherwise, as early as 1934. This can be considered a respectable date for the growth of American archaeology into its descriptive-classificatory phase. Synthesis and organization of data accordingly were well advanced in Louisiana through his work and that of Ford and Kniffen. Clarence's visits to the large scale excavations at Marksville and elsewhere a few years later merely showed him a slightly magnified aspect of the conventional field work he had been practicing at Gahagan, Smithport Landing, and Belcher. He had even dug at Poverty Point in a very modest way and probably had as clear a conception as anyone of the vast and complex problems that lay in store there. I for one didn't even know the site existed and probably would have been very credulous about it all if I had.

All of us purported professional practitioners of the time were rather glib about the state of organization of our archaeology. By and large we were churning and turning great

chunks of culture and dirt according to the rather rigid, academic rules of technique and methodology. It may even be that some of us lost sight of the ultimate history we were supposed to be formulating. Much of our reality clustered around trait lists, and percentages of commitment of the same to definition of phases, aspects, and similar cumbersome concerns.

Clarence never lost his perspective during these parlous times and persisted with the precision work characterized by his and Monroe Dodd's investigations at the Belcher and Gahagan sites. It has never been denied, or verified, by contemporaries like Alex Krieger or Edward Neild, but there was a rumor that Clarence had developed a conspicuous though temporary nervous tic shortly after witnessing the assembly line procedure at the Greenhouse site where Ed Doran and I held forth. I am told that his request at this time for early canonization was never a serious demand, at least Jim Ford could never substantiate the rumor. Rather he reacted imperturbably and with the nonchalance of the Mark Twain character who was being borne in a horse-drawn hearse on his final ride to the cemetery, he asked to be allowed to mount up alongside the driver the better to admire the view.

Although it may not be charitable to think of it as a defense mechanism, Clarence, Alex, Dr. Hodges, and others almost immediately organized and initiated the "Caddo Conferences", a worthy medium that has and continues to administer the understanding of the complex intra-mural problems of this capsule kingdom. The contemporary practitioners of the mayhem being done to the good old Marksville-Troyville-Coles Creek-(lately Plaquemine) milieu to the south, were allowed to attend. There we listened to Clarence's characteristic, studied wisdom and enjoyed exchanges between Jim Ford and Alex Krieger. This rhetoric

almost always centered around chronology, when the matter of dating and resultant sequences was not subject to bag limits or closed seasons. Of course these adventures were altered a few years later when carbon dating was introduced. Jim and Alex never let this new fangled control affect their opinions, and the discussions went on and on shedding much voltage but low amperage. Clarence stood unwavering in the midst of all of this while the St. Elmo's fire played about him. No one argued with *him* about points of fact; he either knew them already or was just on the verge of finding out. The inquirer was usually certain to get a polite informative note clearing up whatever uncertainty existed when the question was asked.

The Caddo Conference, like the SEAC, has expanded greatly and serves the many individuals and institutions who pledge fealty to the Caddoan regional tradition. Increased knowledge and its ready exchange through the conference communications has expectedly tempered the bewitching thrall of Spiro, Alto, and Fulton uniqueness in the "Caddoan enclave" that has always intrigued the lower Mississippi valley spectators. Although many lines of inquiry need to be drawn together and meshed with cultural events in neighboring cultural areas, the boundaries of uniqueness of the old Caddo region have become blurred if not erased in the eyes of outside observers. This should not be a surprise to students of the whims of culture, just as it comes as no surprise that Clarence was foremost on all fronts in individual research and processual synthesis in his, I suppose you would say, rich, home cultural milieu.

To me it is interesting from an historical viewpoint to see the lag (in ordinary cultural phraseology—no opprobrium intended) in classificatory terminology as used by the workers in the area. By this I can only mean the terms "aspect" and "focus", obvious holdovers from the old and still valid McKern midwestern classification scheme. Their meaningful

incorporation into the literature and understanding of the Caddo area has not been formally equated with Willey and Phillips innovation of "phase". And there seems to be no reason to change, since the thoroughness of the methodological base injected by Clarence and his co-workers has insured that the essential meaning is still conceptually clear and transcends small cultural and terminological differences of usage when making cross-regional comparisons.

The thought undoubtedly extends to pottery terminology too. The type concepts in use are clear and meaningful as they stand but will probably eventually evolve into conventional type-variety usage. I hesitate to say that Clarence tends to be somewhat impatient with spending too much time on such formulations, but I get the impression that like Jim Ford he begrudges the time and effort and that such puttering with names is holding up the detail when there are so many larger problems to be manhandled. In a sense perhaps the application of the type-variety system is a sort of clean-up operation. Certainly that was the case with me when I changed over when working with the Fatherland material. Now I can see where its use belongs ahead of the cart.

My contacts or visits with Clarence over the years have always been intermittent. He was always so blamed busy! The interval during and after World War II was the longest spell without contact, but this major interruption was felt by nearly everyone everywhere.

At the beginning of the war, I decamped from archaeology entirely, did a stint with the construction branch of the Corps of Engineers, and then attempted to settle down to pastoral oblivion replete with chickens, a dairy, assorted insect pests, and a constant outrage with the weather. What happens is, you eat a lot of eggs and chicken and make ice cream and cottage cheese.

I had lost touch with Ford during this interim too, when he

suddenly appeared at my farm near Marksville one afternoon. A short time later (in the early '50s) he and Phil Phillips made a brief appearance, and somehow the dormant germs of archaeology began to stir again.

Operating your own dairy (the small one man scale herd of some fifty animals was considered proper and feasible at the time) and is slightly more confining than the average penitentiary. But the world of archaeology had begun to stir and rustle around me. Clarence apparently had not even taken a breather during the war interlude. He had continued his special interest in Poverty Point, ferreting out many details and writing about them. Phil and Jim linked up to begin the Jaketown excavations and were joined there by Bill Haag, then a professor at the University of Mississippi.

One way or another Ford talked me into climbing down off of my tractor to take a bus ride to Belzoni, Mississippi. The ticket office wasn't sure where Belzoni was and I wasn't much help. I was routed to Anguilla and Jim picked me up. I was put to work immediately on the alidade—Ford was never one to waste his options—and we both floated around in a boat on a flooded barrow pit, instructing Phil where to draw the lines on a ten foot high profile, while he clung to a precarious footing on the basal talus. With his customary nonchalance he absorbed our heartfelt criticism and judgment about the nuances of strata that we could see plainly from our vantage point but that couldn't be detected by him.

It was during this short stay at Jaketown that I first heard Phil and Jim discuss the emerging significance of the Poverty Point culture and learned concrete details about the colossal type site in Louisiana. Thus I re-entered archaeology and peripherally the wonderful world of Clarence Webb. I received specific instructions as to how to get to the site in those more or less primitive times, and I believe they even suggested that I get in touch with Clarence for a guided tour.

But since the dairy business imposed such rigid restrictions—one tends to become a jerk, so to speak—I never followed up on the matter. Then Jim cropped up in Marksville a year or so later with his famous paired aerial photographs and set up a pocket stereoscope viewer on the dining room table. I was amazed at what I saw, as Jim had been when he discovered the earthworks.

It also afforded me an opportunity for demonstrating a hard-won technique that I had learned during the early years of the war when I aspired for a naval commission in aerial photographic interpretation. The process is more like a yoga exercise in which paired aerials are viewed with a relaxed and watery eye or dim stare thus achieving stereoscopic vision with the naked eye. This was a technique prescribed in training manuals, and I became quite proficient in "assuming the attitude". Unfortunately, the engineers of war were quick to develop a portable adaptation of the old parlor stereoscope that was more practical for viewing terrain photographs for purposes of destruction. Technology had destroyed my unique optical claim to military usefulness. My art was immediately obsolete, and I was of no more potential use to the military. The commission was denied with some flimsy excuse about my decrepit physical condition. I have always felt that there was a plot wherein the agents of technology feared competition from a truely optical art form. Nevertheless I still practice the stereo viewing attitude with and without photo pairs. Usually I just go to sleep or see double. This feat often has been remarked upon by my friends, but they have been in error when inferring cause and effect. It is merely a scientific defense mechanism that I employ while listening to papers delivered at archaeological meetings.

Sometime during this period an idea was generated, I believe between Jim and me and William W. Wells to establish a museum and park at the Marksville Site. Wells

was a bright, capable administrator and landscape architect serving as assistant director of the State Parks Commission. This meant he did all of the planning and work and took responsibility for decisions, since the Director was always some political lightweight carrying the bag for whatever administration happened to be running the state. I am purposely vague about the circumstances of the very difficult birth of this institution. I don't remember some of the details, and don't understand some of the others. I am sure Clarence was enlisted for moral support indirectly, if not for active service in this undertaking, but certainly in no measure to compare with the major part he played in moving the Poverty Point site toward its present assured park-monument position and listing on the National Historic Register.

Despite a long and frustrating interchange of politics, politicians, obfuscation, academic despair, and all the rest that goes with such an undertaking, the project came into some sort of being. For one of the rare times in the funny Louisiana political consuetude, Bill was retained as a full fledged director, and the second banana niche was filled by a not unworthy political choice. It couldn't last, but we all pitched in to take all of the advantage we could of this unexpected administrative advantage. Jim and I were interested in framing modern interpretive exhibits, and he undertook to plan them in detail with the National Park Service exhibit personnel that seemed to appear from nowhere through Bill Wells' contacts with the National Park hierarchy. As these were being installed, Bill Wells in his infinite wisdom informed me that I had been chosen to serve as a sort of curator. Naturally Jim objected to this course, but there seemed to be no one else who would touch the job or work for the very modest stipened the appointment carried. This lead eventually to getting the Parks Commission into the archaeology business, and I ultimately joined with Jim and

his American Museum funding to carry out further explorations at the Poverty Point site. Clarence was in and out during this interval during which preliminary trenching of some of the ridges, sinking a bore hole in Mound A, and making topographic maps of Mound A and the Motley mound were accomplished. Then during the spring of 1955 Jim and I were joined by Junius Bird in the work that culminated in the Poverty Point report by Jim and Clarence.

There were many visiting firemen during the three month or so camp-in excavation at the site, of which Clarence was the most regular. In the assured, diplomatic manner that attended all of his successful excavation ventures, he smoothed the way for a profitable season by assuring the full support of the owners of the site who lived in Shreveport. This was a vital contribution to the cause and paved the way for the eventual acquisition of the site for a state park. The first overture fell through, I think through a change in the state administration, but not before I had been able to run a crude traverse around the site and secure a cost estimate through the Federal Land Bank.

The change of administration was felt in other ways. A henchman was appointed to the director post in the Parks Commission, and Bill Wells slipped back into his functional niche as assistant director. Soon I was abolished along with an assortment of superintendents, engineers, and the like who appeared to be in arrears politically. These jobs were sliced up and redistributed by the current faithful, and for awhile, at least, the Parks system was well supplied with night watchmen.

At this juncture I rode off into the sunrise, working for Jim at the Menard Site, and then at Art Kelly's behest I went to South Carolina to do the Chauga excavation. Immediately after this I put in another year or so at Etowah, developing the museum, building exhibits and serving as a kind of state

archaeologist for the now defunct Georgia Historical Commission. It was also at the beginning of this interval that I chased down some errant sites along the Ouachita for Phil Phillips and joined Steve Williams in his first season at Lake George for a couple of weeks. Nothing much to do with Clarence in all of this, but it was during these trying times that I first met and barely learned to tolerate those callow youths that Steve had assembled as the Lower Valley Survey crew, among whom were Jeff Brain and John Belmont. The interlude led to a succession of later events and associations, all of them somewhat far afield from my intermittent encounters with Clarence during the '60s.

After the tour at Etowah I was hired as chief curator of the Mississippi State Historical Museum in the Old Capitol restoration and assumed the somewhat vague duties of state archaeologist, which eventually led to my longest and hardest-working field association with Clarence.

Interested amateurs in Mississippi were turning up numerous scattered site evidence that in time could lead to only one conclusion: Poverty Point was not a narrowly restricted cultural entity represented by five or six sites in the general lower valley region. Ultimately Clarence gathered up his clues and joined me with my meager supply in Jackson and proceeded to expose me to the longest travelling day of my life.

We left Jackson around 6:00 a.m. and drove the hundred miles or so to Greenwood to have breakfast with L.B. Jones, a plantation owner and our amateur guide for the day. He planned and executed the logistics of the strenuous itinerary while we interviewed informants, trudged over sites, photographed collections, and took endless notes on their contents. Clarence was tirelessly patient in listening to the variety of collectors, examining and making rough and ready classifications of artifact collections and suggesting lines of

thought for future activity. My mind and eyes glazed over in the early hours, and I have no good recollection of much of anything I saw.

We visited the famous Teoc Creek site and the Steinbach site and made additional collections where possible and wore on into the day going through an unbelievable number of informants posted on schedule. Around nine o'clock at night Clarence sounded me out to see if I was game to drive an additional forty miles farther to see one more collection. I rebelled, since we were a strong 125 miles from Jackson where we stood.

This whirlwind survey trip ultimately resulted in bringing Jim Ford back into the Poverty Point milieu. I do not recall now whether he was still connected with the American Museum or had moved to Florida at this time. I am also unable to recall how this flurry of activity meshed with my excavation and writing schedule for the Fatherland site. It doesn't really matter, except it reminds me of another working session I had with Clarence in these years.

Jim and I were returning from one of the SEAC meetings and had stopped in Selma, Alabama for the night. Jim may have been returning to either the Helena Crossing dig or the Dalton Survey project at the time. We were eating supper in a nearby restaurant when Clarence and Woody Gagliano stopped off on an all night driving haul to Shreveport. We proceeded to convince them that it was foolhardy to drive any farther that night and sand-bagged them into moving in with us and we would continue where the SEAC meeting had left off. There was the customary method in Jim's madness, since I had the Fatherland typescript along, and Jim thought it needed all of the editorial assistance available. This was an opportunity to force two fresh minds into the fray, and we made a long night of it reading and criticizing my writing efforts. Woody and Clarence were both deliberate and

particular, and many a marginal note appeared on the typescript.

Whatever the proper chronology of these events may be, it was not too long before Jim and Ethel came to Jackson, and we made plans with Clarence to do a few days of intensive investigation at the Poverty Point Sites near Greenwood, Mississippi. The Teoc Site proved the most intriguing and because of the early spring condition of the crops was also the most feasible. The complex surface conformation was clearly outlined, so while Clarence scouted its extent, Jim mapped the terrain, and I put down bore holes. After four or five days it really became evident that we had stumbled upon a complex cultural and physiographic combination that held the promise of many future problems and revelations. The deeply buried Poverty Point level varying between three and ten feet beneath the surface Poverty Point accumulation was especially intricate and startling. A couple of years or so after I had left the Mississippi scene the Department of Archives and History sponsored further work at the site, as well as some others scattered over the state. Detailed reports are available, although many of the cogent points of fact have been ferreted out by Clarence and presented in occasional publications, which provide a sort of running synthesis of the upcoming and constantly emerging Poverty Point data.

Since my abandonment of the 9 to 5 regimen of things archaeological, I have been involved in several small ventures of one kind or another where Clarence was involved. Strangely enough many of these revolve around problems related to Poverty Point culture. He is as close as the telephone or a post card when puzzles arise. These are never of the magnitude of the task he undertook in assembling all the latest data on Poverty Point, a project originally jointly conceived by Clarence and Jim. Clarence brought it to a successful conclusion after Jim's death, and in a manner that

our old friend would have approved. Complete approval?—no Jim wasn't of that caliber, but on the whole he could not have altered the picture to any degree.

Since the establishment of the Louisiana Archaeological Survey and Antiquities Commission, Clarence has proved to be a staunch and wise member. He should have four or five gold stars for constructive and faithful attendance at the quarterly meetings. I too have been loyal but not conspicuously staunch or constructive.

Over the years we have often joked about how, when we became old and doddering, we would putter around with archaeology and then only with those things that interested us especially. Clarence has been a very poor putterer, while I receive acclaim wherever I turn as a champion piddler. Where it all will end I can not foresee. Clarence still throws dirt with vigor and abandon (at least when there are photographers about) and Dorothy accompanies him to many of the meetings that I attend, presumably to insure that he attends to archaeological business properly and does not stray into idle frolic and revelry, enticed peradventure, by the likes of me or other always frivolous companions. Sometimes there seems just cause to wonder about ultimate missions. Perhaps it was put in capsule form by the old farmer that Bill Haag once encountered while doing surface survey on or near the old fellow's property. Bill gave a thorough and accurate description of the methods, techniques and ultimate aims of survey procedure whereupon the old man cogitated a moment and then responded, "You mean to tell me a growed man does that?".

The Doctor And Caddology: Dr. Clarence H. Webb's Contribution To Caddo Archaeology

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ABSTRACT

Clarence Webb's contributions to Caddoan archaeology over the past 45 years are recounted in this personalized exposition.

Caddoan archaeology has come a long way since a "Caddoan root" was envisioned for southwestern cultural development. The catalyst that involved Clarence H. Webb in that long progression of archaeological knowledge was, as I recall him saying, finding a pot uprooted by hogs at Smithport Landing. It was lucky for Caddoan archaeology that the hogs rooted in the right place. Nobody else has contributed as much to northern Louisiana prehistory and ethnohistory as has Dr. Webb. The Caddoan area, when he came along,

really was the property of Texas, Oklahoma and Arkansas. However, Caddoan oral tradition held their place of origin was a hole or cave in a Louisiana hill. It was Clarence H. Webb who sought to look for Caddoan roots where Indian traditions indicated. Since 1935, Dr. Webb has continued, alone or in the company of family and friends, to seek the origin and plot the course of change in Caddoan lifeways. Method and theory has changed. New problems have replaced older ones, but Clarence H. Webb has continued to work.

Professional archaeology was late coming to Louisiana, and when Dr. Webb began there were only a handful of interested people in the whole state. The W.P.A. archeologists moved up the Red River as far as Natchitoches, and their dean, James A. Ford, remained dubious about the depth of time involved in the Caddoan development. It was a wonder to behold, Jim Ford reclining in the evening and debating that issue with Clarence Webb. Although friends for over 20 years, the two never really resolved that difference. If they did, they never told any of us who listened so avidly. The debate about "Webb's Coles Creek" still enlivens even the dreariest Caddoan Conferences. In the process of developing these positions Clarence Webb went beyond many points professionals dared go. He noted, for the first time (Webb 1948), the presence of preceramic cultures in the Caddoan area. His studies of Clovis, Scottsbluff, and the San Patrice complex awakened even the ceramic specialists to the existence of stone tools and the antiquity of the southeastern Indian (Webb 1948). Gibson (1980) has discussed his influence on Formative studies in the southeast.

While the Lower Mississippi Valley held Jim Ford and Stu Neitzel's attention, James B. Griffin wandered through the Middle Mississippi Valley and Mexico into the lair of Clarence Webb. A firm friendship developed. The

pediatrician came to academic archaeology to learn typology, but it was not long before the dean of taxonomists came back to Clarence H. Webb to debate those same issues. Today the whole of Caddoan ceramic taxonomy has profited from that association. In Louisiana, it was Clarence H. Webb and Monroe Dodd who attempted typology for Caddoan ceramics for the first time (Webb and Dodd 1939, 1941). It was Clarence Webb, too, who addressed the relationships of Caddoan ceramics to the larger southeast (Webb 1959). Further, he journeyed to Mexico—fascinated by the similarities between those regions and the more "humble" arts of the Caddo and their neighbors.

Dr. Webb brought the naturalistic observation, stamina, and synthetic abilities of the trained physician to archaeological problems. Painfully accurate quantitative observations, careful reporting, and the ability to make logical decisions quickly were part of traditional medicine. He never failed to remind us of the value of bio-science, physical anthropology.

Further, Dr. Webb had grown up in the plantation era of the Red River country, and knew the hills and bayous of his *patria chica* better than any outlander could. He was sensitive to the land and resources, and to its peoples, past and present. The relationship of food resources, streams, etc. to settlement pattern and site location fill his notebooks. Those were data before there was a concept of cultural ecology. He still sees those relationships clearly (Webb 1979).

The quiet speech and gentle argumentation acquired on Sunday afternoon plantation galleries have proved their efficacy in many an archaeological debate. It sometimes seems that the breadth of Clarence Webb's knowledge is unmatchable. He can switch instantly from the logician to the shovel hand with the delicate touch of a surgeon. His adage, "blisters on hands *and* brains", is practiced as well as

preached. Those who take turns with Clarence Webb know his prodigious energy and skill with the humbler tools of archeology: shovel, trowel, and brush. Like his quiet oratory his steady hand propelled Caddoan archaeology into the national limelight.

All this stemming from an avocational interest is rather hard to digest, but that is, and likely will always be, Clarence Webb's *forte*. He is the amateur who came to visit professional archaeology and stayed on to teach.

There are others like him in that respect, but few have maintained such high interest levels. More, he stays in tune with the whole discipline. He was doing professional "new" archaeology long before many professionals, and he is as good as can be at it still. For nearly half a century he has worked all over the Caddoan area of Louisiana, East Texas, Oklahoma and southwestern Arkansas. From Natchitoches to Spiro he has seen virtually every major site and has visited (or conducted) every major excavation. Even now he wears out the younger folks at the Springhill Airport site. He is still digging, busily plotting "scattergrams", and addressing village site ecology and function. Even while others were doing only culture history, Dr. Webb advised more functional studies. Walter Taylor was in his library and he understood him. Binford came as no shock to him.

It was Clarence Webb who held Caddoan Conferences around his dining table in the late 1930s when there were only a few people interested: Alex Krieger, H.P. Miroir, Bob Bell, Perry Newell, James Ford and R. King Harris. That gang literally took the four state area by storm in the 1930s and 1940s. Busy at the cultural historical approach, the "new archaeology" of their day, their energies launched the first surveys and syntheses.

Eventually the W.P.A. funded archaeology in Arkansas, Texas, and Oklahoma, and Dr. Webb's western compatriots

dug ceremonial site after ceremonial site. His Louisiana friends delved into the mounds and village sites of the Lower Mississippi Valley. Today there would be a hue and cry because there was so little federal funding in the Caddoan area of Louisiana, but Dr. Webb kept his friends, gave them room to be different. Rather than complain, he set his hand to the Caddoan problems in Louisiana, the proverbial "empty set" of hard science. To my knowledge he has never let funding deter him. He simply gets it done. He always warns us not to "strangle the goose" of contract archeology. The voice of reason in the golden age, he always stresses practicality. He has had to.

By 1941 he had related the Louisiana sequence to Alex Krieger's Texas sequence. The Midwestern taxonomic system had been modified to fit the regional preoccupation with establishing time/culture units. The early "foci" of Caddoan archaeology still more nearly resemble the time/culture units, phases, than they ever fit any of the standard McKern taxonomy (Webb 1941). Evolution was an acceptable concept to anthropology and the bio-science fields of medicine. Clarence Webb uses cultural evolutionary theory to resurrect the prehistoric Caddo. He likes to quote (Webb 1979) Jim Ford, "the flow of culture runs deep." Dr. Webb surely was Leslie White's other best student.

With the constant drumming of Krieger and Ford in his ears, he became keenly aware of the theoretical clashes within archaeology. Krieger reputedly turned down his hearing aid in those fights, but Clarence Webb always listened and then became the physician. He has healed many archaeological wounds among the southeastern archaeologists over the past 45 years. Somehow opposing views seem to enter his head and issue forth from his pen, clean, unscrambled, and remodeled. The new product is as concisely integrated and synthesized as is possible. He can do this mystical thing with no loss of data

or sources. His footnotes are careful, and even the least shovel hand is recalled and acknowledged. Caddoan archaeology has had its gadflies, but Clarence Webb has been its steady hand. The verities of solid data modeling still issue from him. Conservative, he manages to take only the best of new ideas, but he will use them well.

While others were content with their own little regions, Dr. Webb had the task of reaching beyond "Caddology" into the universality of anthropology to gain understanding of regional or local problems. It was Clarence Webb, as soon as he found the beautifully preserved matting and wood at Mounds Plantation, who introduced the newest European preservation techniques into Caddoan archaeology. In the early 1950s he quickly begged money from local sources to help him tie the strongest stratigraphic sequence, that of the Belcher Site (Webb 1959), to radiometric dating. Even when he and Monroe Dodd excavated at Gahagan Webb saw the pan-regional implications of that site (Webb and Dodd 1939).

It was Clarence Webb who introduced the direct historical method into Caddoan archaeology. In an age when archaeology is fast approaching a physical science and when technology and humanism must come to grips within the discipline, one can follow Dr. Webb's lead and do humanistic archeology. The remains in the laboratory were once real people with emotions, hopes and, yes, lineal descendants. In the Belcher Site report Dr. Webb (1959) used ethnographic analogues better than anyone else in Caddoan archaeology. Tools and function were compared to ethnographic data he personally collected from Caddo at Anadarko. His shelves hold the classics on Southeastern ethnology and the ethnographic studies of the Caddo and their neighbors.

In 1974 Melford Williams, the late chairman of the Caddo Tribe was invited to Natchitoches to address the Caddoan

Conference. It was the first time the Caddo had been invited as participants, they once came as dancers in Oklahoma. Now they came to teach and to learn. Dr. Webb was among the first to encourage Williams in the pursuit of tribal history and tradition. At the banquet Mr. Williams sought to point out the persistence and progress of his tribe. Still the banquet finished with a request for a Caddo song. Dr. Webb's comment was simple. "Did you notice," he asked, "how they (the anthropologists) only warmed to Melford when he began to sing the old songs?" Mr. Williams had noticed! Later that evening Clarence Webb was again the peacemaker, the link between two peoples living so close together and yet so far apart. Anthropologists were trained to notice, to feel, but it was the physician who reminded us of our narrow confinement to the past. While anthropologists seek "scientific goals" the people we study seek history and identity, strengths from our work. Clarence Webb, and his close friend the late Miss Caroline Dormon, have tried very hard to explain that to us. Alienation of the people we seek to understand is a real danger for the whole field. Clarence Webb keeps reminding us not to forget the people around us (Webb 1979). In 1976 it was Clarence Webb who made the motion to accept the position of Ernest Sickey, tribal chairman of the Coushatta, on the Tunica treasure, i.e., that it belonged to the Tunica people. The Caddo Conference concurred.

Amateur archaeology began to blossom in the Caddoan area in the 1960s. When Clarence Webb and Monroe Dodd began work, there were again only a few interested people, mostly well educated, careful and open to instruction. By 1960 there were literally hundreds of newcomers. A handful, four to five people, may be a problem to reach, to teach. Yet Dr. Webb was not awed by the proliferation of interest, but appreciated it for what it was; a well-spring of support for public archaeology. Professional archaeologists, especially the

academicians, were both thrilled and appalled by the prospects of a popular science. That ambivalence persists to this day. However, Dr. Webb understood. He used the media—first newspapers, then television—and public speaking to spread the gospels of archaeology; "you, too, can make a contribution to the field of archaeology. You, too, can urge the conservation of sites and artifacts."

He anticipated public archaeology as its best and worst. The man who was saying it was still homefolks, a small city doctor, who had gained national respect for his contributions to American archaeology. He had organized a small group in Shreveport, way back when. He then helped us organize the Louisiana state society at the Catahoula Bank. A year ago he and his friends chartered a Shreveport chapter of that same state organization.

Clarence Webb lobbied long and hard for a statewide program in archaeology. He is not appalled by politicians. He still supports archaeology personally in as many ways as he can find. He is always careful to urge the education and involvement of the public sector. That certainly has included his political allies.

It was Dr. Webb who went to the Missouri Archaeological Society in the 1950s to urge that youth be encouraged to participate in archaeology. He served on the state youth commission in Louisiana. For him every year was the year of the child. Some of us can appreciate his patience with youth; he understood and listened to us. It was Clarence H. Webb who taught many of us how to do work in the field. We were far from the universities, and public high schools had never heard of anthropology or archaeology. It was Dr. Webb who always encouraged student participation and training in fieldwork, his interest in these areas has never flagged. Only two months ago it was Clarence H. Webb who wore out two of my students on a hill overlooking Tapalcat Bayou.

Somehow writing all Clarence Webb has done for Caddoan archaeology seems sort of empty. It makes me wish we were all sitting at *El Chico's* eating enchiladas. One writes of contributions in the past tense. The heartening thing is to know that while Clarence Webb did do all those things, he can and still does do them. Clarence Hungerford Webb, "Pappy" to family and friends, has deserved that label for the whole of Caddoan archaeology. Americans are learning again that one must not flee reality, and local interests are important. Further, we are learning a person only needs to continue growth and that is not tied to calendar years. Dr. Webb is here to remind us, to jog away our recalcitrance.

Well, I have tried to stick to somewhat literary style, to keep this impersonal and "professional," but enough is enough. It is time I mentioned how I met Dr. Webb. He came to the swamps to see a 16 year old kid. He visited and ate with an old part-Indian commercial fisherman, my grandfather. He explained what anthropology was to us, in terms we could understand. He took the time to introduce us to the possibilities that existed in a broader society. Subsequently I have seen him do this, over and over again, with Cajun bee keepers, Arkansas pot hunters, and lots of other kids. He sets a notable example in patience, time and energy, but he is, above all, doctor, archeological researcher, and what is more, teacher.

He has kept those of us working in the Caddoan area busy. He has encouraged us, and prescribed his famous spring "physic" when we were down.

I would hazard a guess that of all his archaeological contributions his own brand of humanism, respect for people past and present, is his single greatest gift to us all.

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Clarence Hungerford Webb And Poverty Point Archaeology

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ABSTRACT

A history of Clarence Webb's involvement in, influence on, and contributions to Poverty Point archaeology is narrated.

It is somewhat misleading to say Clarence Webb *and* Poverty Point archaeology for Clarence Webb *is* Poverty Point archaeology. When Webb first visited the famous site on the Macon Ridge in West Carroll Parish, it had only been mentioned a few times in print (Lockett 1873; Moore 1912: Fowke 1928). In 1935, Clarence Webb entered what he has called the "Wonderful World of Poverty Point". He has never left it. The site had an indelible imprint on this inquisitive medical newcomer who had only a year before been introduced to the world of archaeology. Needless to say, Webb

has left an indelible imprint on Poverty Point.

After his first arrowhead collecting trip with his son on a Boy Scout camping trip near Mena, Arkansas, in 1934, Webb found Edward Neild, a long time amateur archaeologist and Shreveport resident, whose collections swelled with artifacts from Poverty Point and the primitive areas around Catahoula and Larto lakes in central Louisiana. He also found Gerard Fowke, that is, Fowke's (1928) report on archaeological investigations in Louisiana. Captivated by Fowke's mention of a cache of stone vessels, accidently brought to light by plowing, Webb made the trek from Shreveport to Poverty Point and promptly relocated and excavated the remaining cache. This initial exposure to the mysteries of Poverty Point led to Webb's first publication of Poverty Point, "Stone Vessels from a Northeast Louisiana Site" (Webb 1944). But more importantly, it led to a life-long commitment to the study of the site and hundreds of similar ones throughout the Southeast, a study pledged to unraveling those mysteries that had proved so initially provocative. In a real sense, to Webb archaeology and medicine were not so different in their challenges and approaches, only the subjects differed.

During these early days, Webb was to make contacts with other archaeologists that would give a strong historical orientation to his archaeology. He corresponded with James Ford, who was then engaged in the throes of his National Research Council-Louisiana State University-supported surveys of Louisiana and western Mississippi (Ford 1935, 1936). After the initiation of the Works Progress Administration archaeological program in Louisiana, Webb visited with director Ford and his remarkable team during excavations at Marksville. Ford and the WPA personnel reciprocated, and Webb (1968a:142) has fondly recounted Ford's and Willey's enormous appetites for hot biscuits at his dinner table. In spite of Robert Neitzel's failing memory

(Neitzel 1980), it was during this eventful period that these two country boys, Neitzel from the Nebraska prairies, Webb from De Soto Parish in the Red River Valley, met and began a friendship that has spanned four decades. These early contacts defined a major goal for Louisiana archaeology—to provide cultural historical order to the nameless artifacts, assemblages, and complexes rapidly emerging from the ground.

While Webb's work on culture history in the Caddoan region, particularly around his home territory in the Red River Valley of northeastern Louisiana, is perhaps more widely appreciated, he was the first archaeologist to correctly recognize the cultural historical position of Poverty Point. He had briefly touched on the subject in his 1944 article, but his subsequent paper, "Evidences of Pre-Pottery Cultures in Louisiana" (Webb 1948:227-232), dealt comprehensively with the issue. Webb (1948:229) wrote:

> It therefore seems reasonable to postulate a Poverty Point focus in northeastern Louisiana as a late Archaic or Transitional Culture, coeval with Tchefuncte and the late stages of the southeastern Archaic.

It is not surprising that the view espoused by Webb in 1948 has withstood over three decades of research and rethinking. Perhaps it was his medical background that led Webb to early and accurate diagnoses of such complex problems. Whatever the case, Webb's conclusion on the cultural historical position of Poverty Point was an extremely significant statement when viewed in the context of the times. Ford and colleagues, in a classic program of cultural historical achievement, had pretty well defined and solidified the sequence of pottery-producing cultures in the Lower-Mississippi Valley by the 1940s. However, Poverty Point was

another matter. Ford explained (Ford and Webb 1956:14):

> Other problems more readily solvable were too numerous for much time to be spent on a unique culture that did not fit into the gradually clarifying outline of southeastern prehistory.

Webb's statement did not succeed in sweeping away the mists of aura and intrique that enveloped the cultural historical position of Poverty Point, but it did result in a concerted, all-out attack on the problem, a program of study in which Webb was again to play a dominant role.

Webb remained in touch with Ford and others during the late 1940s and early 1950s. After the dismantling of the Louisiana WPA staff, Ford left for graduate work and other adventures. He remained, however, throughly intrigued by Poverty Point and his ultimate investigation of the big site and other affiliated ones was a foregone conclusion. Growing out of the activities of a sometimes rather loose cooperative venture called the "Lower Mississippi Survey" (cf. Phillips, Ford, and Griffin 1951) were some rather extensive excavations at the Jaketown site near Belzoni, Mississippi (Ford, Phillips, and Haag 1955). This was a deeply stratified site which clearly showed the temporal priority of the Poverty Point component over ceramic-producing ones and, perhaps as importantly, a strong degree of similarity with the huge Poverty Point site. This bit of recall of Ford's activities is essential because his and Webb's continuing involvement with Poverty Point studies during this interim was so intertwined that an effectual separation is not possible.

Webb and a friend, Michael Beckman, had continued their investigations at Poverty Point, amassing huge surface collections. Webb visited the Jaketown dig. The immediate

result was a collaborative study by William Haag and Webb (1953:245-248), comparing the small flake and blade tools, commonly known as microliths, from Jaketown and Poverty Point. Not only were these small tools morphologically and technologically similar but they showed decided tendencies to concentrate in certain locales at both sites. They were not distributed uniformly throughout the entire occupation areas. In a very *avant-guard* proposal, Webb took exception to his collaborator's interpretation that the restricted distributions implied different ages of occupation and instead concluded that they had resulted from "...the living and occupational habits of the people..." (Haag and Webb 1953:245-246). This conclusion was important because it was the first clear recognition that something besides temporal differences could have produced within-site variability and that such variability might have resulted from activity organizations of a cultural group. This would provide the starting point for future analyses of intrasite differences at Poverty Point nearly two decades later (Webb 1970, 1977; Webb, Ford, and Gagliano n.d.; Gibson 1970, 1972, 1973).

It was the Jaketown get-together that ignited the first concentrated excavations at Poverty Point. Webb pulled the Jaketown party to Poverty Point—Ford, Haag, and Philip Phillips. An early visitation by the group in 1951 confirmed that the huge Poverty Point mound was artificial (Ford and Webb 1956:16), dispelling all doubts about it being a natural eminence. In 1952, Ford and Neitzel conducted modest excavations which revealed the artificality of other sections of the site and produced a corpus of stratigraphic data for comparison with the Jaketown materials (Ford and Webb 1956:21). Then in 1953, Ford (1954) made a startling discovery from air photo examination, the Poverty Point site constituted a gigantic geometric earthwork, built on such a grand scale that previous on-the-ground inspection had failed

to reveal it. The same year, Ford and Neitzel cored the large mound and made a contour map of the site. All of these activities transpired under the watchful eye of Webb.

Webb's role in all of these goings-on was not merely one of a passive observer. He was instrumental in interceding with landowners and residents which insured the conduction of the excavations. It is said that he was permanently endeared to the local residents after treating some of the children for malaria during his earlier visits.

While his physical presence at the Poverty Point site during the preliminary and then the intensive American Museum of Natural History excavations in 1955 was limited to weekends, vacations, and stolen workdays, Webb's hand is clearly evident in the published results (Ford and Webb 1956). Ford insisted that Webb join him as co-author of the Poverty Point report. This was not simply a gesture to Webb's continued interest in Poverty Point, nor to his previous advice and help. By 1955, Webb, assisted by Beckman, had described, classified, and tabulated more than 40,000 artifacts from Poverty Point. A report was planned, but Ford felt the combined presentation of Webb and Beckman's studies with the excavation results would be a much stronger contribution than either might be separately (Ford and Webb 1956:5). The outcome was the now-famous tome, modestly titled, "Poverty Point, A Late Archaic Site in Louisiana" (Ford and Webb 1956).

This report stood for 21 years as the most detailed, incisive description of the Poverty Point site and culture to be written. Its importance has not diminished, but it has now been joined by Webb's updated version (Webb 1977). While some of the conclusions of the 1956 report have since been withdrawn because of newer information, the report remains a milestone in archaeological presentation and the single most important published source of empirical data on the site.

This cooperative effort brought the two Poverty Point principals more closely together. In 1962, Webb and Ford planned and initiated a new, more comprehensive study of Poverty Point culture. Information accumulating since the 1956 publication had shown that Poverty Point culture was far more widespread than had been previously thought. Webb's far-reaching contacts and weekend sorties from his demanding medical duties had led to the compiling of archaeological details on Poverty Point and similar sites from eight states in the Lower Mississippi Valley and Gulf Coast. Ford and Redfield's Dalton survey added others, and the list was further expanded by archaeologists working in northeastern, central and south Louisiana. All the while, a local amateur archaeologist, Carl Alexander, was amassing another enormous surface collection from the Poverty Point site, a collection of great importance not only because of the wealth of material cultural details but because much of it was controlled by intrasite proveniences. Parenthetically the desirability of acquiring a collection controlled by the partitioned sections of the geometric earthwork had been previously suggested by Ford and Webb (1956:16-17). This new project was interrupted many times over the next four years, but it never completely stopped. Webb saw to that. Ford became more heavily involved in fieldwork in Mexico and engrossed with his now famous and controversial study of the American Formative (Ford 1966, 1969).

In 1966 along with old friend Neitzel, Ford and Webb rejoined forces for a short survey and testing program of Poverty Point sites in the Yazoo Basin of western Mississippi (Webb 1968a:143). The Neill, Stainback, and Teoc Creek sites were investigated but work was concentrated at Toec Creek where buried midden zones were detected. Teoc Creek became the target for more intensive investigations in 1969-1970 (Connaway, McGahey, and Webb 1977).

Ford's active involvement with the Poverty Point project came to an end with the onset of his illness in 1967 but even bed-ridden, he managed to bring Poverty Point into his provocative narrative of the pan-American sweep of Formative contacts and influences (Ford 1969). The comparative similarities between Poverty Point and Mesoamerican cultures were supported by Webb (1968b). While both men agreed on the Theocratic diffusion model linking Poverty Point with contemporary Mesoamerican cultures, particularly Olmec, it is doubtful if there was ever a meeting of the minds about the context of the stimulation. Ford was predisposed to a view of culture, gained from his old mentor, Leslie White; a view in which people were merely passionless points-of-reference in a never-ending ebb and flow of culture. Webb, the physician and humanist, was more inclined to the influential role of the individual in shaping the direction and rate of culture change (cf. Webb 1968a:143).

It is certainly the mark of one of those influential individuals that the simple advocacy of a theory explaining the origin of Poverty Point culture did not halt further research on the issue. If anything, it helped quicken the pace of Webb's involvement with the project. With a host of friends from Louisiana to Florida, Webb compiled voluminous notes on sites and artifacts across the Southeast. Aided by Sherwood Gagliano and Carl Alexander, he undertook the back-breaking job of describing, classifying and tabulating Alexander's huge collection from Poverty Point.

Webb also joined forces with colleagues in test excavations at two other important Poverty Point sites. In 1967, he and Hiram Gregory, Jr. with members of the Northeast Louisiana Archaeological Society conducted limited excavations at the Terral Lewis site, a Poverty Point component lying about 15km southeast of Poverty Point on Joe's Bayou (Gregory, Davis, and Hunter 1970). This work was significant because

it represented the first systematic testing of a presumed satellite community near the big site. Artifactual similarities and high incidences of imported raw materials supported its close affiliation with the Poverty Point site, and subsequent thermoluminescent assessment proved that the two sites were occupied contemporaneously (Weber and Webb 1979; Huxtable, Aitken, and Weber 1972). Webb classified and inventoried the excavated materials. Though never specifically mentioned, it is suspected that Webb's dogged persistence in maintaining the view that at least part of Poverty Point subsistence was derived from horticulture is based on Gregory, Davis, and Hunter's (1970:42-43, 45) interpretation that Terral Lewis was a farming hamlet. Terral Lewis certainly has a curiously high incidence of large bifaces and refurbishing flakes with heavy sheen on their edges and faces (Gregory, Davis, and Hunter 1970:42-43). Similar glossy integuments have been identified elsewhere as glazes caused by fusion of opal from the stems and stalks of various grasses (including maize) onto the working edges of hoes and other implements used in turning the soil.

In 1969, Webb and Thomas H. Koehler of the University of Mississippi reinitiated testing of the Teoc Creek site. The Mississippi Department of Archives and History continued explorations in 1970 (Connaway, McGahey, and Webb 1977). Webb, Ford, and Neitzel had tested, cored, and mapped the site in 1966. Webb, as usual, was responsible for artifact classification. This site proved to be one of the earliest Poverty Point components yet found (radiocarbon and thermoluminscent assays clustered around 1700 B.C.). Occupation transpired on an actively growing natural levee of the combined Tallahatchie-Yalobusha rivers. Floral remains included the usual fall nuts and persimmon but no cultigens were recovered (Connaway, McGahey, and Webb 1977).

Webb's work, which he summarily reported in 1968, an

article entitled "The Extent and Content of Poverty Point Culture" (Webb 1968b), engendered new perspectives on Poverty Point and its position in Southeastern prehistory. From an initial handful of sites in the mid-1950s, Webb (1968b) expanded Poverty Point culture, or something like it, to literally hundreds of sites across the Gulf Coast to Florida and up the Mississippi Valley to the Missouri bootheel and adjoining Tennessee lowlands. He established a core assemblage for Poverty Point culture and a qualitative guide for assessing the degree of "Poverty Point-ness" (Webb 1968b: Table 2). He anticipated Ford's diffusionary origin theory (published posthumously in 1969) by postulating Mesoamerican sources of origin, and he recognized the foundation Poverty Point provided for subsequent Formative developments in the eastern United States (Webb 1968b). Webb's article was a real turning point in Poverty Point archaeology. Left behind forever were notions about limited geographic confinement and inexplicable relationships to overall prehistoric development in America. Webb gave Poverty Point new status. He transformed sites and artifacts into a full-fledged cultural manifestation, and he showed that Poverty Point was a perfectly logical outgrowth of the late Archaic stage and a major contributor to subsequent Hopewellian development.

Continual captivation with the monumental Poverty Point site drew Webb repeatedly to the site between 1967 and 1970. He augmented Alexander's controlled surface collection with one of his own. He and Alexander dug some test holes, especially in the better preserved northern section of the earthwork. These tests proved the stratigraphic co-occurence of Poverty Point objects and pottery, a point of considerable debate. Some archaeologists had maintained that pottery "came in" after baked clay objects "went out".

Alexander's old barn became a meeting place for all the

Poverty Point disciples (Gregory 1978:24). These get-togethers took on all the characteristics of mini-conferences, arguments and ideas reverberated through the dimly lit interior of the old structure, sometimes carrying all the way back to the Hilltop Motel and Saljobar in Delhi. While Poverty Point was the major attraction, it is suspected that the delicious country meals prepared by Mrs. Harry Rusk, Carl Alexander's sister, were also a compelling reason behind the frequency of these meetings. All the while, Webb continued work on the revision of the Poverty Point report, which he and Ford had started in 1962. With Sherwood Gagliano, Webb wrote and periodically distributed sections of this new report to interested parties. By 1971, seven chapters of this tome had been completed (Webb, Ford, and Gagliano n.d.).

Webb's exacting work created a super-charged atmosphere. It focused national attention, public as well as archaeological, on this most interesting site in the northeast Louisiana countryside. In late 1969, Webb invited this author to join him in an intensive tabulation and analysis of another new provenience-controlled surface collection from Poverty Point. This collection totalled nearly 20,000 artifacts. With Alexander and occasional help from Hiram Gregory, Jr. and Sherwood Gagliano, weekends and vacations over the next 11 months were devoted to this task. Even though I participated in this work, it may be said without hesitation that this has produced the most thorough and detailed description of the Poverty Point assemblage to date. While typological goals were satiated, major emphasis was placed on recognition and quantification of artifactual attributes, including morphological, technological, raw material, and other categories. Well over a quarter of a million separate bits of information were collected and, most important, were data on the intrasite sources of the items. Publications and other reports growing out of this work have only scratched the surface of this

enormous data corpus, and it will no doubt continue to furnish an important data pool for years to come.

These intrasite studies culminated in several publications. Webb dealt with the meaning of artifact distributions on the pattern of activities within the Poverty Point earthwork (Webb 1970; Webb, Ford, and Gagliano n.d.). Gibson attempted to develop the social and political implications of the horizontal data (Gibson 1970, 1972, 1973, 1974). These studies added a new dimension to Poverty Point research. They effectively supported Webb's proposition, made in 1953 (Haag and Webb 1953), that cultural organizational factors had contributed to the patterns of artifact distributions at Poverty Point. In 1970, Webb had put together a collection of papers on Poverty Point culture, but editorial problems within the Southeastern Archaeological Conference, the publisher, delayed its appearance until 1975 (Broyles and Webb 1970).

Webb's efforts at Poverty Point were not limited to pure research. He was the prime mover in focusing public attention on the site in the 1960s. He enjoined and supported the National Park Service efforts to make Poverty Point a national monument. Webb vigorously opposed early state legislative moves to block national recognition and to convert the area into a state park. There have been myriads of reasons offered for Louisiana's bizzare course of action, but they all can be reduced to a traditional fear of federal governmental "interference" in state business. When the inevitability of state control was realized, Webb became one of the first to work with the state parks office and architects to insure proper conservation and interpretation of Louisiana's best-known prehistoric site.

In the late 1960s and early 1970s, Webb returned to the scene of his earliest archaeological activities. The swampy wilderness lying between Catahoula and Larto lakes began to

yield to the bulldozer and farm tractor. Soybeans replaced the hardwoods, cypress, and palmetto. But for the interest of farm managers, Norman Haigh and William S. Baker, Jr., the immeasurable archaeological value of this vast lowland basin might have passed unappreciated. With Baker and Gibson, Webb made several excursions into the area. Attention focused on, what else, the dozens of Poverty Point and Tchefuncte sites being brought to light. While much of this activity was of a survey-surface collecting nature, tests were made at Caney Mounds and Cowpen Slough and feature-salvaging transpired at Wild Hog Mound and Mount Bayou. The Webb-Gibson tests at Caney Mounds revealed a deeply stratified midden, successively incorporating materials from probable Late Archaic through Coles Creek periods (cf. Gibson 1979). Mound construction seems to have been initiated during Poverty Point times, and subsequent study of the site layout, by Gibson, disclosed mound alignments which corresponded to sunrise positions on the horizon during the equinoxes and solstices about 1200 B.C. At Cowpen Slough, Baker and Webb (1978) excavated what may prove to be the first human burials dating to the Poverty Point period. Test pits and earth ovens, salvaged by Webb, Baker, and Gibson, at Wild Hog Mound and Mount Bayou, and subsequently at other sites, showed that this culinary method had an extremely long life span in the region, running from early in the third pre-Christian millennium to after the advent of ceramic vessels (cf. Gibson 1975; Spencer and Perry 1978). Classification of the numerous Poverty Point materials in the Baker collection continued to occupy Webb and his colleagues during weekends throughout the 1970s.

Webb continued his publication program on Poverty Point topics through the decade. Possibly one of the most interesting oddities from Poverty Point was a series of small polished stone zoomorphic effigies. Webb's extensive travels

across the Southeast showed that similar little figures were distributed far and wide and occurred in cultural contexts other than Poverty Point, including some late Archaic components (Webb 1971a, 1971b; Lien, Bullen, and Webb 1974). Initially presumed to represent birds, Webb (1971a) offered a novel hypothesis that they were intended as locusts and that their distribution implied a widespread adherence to a magical concept relating to the insects' periodic emergence from the ground. While Webb's interpretation has not gone unchallenged (Connaway 1977:127-128), it is safe to say that it has opened a new issue for dialogue among Poverty Point archaeologists.

In 1974, the Louisiana Archaeological Society was founded. While Webb's role in Society creation was a primary one, the purpose of mentioning this significant event is to record Webb's devotion to Poverty Point issues in publications. Not only has he served a tour of duty as assistant editor and has acted continuously as senior advisor and reviewer, but he has been the most frequent contributor to its publications. In 1975, he initiated a series of short reports for the newsletter, collectively entitled "The Wonderful World of Poverty Point". The breadth of his reporting can be seen in the titles of some of the published articles; "Dugout Canoes and Adzes in the Prehistoric Southeast" (Webb 1975a:7), "Owl Pendants of Red Jasper" (Webb 1975b:7-8); "The Fox-Man Design" (Webb 1975c:6-7); "Clay Figurines and Bird-Women" (Webb 1975d:4-5); "Stone Turtles" (Webb 1976a:6-7); "Typical Projectile Points" (Webb 1976b:4-5); "Dedication of the Poverty Point Commemorative Area (Webb 1976c:12-14); and "Early Ceramic Traits at Poverty Point Site (Webb 1976d:4-6).

Drawing together his previous Poverty Point work, as well as that of his colleagues, Webb produced a new monograph,

entitled "The Poverty Point Culture" (Webb 1977). Originally conceived as a modular publication, this was not the planned revision of the Ford and Webb report of 1956. However, neither was it merely a stop-gap measure. Brevity has not compromised comprehensiveness or incisiveness. It represents *the* major synthesis of Poverty Point archaeology. Gregory (1978:23) has compared Webb's latest major work to a cigar box of projectile points sent to him by Webb during their joint project on Evans points. Once opened Gregory could not get all the items back in the box. This is an apt analogy. Webb's works have always been more than the sum of their words. They are full of ideas, they have always been launching pads for new research.

The appearance of "The Poverty Point Culture" (Webb 1977) has not curtailed Webb's productivity. He served as co-editor of the Denton site report (Connaway 1977) and co-author of the Teoc Creek volume (Connaway, McGahey, and Webb 1977). His solicited contribution to the to-be-published, new *Handbook of North American Indians* is an insightful overview of Southeastern cultural development during the period from 1200-400 B.C. (Webb n.d.). In 1979, Webb and Gibson presented new data and speculations on microlithic tools from Poverty Point. This paper (Webb and Gibson n.d.) will appear in the forthcoming book honoring old friend, William G. Haag, on the occasion of his retirement from his distinguished teaching career.

Rumors of Webb's own retirement circulated in 1976. Repeated inquiries have not been able to confirm these speculations. He and long-time friend and partner, Dr. Robert Lucas apparently did close the Children's Clinic, the scene of their mutual medical practice that spanned some 45 years. However, the Louisiana State University School of Medicine in Shreveport and the Caddo Parish Health Department continue to insist that the spry, gray-haired

gentleman in the corridors and classrooms during the week is indeed Webb. The president's chair of the Louisiana Archaeological Survey and Antiquities Commission has since 1974 been occupied by a person fitting the same description. I can personally vouch that the recipient of the James Alfred Ford award, the highest honor bestowed by the Louisiana Archaeological Society, at the 1977 annual meeting was Clarence Webb, an acknowledgement of his outstanding contributions to Caddoan and Poverty Point archaeology. No, Webb has not retired. He has only shifted emphasis to give *more* attention to the second of his dual professional careers—archaeology. How that will be possible is difficult to fathom judging from Webb's prior record of production, but if anyone can do it you can bet it will be Webb.

Having worked closely with Webb during the 1970s, I can only marvel at the tenacity, enthusiasm, and just plain energy with which he pursues his vigorous campaign of Poverty Point archaeology. Being with Webb in the field is far from a lark and can be down right demanding at times. Forgetful during these times of his Hippocratic oath, he has absolutely no sympathy for anyone that develops blisters nor does he tolerate sore backs. Twelve-and fifteen-hour days are the rule, and woe betide younger comrades that yield to bodily aches and pains. I'm sure he would blame them on the softness of the present generation, far removed from his hardy childhood experience on farms in DeSoto and Caddo Parishes (Webb 1979). Not only must the body be in shape but more exacting is the mental conditioning necessary to keep pace. The day really begins after the fieldwork ends and sometimes carries into the wee hours. With Webb, one needs not only to be able to recite but to think and defend. These scenes are less like a game of checkers than they are like devout pilgrimages to a sacred place and goal—that being a realistic understanding of the Poverty Point site and culture.

There have been many times in my own professional experience when I felt that convincing Webb of the probability, nay possibility, of some particular interpretation was tantamount to truth or near-truth. Such agreed-on issues have nearly always proved to be acceptable to the archaeological community at large and have rarely been challenged. Insufferable of logical inconsistency and of ignorance of relevant information, Webb has become the demanding pillar of excellence in Poverty Point archaeology. Success is measured by Webb's standards, contentment by his approval, and continued pursuit of understanding by his example and, more likely than not, his insistence.

As Gregory has so eloquently stated in a review of Webb's "The Poverty Point Culture" (Gregory 1978:24):

> It will be a long time before the care and patience evident here will be spent again. Once more we owe Dr. Webb our gratitude for his efforts to save the Poverty Point culture for posterity. This work, and the state park, stand as monuments to how much one person can do. Perhaps that was what Poverty Point was all about in the first place, a tribute to one man.

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Archaeological Bibliography Of Clarence Hungerford Webb, 1939-1979

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ABSTRACT

Eighty-six entries comprise the archaeological bibliography of Clarence H. Webb from 1934 to 1979. Publication outlets include a variety of state, regional, and national-international journals, newsletters, monograph series, and memoirs. A majority of the publications deal with Caddoan and Poverty Point archaeology. Webb's writings represent about one-third of published record on Louisiana archaeology during the 1934 to 1979 interim.

INTRODUCTION

Listed below are 86 bibliographic entries which represent the published and unpublished (but widely circulated) works of Clarence H. Webb from 1939 to 1979. These references are limited strictly to Webb's archaeological contributions. His bibliography on various medical topics is nearly as extensive. The breadth of reporting is as varied as his many interests, and though Webb's works on Caddoan and Poverty Point problems are perhaps best known, he has contributed to many other subjects. His articles have appeared in several state archaeological society journals and newsletters—Texas Archeological Society, Louisiana Archaeological Society, Arkansas Archeological Society, Florida Anthropological Society, and Wisconsin Archeological Society; in regional journals and newsletters—Southeastern Archaeological Conference; and in national-international publications—*American Antiquity*, *Archaeology*, and *American Journal of Archaeology*. His books and monographs have been published by the Louisiana State University, the Society for American Archaeology, and the American Museum of Natural History.

Since 1934, the year he began his earnest pursuit of archaeology, Clarence H. Webb has produced nearly one-third of the published accounts on Louisiana archaeology. This becomes all the more significant when one realizes that much of his publication record deals with long-term excavations, conducted around his demanding medical and public service schedule, as well as with analyses of huge numbers of artifacts. His writings stand as a lasting testimony to how much one man can do in the service of archaeology.

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Clarence Hungerford Webb, Careers In Pictorial Essay

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in collaboration with
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ABSTRACT

The multiple careers of Clarence Hungerford Webb are portrayed in a series of photographs. The pictures cover a span from about 1912 to 1977 and are intended to give a visual appreciation of some of the more notable events in the life of a man who has given so much to Louisiana archaeology and archaeologists.

An old adage has it that a picture is worth a thousand words. Thanks to Mrs. Dorothy Dodd Webb (Mrs. Clarence H. Webb), we are able to grace these pages with some cap-

tured moments in the multiple careers and life of Clarence Hungerford Webb. These pictures tell a remarkable story. They represent high points in the life of a gentleman pledged to the service of humanity, one of those rare individuals who has profoundly touched nearly everything and everyone he has come in contact with.

Dr. Webb and Dr. Lucas founded the Children's Clinic in Shreveport in 1931. During 45 years of active pediatrics practice, they treated over 60,000 families, some spanning three generations. Curing ills and caring for people was not confined to his clinic.

Dr. Webb broadened his concern for people to innumerable civic, community, and professional causes. A humanitarian in every sense of the word, he has a distinguished record of involvement with Rotary, various medical organizations and societies, medical schools, Boy Scouts, numerous social agencies, Society for Nature Study, Well Baby Clinic, and many other local, state, and national organizations. His devotion and dedication to these efforts have brought dozens of honors and special recognitions, awards no doubt deeply appreciated but never a cause, or source, of his many and varied commitments. His genuine concern and humbleness in face of these myriad acknowledgements stems without doubt from his formative upbringing in a rural, Southern Baptist ethnic and ethical backdrop.

In hindsight, it seems almost inevitable that Dr. Webb would also become an archaeologist. His concern for people was not restricted by time barriers. It carried into prehistory. It consumed those long-forgotten Native Americans whose lives had been spent in the hills and rich alluvial valleys of North Louisiana and surrounding regions. The same loving concern shown by Dr. Webb for his young patients and his fellow man has also characterized his archaeology. The world

of Clarence Hungerford Webb has been a world of sharing and giving. Those privileged to have been part of it have profoundly benefited from the experience. Can any of us ever hope for more?

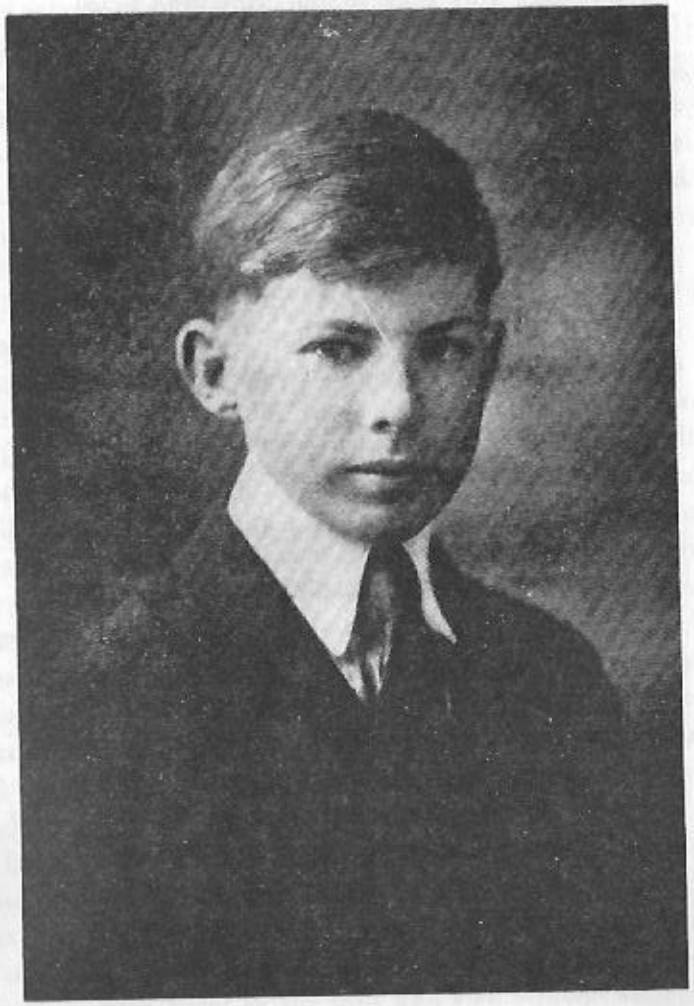

FIG. 1. The Early Seriousness. Webb about age 10. Photo courtesy of Mrs. C.H. Webb.

FIG. 2. An Intense, Young, and Handsome Webb. Photo courtesy of Mrs. C.H. Webb.

FIG. 3. The young doctor, Webb in the late 1920s. Photo courtesy of Mrs. C.H. Webb.

FIG. 4. The year it began, Webb in 1934. Photo courtesy of Mrs. C.H. Webb.

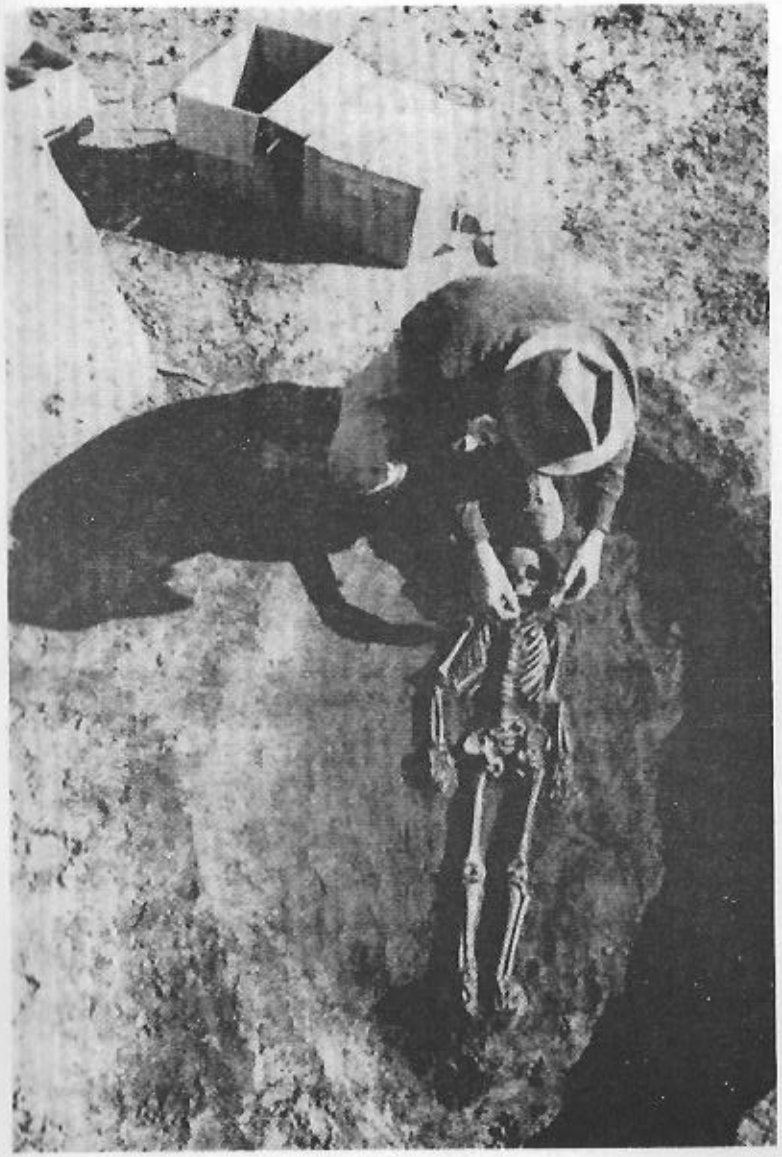

FIG. 5. It continues. Webb with Burial 17. Belcher Mound. Late 1930s. Photo courtesy of Mrs. C.H. Webb.

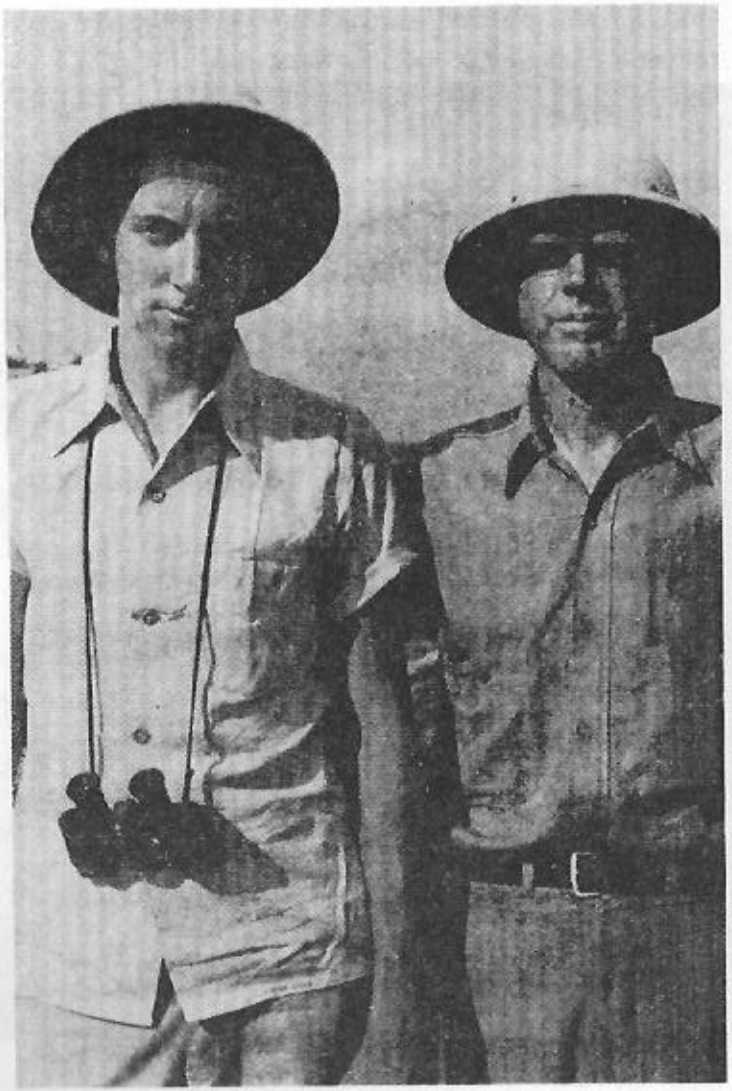

FIG. 6. The Webb Boys, Clarence (right) and son, Clarence, Jr. (left), at Alibates rock quarry, North Texas, July 26, 1945. Photo courtesy of Mrs. C.H. Webb.

FIG. 7. Webb's Installation as President of Shreveport Medical Society. 1950. Left to right. Dr. Paul Abramson. Dr. Webb. Dr. James Eddy. Photo courtesy of Mrs. C.H. Webb.

FIG. 8. Conferring of Honorary L.L.D. Degree to Dr. Clarence H. Webb. Centenary College. May 22. 1960. Left to right. Dr. Joe Mickle. Dr. Herbert Longenecker. Rev. Nathaniel Melbert. and Dr. Webb. Photo courtesy of Mrs. C.H. Webb.

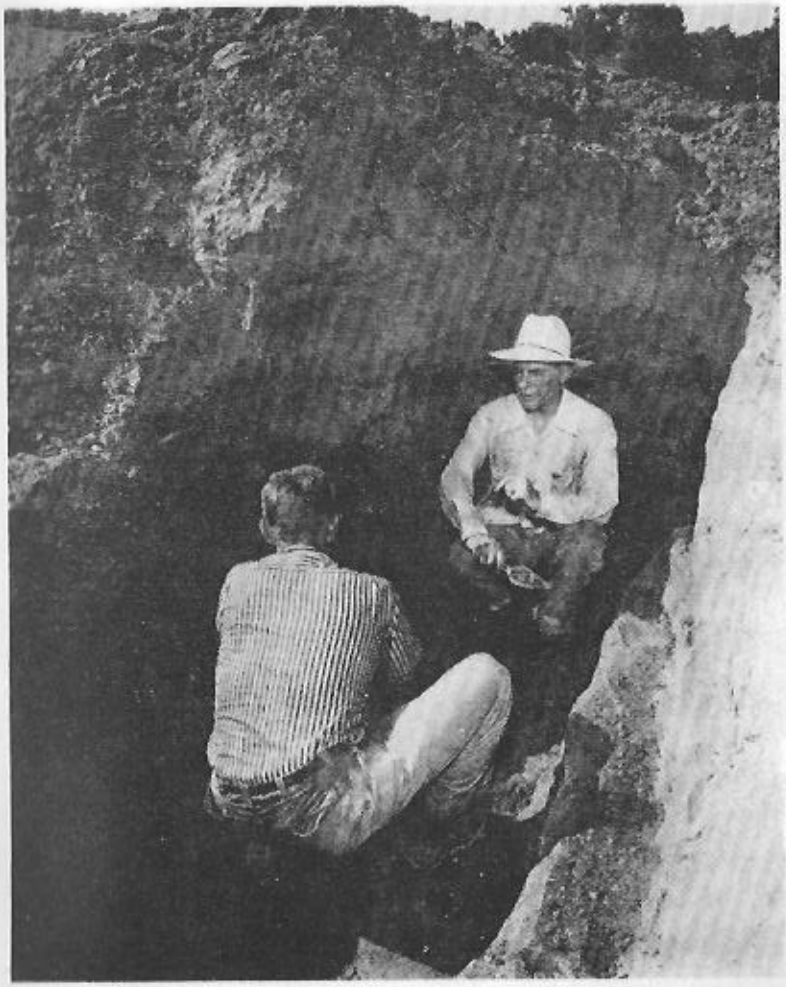

FIG. 9. Webb and Ralph McKinney at Mounds Plantation, July 1965. Photo courtesy of Mrs. C.H. Webb.

FIG. 10. Speaking Engagement, Pediatrics Seminar, Baptist Memorial Hospital, Kansas City, Missouri, May 21, 1971. Topic, "Civilization—Lost and Found". Mrs. Webb to left. Photo courtesy of Mrs. C.H. Webb.

FIG. 11. An Intense, Young, and Handsome, Dr. Clarence Hungerford Webb, 1972. Photo courtesy of Mrs. C.H. Webb.

FIG. 12. Excavations at the Young's Bayou Site, Northwestern State University, 1973. Dr. Webb far left; Brent Smith, field supervisor, patterned shirt; Hiram "Pete" Gregory, Jr., field director, stocking cap. Photo courtesy of Mrs. C.H. Webb.

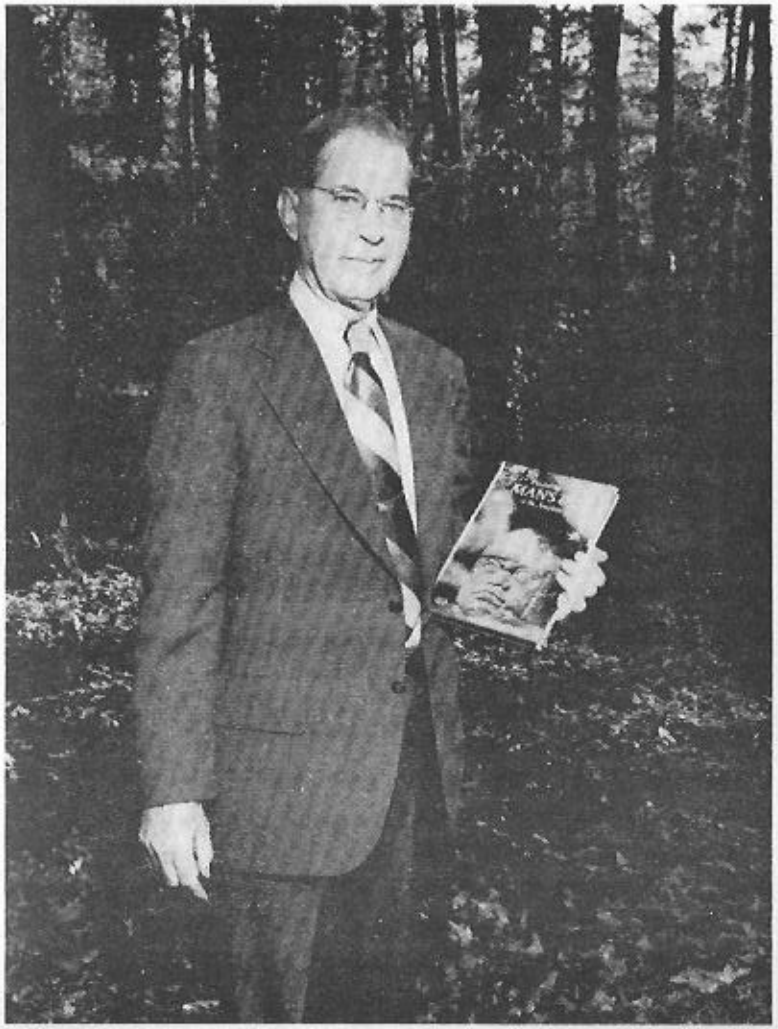

FIG. 13. Dr. Clarence Webb following speech to Shreveport Society for Nature Study, April 1974. Photo courtesy of Mrs. C.H. Webb.

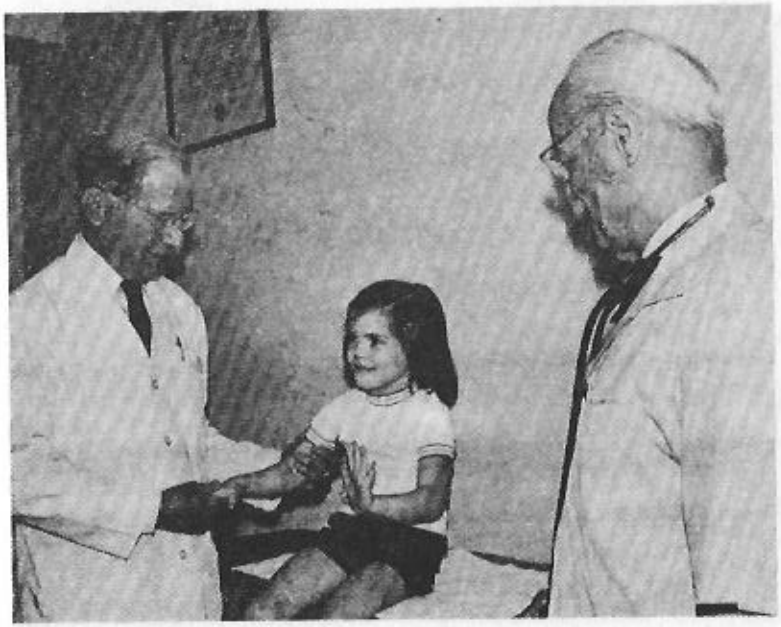

FIG. 14. The Shreveport Times labeled this Scene, "Tender Loving Care". On the Occasion of the Closing of the Children's Clinic, September 1976. Left to right, Dr. Webb; young patient, Margaret Frantz; and Dr. Robert Lucas. Photo courtesy of Mrs. C.H. Webb.

FIG. 15. Golden anniversary, October 14, 1976. Left to right, Dr. and Mrs. C.H. Webb, Jr.; the honorees, Dr. and Mrs. C.H. Webb; George H. Sporl, nephew. Photo courtesy of Mrs. C.H. Webb.

FIG. 16. Excavations at the Montgomery I site, Webster Parish, Louisiana: Webb, "pitching", David Jeane, "catching", 1977. Photo courtesy of Lee Shively, Shreveport Times.

FIG. 17. Award Ceremony Recognizing Outstanding Contributions to Southeastern Archaeology. Southeastern Archaeological Conference, October 1977, Lafayette, Louisiana. Honorees, left to right; Webb, Robert "Stu" Neitzel, and W.G. Haag. Extremes, Jon Gibson, left, and Stephen Williams, right. Photo courtesy of Mrs. Joann Isabel, University of Southwestern Louisiana News Services.

Caddoan And Poverty Point Archaeology: Essays In Honor Of Clarence Hungerford Webb

Part II
Caddoan Archaeology

Fourche Maline: An Archaeological Manifestation In Eastern Oklahoma

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University of Oklahoma

INTRODUCTION

A group of prehistoric Indians formerly living in what is now designated Le Flore County represent one of the more important native inhabitants of Oklahoma. Our knowledge about these people, however, is very limited, and although considerable archaeological work has been done, we cannot as yet answer some simple questions. For example: From where did they come? When and how long did they occupy eastern Oklahoma? What size of population is represented and how large an area did they occupy? What was their lifestyle and what cultural characteristics did they maintain? Who are their descendants and what happened to them? While one can offer suggestions regarding some of these questions, they are essentially speculations which still require support and documentation. As our knowledge of the later prehistoric

occupants of eastern Oklahoma becomes more extensive, an understanding of the earlier periods becomes more critical if we are to comprehend the history and cultural processes that are involved. Consequently, one purpose here is to make an assessment of Fourche Maline as currently known, and then to suggest specific research efforts that should advance our knowledge about these people.

FOURCHE MALINE: DATA AND INTERPRETATIONS

Our earliest information about these people came from a series of excavations conducted during WPA days along the Poteau and Fourche Maline rivers in the vicinity of Wister, Oklahoma. This work was under the direction of Dr. Forrest E. Clements of the University of Oklahoma with Phil J. Newkumet and Lynn E. Howard serving as field directors. Although the exact number of sites examined, tested, or subjected to excavation has not been determined, Table 1 probably includes all of the major excavations within this locality.

The collected materials were shipped to the University of Oklahoma Department of Anthropology laboratories where quarterly reports were prepared and submitted to the WPA offices. Although some of these contained considerable detail regarding the fieldwork, the reports were not generally available. Newkumet (1940a; 1940b), however, did publish a brief summary of his findings at the Williams Mound (Lf Wl I) and some details about a multiple burial containing long bone "hair pins" from the Troy Adams mound (Lf Ad I).

Newkumet recognized the abundance of sites along Fourche Maline Creek and identified them by the presence of low "black mounds" which appeared to be midden and house

Table 1: Archaeological Sites Excavated During WPA Projects along the Poteau and Fourche Maline Rivers, Le Flore County, Oklahoma.

Original site number	Current site number	Site name	Excavator	Year
Lf Wl I	Lf-24	J. W. Williams	Newkumet	1939-40
Lf Wl II	Lf-25	County land	Newkumet	1940
Lf Mn I	Lf-26	Bennet Monroe	Newkumet	1940
Lf Wn I	Lf-27	Omer Wann	Newkumet	1940
Lf Sa I	Lf-28	James M. Sam	Newkumet	1940
Lf Ma I	Lf-29	Raymond Mackey	Newkumet	1940
Lf Pk I	Lf-23	Henry Peck	Newkumet	1940
Lf Sm I	Lf-22	John Smith	Newkumet	1940
Lf Go I	Lf-21	N. E. Conner	Newkumet	1941
Lf Cp I	Lf-20	Copeland	Newkumet	1940-41
Lf Hk I	Lf-19	Mrs. Hooks	Newkumet	1941
Lf De I	Lf-18	S. O. De Hart	Howard	1941
Lf De II	Lf-17	S. O. De Hart	Howard	1942
Lf To I	Lf-16	Sol Thompson	Howard	1941
Lf Re II	Lf-15	Lee Redwine	Newkumet	1940
Lf He I	Lf-14	Henry Heflin	Newkumet	1941
Lf He II	Lf-13	Henry Heflin	Newkumet	1941
Lf Ak I	Lf-32	Dan Akers	Newkumet	1941
Lf Ad I	Lf-33	Troy Adams	Newkumet	1940
Lf Be I		W. O. Brewer	Newkumet	1941

mounds used as cemeteries. He considered that the material exhibited traits of the Woodland Pattern, but commented about the need for additional information, especially for the village sites.

With the outbreak of World War II and the interruption of archaeological work, the research staff became scattered and was replaced by new personnel. Kenneth G. Orr served as archaeologist at the university from 1945 to 1946, during which time he made extensive studies of the collections. His interest, however, was primarily with the Spiro site and related materials from along the Arkansas River in northern Le Flore County. Orr was replaced by James B. Watson and his wife, Virginia, who remained at the University of Oklahoma for one year from 1946 to 1947. In the fall of 1946, James Watson and J. Willis Stovall served as hosts for the First Symposium of the Caddoan Archaeological Area. One purpose of this symposium was to define the various archaeological units within the Caddoan area and to synthesize the available information up to that time. At this conference Newkumet displayed materials from the excavations and described the complex which he identified as the Fourche Maline focus. Alex Krieger (1947:198-202), Chairman at the conference, published a summary report in January 1947. This includes the following (Krieger 1947:202):

> Newkumet described the important Fourche Maline focus, found in southern Le Flore County, eastern Oklahoma, south of the Spiro area but north of McCurtain County. The utility jars of this complex, in particular, seem to provide prototypes for "Caddoan units in eastern Oklahoma." Cylindrical jars with incised rim decorations are surprisingly like those of Sanders focus and in some cases are indistinguishable; however, other jars have a variety of unique curvilinear incised designs which cannot be found in any "Caddoan unit." Engraving is absent and there is no suggestion of "Southern Cult" elements. On the other hand, there are such early eastern traits as atlatl weights, boatstones, stone real-shaped (sic) objects, bone atlatl hooks, and contracting-stem dart points. Burials were both flexed and extended, and found singly and in mass graves. Bone whistles, bone tubes, long bone pins, notched "sinkers", double-bitted chipped stone axes, a variety of celts, small stemmed projectile points, and many other objects were shown.

Also, at this time (1947) construction of the Lake Wister dam was well underway and with the formation of Lake Wister, the area which contained these sites would be flooded or damaged by construction activities. At the request of the Corps of Engineers, Virginia Watson, along with Phil Newkumet and James Capps, conducted a brief survey in the area. Since most of the earlier work had been done along Fourche Maline Creek, they focused attention along the Poteau River and Black Fork Creek. The Watson survey reported an additional nine sites which were identified in the newly established survey recording system as Lf-1 through Lf-9. Some of these sites produced surface materials similar to those recovered previously by the WPA excavations, but some also produced items which appeared to be non-Fourche Maline and suggested a "Caddoan" relationship. The need for additional excavation was well recognized, and Watson recommended that excavation work be done at four sites: Lf-3, Lf-4, Lf-5, and Lf-9. The excavation goals were to obtain information regarding house patterns and village details for the Fourche Maline focus, to relate Fourche Maline to other cultural assemblages found in the area, and to recheck at least one of the burial mounds (middens).

Virginia Watson was unable to follow through with her survey recommendations as her husband accepted a position at Washington University in Saint Louis, and they left Oklahoma during the summer of 1947. Before their departure, however, Robert E. Bell became a replacement effective September 1, 1947. The Watsons informed Bell about the urgency of the Wister salvage work, and he arrived in Norman in July of 1947.

At this time, the National Park Service, the River Basin Survey of Smithsonian Institution, and the Corps of Engineers were well aware of the situation and the need for archaeological work, but no funds were available. In recognition of this dilemma, the University of Oklahoma allocated the sum of $900 to the Department of Anthropology for the Wister project. As a result, Bell spent the period from August 12th to September 6, 1947, continuing survey and testing excavations in the Wister area (Bell 1948; 1949).

With this limitation in funds, a general research plan was formulated for the 1947 season. In spite of all previous work, there was no information regarding house structures, features, and the associated burials; consequently, there was a need for village or habitation data. Also, the Fourche Maline assemblage contained numerous artifacts which appeared to be a mixture of Archaic and early pottery-making peoples, with the suggestion of a considerable time depth or a mixing of different occupations. It was believed that careful stratigraphic control should produce evidence of time differences within the Fourche Maline complex. There were also known sites within the area which appeared to be non-Fourche Maline and to relate to later Caddoan occupations. These sites often had mounds, lacked the "black mound" middens, and produced a greater variety of ceramics. Moreover, the relationship between Fourche Maline and Caddo-like sites remained unclear, and superimposed occupations were highly desirable if they could be found.

With these objectives in mind but restricted by fund limitations, the plan was to reexamine the various recorded sites for purposes of selecting a limited number of specific sites for test pits and further evaluation. These selected sites would then be tested for their potential in providing house structures, village features, or stratigraphy, and finally the most promising location would be the focus for as much excavation work as time and funds permitted.

In implementing this research, most of the known sites were revisited, and in this process, three new sites were found: Lf-10, Lf-11, and Lf-12. A number of the sites were immediately outside of the flood pool or would be flooded only intermittently, and these were eliminated for testing consideration on the assumption that they could be worked at a later date. Priority was given to sites within the conservation pool or to those subject to immediate destruction. Finally four sites were selected for testing: the Conser site (Lf-3), the Cantrell site (Lf-4), the Ward site (Lf-10), and the Scott site (Lf-11).

The Conser site (Lf-3) contained four areas with concentrated surface debris, one major midden area, and three other localities, one of which had produced baked clay (wattle) and had some barren spots suspected to be representing village features. A total of seven test pits were dug at Conser, but no village features were found and the cultural deposit was shallow. A study of aerial photographs and discussions with the land owner indicated that extensive erosion had washed away much of the site thus concentrating displaced cultural material upon the surface.

A total of five 5-foot test squares were excavated at the Cantrell site (Lf-4), and these indicated a similar situation with a shallow deposit and extensive surface erosion. No indications of features were found.

The Ward site (Lf-10) received more attention, however, and a series of nineteen 5-foot squares were excavated. Although the deposit was shallow, ranging from 6 inches to 25 inches, the discovery of three postholes necessitated the extra amount of work. The finding of single postholes prompted an extension of the grid in an effort to locate house structures underneath the midden, but this was not successful and the work was shifted to the Scott site (Lf-11).

The Scott site produced evidence of a deep cultural deposit (5 feet) with potential stratigraphy. Consequently, the remaining effort was spent at Scott where a total of eight 5-foot squares were excavated in the central section of the midden. Although no indications of house structures were found, it was evident that ceramics were limited to the upper levels and that preceramic deposits were present. This indicated without doubt that Fourche Maline extended from pre-pottery times into early pottery-making times and that the Fourche Maline focus required further subdivisions and redefinition.

In the summer of 1948, Bell returned to the Scott site and excavated an additional sixteen 5-foot squares, mostly in the area adjacent to the 1947 tests. This was done to verify the stratigraphy and to obtain a larger sample from the site for comparative purposes. Further work was deemed necessary, but the reservoir was completed and other urgent excavations were necessary at Fort Gibson Reservoir.

FOURCHE MALINE

A report on fieldwork at the Scott site was published in 1953 (Bell 1953). This demonstrated a sequence from pre-pottery levels to those containing clay-tempered wares generally associated with Gibson periods, and culminating with shell-tempered wares generally associated with Fulton

periods. While the pre-pottery and clay-tempered levels were identified as Fourche Maline, a number of items generally associated with Fourche Maline were not found at the Scott site. These items include dog burials, corner-tanged knives, grooved stone axes, bone tubes, bone beads, and shell beads. Moreover, the total sample obtained from the Scott site was limited, especially in the preceramic levels, and it was not possible to subdivide the complex into meaningful units. Bell (1953:331) concluded that:

> Excavations at the Scott site suggest that the Fourche Maline focus as it had been recognized is either not a single complex or that it existed with some modifications over a long period of time from an Archaic pre-pottery period through early Woodland, and possibly longer. At the present time, it is not possible to clearly differentiate time or cultural differences because of inadequate data. With a detailed comparative analysis of individual Fourche Maline sites, a clearer picture will become available.

In 1951 the Survey of Oklahoma Archaeology was published by Bell and Baerreis (1951). This was an attempt to bring together the available information about Oklahoma prehistory up to that date. The section devoted to Fourche Maline was prepared by Bell, and it attempted to summarize what was known about this complex. Since this work is still today the main reference to the Fourche Maline focus, but is out of print, the major characteristics are repeated here (Bell and Baerreis 1951:19-27):

> The Fourche Maline sites are represented by accumulations of village debris or midden deposits

situated on the bank of a river or stream. These middens are characterized by a black colored earth which contains, scattered throughout the deposit, considerable amounts of clam shells, animal bones, charcoal, fire-cracked rocks, various artifacts, human burials, occasional occupational surfaces and other miscellaneous objects. No house patterns have been found at any of the sites although occasional post holes were encountered within the middens.

Both human burials and dog burials are found in the middens. The dog burials are not common, but human burials are often found scattered throughout most of the midden area. The majority of burials are of single individuals placed in a flexed position without apparent body orientation and without grave offerings. Some multiple burials and bundle burials are known but occur in a minority of cases. In most burials there is no evidence of a grave outline which suggests either that the body was placed upon the ground and merely covered over with the surrounding midden debris, or that the dark colored soils obscured the grave outlines. In some cases where burials were found at the base of the midden, a shallow circular grave had been scooped out of the underlying subsoil. In other instances, no grave outline was observed even though soil colors should not have obscured the evidences.

Projectile points are by far the most common chipped stone artifact on the Fourche Maline sites. Points are abundant on all sites, and the typical types are large in size, rather crude in workmanship, and most commonly are made of a dark colored quartzite

or black flint. The predominant shapes are stemmed forms with either a square or tapering base. Other chipped stone objects include knives, drills, scrapers, double-bitted axes and miscellaneous unfinished or unclassified specimens. The flint knives are usually simple leaf-shaped or lanceolate forms although examples of the triangular corner-tanged knife have been found at some sites. Stone drills are rather common and appear in a variety of forms. Many of the drills are actually drill-pointed projectile points and may have been used for a reamer. Scrapers are represented by simple flakes which have some secondary chipping along one side or end. They are crude and poorly made. The double-bitted axe is also associated with the Fourche Maline complex and commonly exhibits abrasions or smoothed surfaces in the mid-section, presumably resulting from the method of hafting the implement.

Specimens of ground stone include celts, axes, pendants, gorgets, boatstones, atlatl weights, beads, grinding stones, hammerstones, cupstones and miscellaneous objects. The celt is represented by two varieties, a small well-made celt of black hematite and a larger ovoid-shaped celt of igneous or metamorphic stone. The celts do not appear to be especially distinctive although they do have a thick cross-section. Examples of full-grooved stone axes have been found but their occurrence is very rare. Pendants and gorgets are represented by oval or rectangular tabular forms having one or several perforations for suspension. The types found exhibit considerable variety, and some are similar to those from Early Woodland horizons in eastern United

States. The boatstone is fairly common at all sites and occurs in a great variety of shapes and styles ranging from slender keeled forms to those resembling a hemisphere. The base may or may not be hollowed out, and perforations are infrequent. The bannerstone or atlatl weight is represented by some fragments, but it is certainly a rarity at most sites. Since there is such a relative abundance of the boat-shaped forms, they appear to replace the bannerstone type of atlatl weight in the Fourche Maline area. Other specimens found which should be mentioned are large stone beads and a single fragment of what appears to be the stem of a stone pipe. With this exception, pipes are conspicuously absent at Fourche Maline sites.

The Fourche Maline people utilized bone for a variety of tools and implements. At most sites the bone or antler objects are common artifacts, and many of them are well polished, carefully made and preserved in fine condition. Bone projectile points are represented by two kinds: those made from cutting off the end of an antler tine, and those made from a splinter of bone which has been roughly rubbed down to a point. Many of these latter points resemble crudely made bone awls except for the battered or blunted tip which appears damaged from impact in use. Bone awls or perforating tools and bodkins are found at most sites. The bodkins or bone pins are long pencil-like pieces of polished bone having a flattened, carved or pin-type of head. Although they may have served as a perforating tool, their length, form and careful workmanship suggest a use as hair ornaments. Bone atlatl hooks are represented by a small number

of skillfully-made specimens. They are without sockets for attachment and the base has a slot into which the prepared atlatl shaft was secured by inserting a pin. Other bone artifacts include cylindrical beads, small flat perforated discs, bone rings resembling a napkin ring and perforated animal teeth. There are, of course, some examples of worked bone which do not fall into the above categories and whose use remains problematical.

Although broken and whole mussel shells are abundant in the Fourche Maline middens, shell artifacts are not common. Some shells have rubbed or worn edges and appear to have been used as scrapers. Others have deep notches cut into the edges and it is not known for what they were used. A few ornaments of shell have been found including simple pendants, gorgets and large beads. Although mussel shell was used for ornaments, conch shell seems to have been preferred for most objects.

Pottery is found on the Fourche Maline sites and is most abundant in the upper levels. The typical pottery ware is a thick, granular, clay or sherd-tempered ware of brown color. No complete vessels have been found although the sherds indicate the typical vessel is a large and deep cylindrical jar having a flat disc-shaped base occasionally displaying a basketry impression. The great majority of pottery sherds are plain, the few decorated specimens being designed with bold incisions. The decoration is largely confined to the rim or upper portion of the vessel with simple chevron, diamond or ladder designs being most typical.

The Fourche Maline complex represents the earliest archaeological horizon now recognized in east central Oklahoma. It apparently lasted for a long period of time and further research will undoubtedly define clear subdivisions within this time period. It may be suggested on the basis of present evidence that the preceramic levels of the sites could well be the equivalent of an Early Woodland horizon and that a Middle Woodland alignment is indicated for the ceramic levels, in part on the basis of trade sherds. This implies, then, that although close ties are indicated with the Archaic of the Southeast in terms of artifact types, it is a peripheral survival of this complex into later times. This is supported by indications of relationship to the later Gibson Aspect materials since the Fourche Maline pottery closely resembles the utility wares of this aspect. Even though analysis of present collections will shed considerable light on this material, additional data are needed from the surrounding area, especially Arkansas, in order to properly understand the role played by the Fourche Maline people.

In 1952 Orr published a summary survey of Caddoan Area archaeology (Orr 1952). He discussed the Fourche Maline focus under Early Woodland but recognized that it continued into the Middle Woodland period; in fact, he suggested that most of the known sites represented the Middle Woodland occupation. Because of this time depth, Orr (1952:242) suggested that the term Fourche Maline should apply primarily to the early manifestations such as represented by the Williams site (Lf Wl I). Attention was also directed toward similarities between the Fourche Maline complex and Archaic-Early Woodland horizons of the southeastern United

States. Orr also noted numerous parallels with Tchefuncte, especially in the pottery, and he suggested that Tchefuncte and Fourche Maline were derived from a common base. He also called attention to ceramic similarities between Fourche Maline and the early Evans component at the Spiro site.

One major difficulty still remaining in 1952 was that no detailed published reports were available for the various sites which had been included as examples of the Fourche Maline focus. The preliminary information provided by Newkumet (1940a; 1940b) and a familiarity with the museum collections provided Orr (1952) with the basis for his interpretation. The previous summary by Bell (Bell and Baerreis 1951 was based upon Bell's fieldwork of 1947 and 1948 and his familiarity with the various site collections. Reports upon the Scott site (Bell 1953) and the Ward site (Williams 1953) appeared in 1953, but these were new additions to the site inventory and could not be well correlated with the previous work.

A first step in obtaining information about the earlier excavations came in 1957 with the publication of a report on the Sam site (Lf-28) by Proctor (1957).

The Sam site was excavated by Newkumet in 1940, and it represents one of the major sites included in the original Fourche Maline site inventory. Proctor utilized the WPA quarterly reports and available field records for his published account (Proctor 1957). Extensive excavations, not only of the midden area, but of surrounding areas were carried out over a period of about 12 weeks. Proctor's study notes that the Sam site fits well with the general characteristics designated as Fourche Maline, but he pointed out certain differences, especially in the presence of pottery as grave goods, the presence of houses, and variations in the ceramics. For his interpretation of the Sam site, Proctor not only included comparisons with the Scott and Ward sites, but he

examined the WPA quarterly reports dealing with several other unpublished Fourche Maline sites: Monroe, Smith, Redwine, Williams I, Williams II, Wann, Mackey, and Adams. He noted (Proctor 1957:86) the general homogeneity of all the Fourche Maline sites and included the Sam site within that group. He also observed differences in the frequency of Gary points and Williams Plain pottery as well as differences in other artifacts between individual sites. These differences, however, were interpreted as reflecting differential site utilization over a span of time. He states (Proctor 1957:87): "The information available at present would seem to indicate that the Fourche Maline area was inhabited by one group of people over a long range of time, and that some sites were utilized with greater or lesser intensity during certain segments of this time span."

He further suggests that the Sam site "...was occupied, or more intensively occupied, during the late part of the time range represented by the whole complex".

Proctor suggested that the Sam occupation ranged from Middle Woodland times through the Gibson period and into Fulton Aspect times. The presence of Williams Plain ceramics and shell-tempered pottery was used to support this late extension of Fourche Maline into the Fulton period. The general lack of Spiro focus materials, however, proved troublesome, but Proctor (1957:90) suggested that: Perhaps the florescence of the cult at Spiro created political or economic pressures which made the two groups hostile and precluded any sort of trade relations. There are many examples that would serve to prove that a small conservative society (which Fourche Maline would certainly have to be according to this hypothesis) can exist side by side with more elaborate cultures for many years without being substantially influenced by them. Orr (Orr 1952:253) believes that the greater heterogeneity of Fulton Aspect material as compared

to the Gibson Aspect, suggests a strong political organization around the cult center during Gibson Aspect times. After the decline of the cult, according to Orr, local political autonomy is reflected in the development of numerous local differences in the cultures of the period. In the hypothesis presented here it would be during this period of declining centralized influence, and the gradual dispersal of small groups of people away from the major centers that the late Gibson or early Fulton influences were accepted by the Fourche Maline people. Even then the borrowing must have been very selective, since only a very few traits were taken.

A second Fourche Maline site which had been excavated by Newkumet in 1940 was reported by Sharrock in 1960. This was the Wann site (Lf-27) where in two months of fieldwork about one-half of the main midden area was excavated. Sharrock (1960) reports the absence of definite preceramic levels but the presence of numerous Archaic style artifacts. He relied heavily upon pottery in his comparison with earlier reports, and he attempted to place the Wann site in relation to both Scott and Sam sites. In his summary Sharrock (1960:46) concludes:

> In a relative time construction, the Wann site falls between Scott and Sam sites, probably overlapping Scott, and possibly overlapping Sam at the other extreme. Wann appears definitely to have been occupied during a period in which, or soon after which, ceramics were introduced into the Fourche Maline culture. As was the case with the Scott site, Wann indicates that the focus existed both before and after the introduction of pottery which leaves the possibility that pottery was known in the area but rejected by the Fourche Maline peoples, or that occupation extended from an early period to con-

temporaneity with early Fulton times. The latter explanation seems the more plausible.

In considering unpublished data for the Mackey and Williams I sites, Sharrock (1960:44-45) notes that these sites also contain preceramic levels to suggest an alignment with the Scott site. Consequently, Sharrock's work suggested that the Wann site occupied an intermediate position within Fourche Maline, being preceded by Scott, Mackey, and Williams I sites, and followed by the Sam site. He also accepted Proctor's suggestion that Fourche Maline continued through time until early Fulton Aspect.

A third site, the Copeland site (Lf-20), one of the earlier WPA excavations, was studied and reported by Guilinger (1971). This site was excavated by Newkumet in 1940-1941. Extensive excavations were made in two closely adjacent areas, one of which produced a single house pattern and several burials. Guilinger (1971) notes some time depth, possibly by intermittent occupations, starting with the presence of pottery and continuing through Gibson period times. He notes that the closest relationship appears to be with the Wann site, but that the occupation also extended into Fulton aspect times. Of major interest, perhaps, is the presence of traits reflecting a relationship to the Evans component at Spiro (Orr 1946), indicated by house pattern and grave offerings such as galena, stone celts, conch shell beads, copper, and a French Fork Incised vessel.

Guilinger's report on the Copeland site gave three detailed reports on sites excavated during the WPA period: Copeland, Sam, and Wann. Additional information is available for Scott and Williams I, but otherwise the majority of the WPA excavated sites remain unreported at this time.

No major excavations have been done in the immediate vicinity since the work by Bell in 1948. Some test explorations

have been undertaken, but these have not been published. In 1965, some test pits were dug at Lf-1. The Oklahoma Anthropological Society members excavated some test squares at Lf-200 in the fall of 1967, and at Lf-9 in the spring of 1968. In addition, some test work was accomplished at Lf-54 under the direction of I. C. Gunning of Wilburton in 1968 and 1969. More recently, an intensive survey with minor testing has been carried out in the Lake Wister area to determine the impact upon archaeological sites as a consequence of altering the Lake Wister shoreline (Neal and Mayo 1974; Mayo 1975). This work has called attention not only to the rate of loss and destruction, but to the abundance of archaeological remains within this locality.

The basic published information relating to the Fourche Maline focus as initially conceived and defined, consequently, is to be found in the reports on the Williams I, Scott, Wann, Sam, and Copeland sites from within the Fourche Maline Creek valley. Additional efforts, however, have been published in which Fourche Maline has been discussed in broader terms, or in which additional sites have been added to the site inventory.

Johnson (1962) presented a definition of the La Harpe aspect as a result of his studies of the Yarbrough and Miller sites of northeastern Texas. In this analysis he included the Fourche Maline focus as one segment of the La Harpe aspect. The following quotations illustrate Johnson's thinking on the matter (Johnson 1962:143-144):

> The La Harpe aspect is defined for the first time in the present paper, and represents an Archaic Stage culture, or closely related groups of cultures, which existed over a broad geographic area and which underwent a uniform historic development from early Archaic times into the early ceramic period. It is

characterized by an early phase with expanding stem dart points, a later phase with contracting stem dart points, and finally, simple, plain-ware ceramics of various types. The La Harpe aspect ended with the introduction into the area of abundant arrowpoints and decorated pottery, heralds of a more sedentary mode of existence. Sites belonging to this complex can be traced, in a belt, from the vicinity of Houston, Texas, northward into central Oklahoma.

Later Johnson (1962:269) states:

> What we seem to have, then, in the La Harpe aspect, is a rather far-flung Archaic stage culture, or group of related cultures, which borders the western fringe of the eastern woodlands. The most salient material traits of this aspect are (1) flexed burials, usually without accompanying furniture; (2) pitted manos; (3) expanding stem dart points (early phase); (4) contracting stem dart points (later phase); (5) plain ceramics (terminal La Harpe aspect); (6) various polished and ground stone artifacts (axes, gorgets, etc.) which vary considerably in style and in abundance from locality to locality within the La Harpe aspect area. It seems probable that this culture complex should be divided, some day, into several foci on the basis of areal and temporal distributional data. All that we can safely do at this point, however, is to recognize three broad areal divisions of the La Harpe aspect: (1) the Oklahoma Fourche Maline focus; (2) a central area represented, in Texas, by the Yarbrough, Martin, Miller, and Limerick sites; and (3) a southern area represented by the Sawmill site, the E.E. Runnells sites 1 and 2,

> and the Doering, Kobs, and Grisbee sites. For one thing, it will eventually be possible to subdivide La Harpe along two lines, one temporal, the other areal. Even in a brief treatment such as that embodied in the present paper, one can see certain specific differences between the materials found in Oklahoma, the central area (northern Texas), and the southern area (the sites near Houston and those from McGee Bend). It will probably be possible, at some future date to recognize these areal differences by naming new foci within the La Harpe aspect.

And finally (Johnson 1962:280):

> On a temporal level, it may be possible to express the differences between the early part of the La Harpe aspect (with many expanding stem dart points), late La Harpe (with its contracting stem dart points), and terminal La Harpe aspect (with plain-ware ceramics) by means of new taxonomic units.

As a result of constructing the Broken Bow and Pine Creek reservoirs in McCurtain County, southeastern Oklahoma, a number of archaeological sites were investigated. Several of these sites produced preceramic occupations which have been assigned to the La Harpe aspect (Wyckoff 1970). Components found in the Broken Bow reservoir include the Lamas Branch, Hughs, and Callahan sites (Wyckoff 1966, two components at Biggham Creek, the preceramic Occupation II and Ceramic Occupation I (Wyckoff 1965), the E. Johnson site (Wyckoff 1967a), the Beaver site (Wyckoff 1968a), and the Woods Mound Archaic (Wyckoff 1967a). In the Pine Creek reservoir, three components are represented: the Belk (Wychoff 1970), the Bell, and Gregory sites (Wyckoff 1968b).

These components range from Intermediate Archaic up to the introduction of ceramics, but the most important in terms of relationships to Fourche Maline is the Lamas Branch complex. This represents a Late Archaic occupation that is best represented at the Lamas Branch site although four other components are identified: the Beaver site preceramic, the E. Johnson site preceramic, the Woods Mound Group archaic, and the Biggham Creek Preceramic Occupation II (Wyckoff 1967c).

> The type component of this Complex is the Lamas Branch site, a camping station situated on an elevated ridge ¼ mile distant from the present course of the Mountain Fork River (Wyckoff 1966a:48-111). The Lamas Branch site consisted of a shallow (16 inches) occupational deposit in which the various tools were relatively homogeneous in variety and distribution (a few late prehistoric tools were intrusive). Artifacts in the preceramic assemblage at Lamas Branch included several styles of large projectile points (predominant types: Gary, Langtry, Edgewood, Ellis, Marshall, Morhiss, and Lamas Branch Parallel I), choppers, preforms, cores, drills, stemmed hoes, biface knives (ovate, triangular, elliptical, and asymmetrical), notched cobble weights, several scraper forms, gorgets, gorget blanks, cup stones, and preshaped grinding stones.

Artifacts which are considered as diagnostic for Lamas Branch complex include: Gary points, Langtry points, Lamas Branch Contracting Type I points, Castroville points, Ellis points, Marshall points, Palmillas Points, Morhiss points, stemmed hoes, slate blanks for gorgets, cupstones, gorgets, and prepared grinding stones (Wyckoff 1967c:74-6).

Regarding the cultural affinities of the Lamas Branch complex, Wyckoff (1967c:88-89) comments as follows:

> The Lamas Branch Complex would be temporally correlated with intermediate and late phases of the La Harpe aspect. Such a correlation is based on the predominance of contracting and parallel stem dart points and the wider variety of ground stone items. There is, however, no evidence that the Lamas Branch Complex includes the thick, plain pottery associated (Johnson 1961:269) with terminal phases of the La Harpe aspect.

Of the several cultural units in the La Harpe aspect, the Lamas Branch Complex is most comparable to the Fourche Maline focus of east-central Oklahoma. At present, only 3 Fourche Maline focus sites have been extensively reported (see Bell 1953; Proctor 1957; Sharrock 1960); and all are open camp or village locations along the banks of creeks or rivers in an area some 60 miles north of the Broken Bow Reservoir locale. Most of the chipped and ground stone tools associated with the Lamas Branch Complex have been found in varying quantities at each of the Fourche Maline sites, suggesting the contemporaneous existence of the assemblages of these 2 cultural units (see Wyckoff 1966a:107-108). Stylistic differences in the types of gorgets and net weights are currently considered (Wyckoff 1966a:108-109) as clues to aid in differentiating components of these 2 complexes. There are also quantitative differences in the numbers of certain projectile point types (especially the Gary type), stemmed hoes, and other specialized tools and or-

naments (double-bitted axes, ground celts, boatstones, bone awls, shell pendants and beads) found in each complex, and these differences may prove useful in separating and identifying components. Lithic analysis also suggest important differences; quartzite and a black flint are noted (Bell 1953:322; Proctor 1957:57) as the most common material in Fourche Maline sites while novaculite is the predominant material in the Lamas Branch Complex. In summary, the similarities between the Lamas Branch Complex and the Fourche Maline focus are probably the result of geographical proximity as well as contemporaneity. There are, however, differences in the respective tool assemblages; and these should aid in distinguishing sites of each cultural unit.

Some archaeological sites located to the west of the Fourche Maline Creek valley have also been assigned to the Fourche Maline focus. These include the Sparks (Lt-38), and Grace sites (Ps-55) (Shaeffer 1965), the Box Car site (Lt-38), and the Griffith site (Lt-39) (Prewitt 1974). Fieldwork at these sites, however, was limited to testing, and the information provided is not especially helpful other than to indicate a westward extension of the region occupied by the Fourche Maline peoples.

One preceramic occupation is reported from the Tucker's Knob site (Lt-35) which was more extensively excavated (Neal 1974a). The site has been tentatively assigned to the La Harpe aspect but its relationship to Fourche Maline remains unsettled (Neal 1974b).

Some Archaic and early ceramic occupations have been reported from the Arkansas River valley and areas to the north of the Fourche Maline Creek region. Most of these sites have been related to the Grove Archaic or Gibson aspect or

they were left unassigned as examples of a generalized archaic that existed thoughout northeastern Oklahoma. Recently, however, Hardin and Robinson (1975) assigned one component at the Vanderpool site, as well as the Wendtland site (Schneider and Wyckoff 1967), and Area B of the Dickson-Haraway site (Burton and Neal 1970) to the Fourche Maline focus. Thus they extended the Fourche Maline focus occupation northward beyond the Arkansas River valley at least as far as the Vanderpool site in Cherokee County. It should be noted, however, that the original reports on the Wendtland site (Schneider and Wyckoff 1967) and the Dickson-Haraway site (Burton and Neal 1970) did not align these sites with Fourche Maline but rather with other Archaic assemblages.

A number of complexes found in Arkansas have been identified as Fourche Maline. These include pre-Caddoan materials from different river drainages in southwest Arkansas: the Mid-Ouachita region, the Little River drainage, and the central Arkansas River drainage. The best detailed information available on these is provided by Schambach (1970). This includes data on two sites, the Cooper and Means sites, located in the Mid-Ouachita drainage. Schambach's analysis of these two sites has provided a sequence of phases from Archaic times to Caddo, and three of these phases have been designated as Lowland Fourche Maline. These three phases include the Lost Bayou, Oak Grove, and Dutchman's Garden as represented at the Cooper and Means sites. The Poole site and others in the West Gulf Coastal Plain would be additional examples of Lowland Fourche Maline. This contrasts with Highland Fourche Maline which is found in the more rugged terrain of the Ouachita Mountains thus recognizing an environmental distinction between Lowland and Highland Fourche Maline. The Oklahoma sites such as Williams, Scott, Sam and Wann

would be examples of Schambach's Highland Fourche Maline.

Schambach (1970) identifies the Lowland Fourche Maline by the following characteristics: an abundance of plain pottery with flat disk or square bases of the type Williams Plain and Cooper Boneware (bone tempered Williams Plain). An almost exclusive utilization of Gary type projectile points, and probably chipped double-bitted axes and Poole type clay pipes.

Characteristics for the various Lowland Fourche Maline Phases are outlined as follows:

Lost Bayou Phase: (earliest)
- Cooper Boneware (bone tempered Williams Plain)
- Williams Plain
- Marksville Incised on Cooper Boneware paste
- Marksville Stamped variety *Mabin*
- Churupa Punctated (rare)
- Some sherds resembling Tchefuncte wares
- Double-bitted axes
- Gary points, variety *Le Flore, Bodcaw,* and *Manice*
- Carrollton points
- Prismatic blades
- Poole pipes (rare, if present)

Oak Grove Phase:
- Williams Plain
- Ouachita Ironware variety *Catherine* and *DeGray*
- Marksville Incised and possibly Marksville stamped and Larto Red
- Poole Pipes
- Gary Points, variety *Camden*
- Possibly double-bitted axes, prismatic blades, and stone celts

Dutchman's Garden phase: (latest)
- Williams Plain (dominant ware)

- Ouachita Ironware, variety *Catherine* and *DeGray*
- Ouachita Plain (Le Flore Plain)
- Small amounts of Larto Red, Cooper Boneware, and Coles Creek Plain
- Poole Pipes
- Pottery disks
- Clay briquests?
- Gary points, variety *Camden, LeFlore, Bodcaw,* and *Manice*
- Small numbers of Means Stemmed, Scallorn and Alba points
- Prismatic blades, utilized flakes, spall scrapers
- Triangular and ovate knives
- Boatstones
- Oblong stone celts

This inventory is amplified considerably by materials from the Ferguson site which Schambach (1972) suspects will represent the Oak Grove phase. A preliminary listing of characteristics from Ferguson includes the following:

Ferguson site (Oak Grove Phase?):
- Williams Plain
- Bone tempered Williams Plain (Cooper Boneware?)
- Gary points, variety *Le Flore* and *Camden*
- Double-bitted axes
- Poole pipes
- Boatstones
- Flat stone mortars and grinding stones
- Some Marksville sherds
- Clay balls
- Burials - extended supine single graves with sparse grave goods

In addition to the items listed above for the various phases,

there are a number of artifacts from the Cooper and Means sites which are unassigned (Schambach 1970). They are listed here, for some of them are present in Oklahoma Fourche Maline sites.

Cooper site:

Drills or perforators
Flat chipped adzes
Ground slate object
Broken gorget
Bannerstone fragment
Cup or pit stones
Loaf-shaped manos
Quartz crystals
Hematite
Galena cube
Bone splinter awls
Bone round polished awls
Ulna awls
Bone pins
Antler handles
Conical antler projectile points
Atlatl hooks of bone
Bone drifts
Bone fishhook
Bone tubular beads
Faunal remains and mussel shells

Means site

Petaloid stone celts
Mussel shell hoe
Drills or perforators
Whetstones ?
Side-notched hoe?

Semi-grooved maul
Limonite
Quartz
Bone is rare, 8 pieces only including awls, conical projectile points, and bone handles

Further to the southwest in Arkansas, Hoffman (1969, 1970a, 1970b) has identified the Hutt phase in the Little River drainage. This is viewed as an early ceramic stage that apparently existed prior to Coles Creek times. Hoffman (1970b) lists three sites containing components of the Huff phase: The Huff site, Graves Chapel site, and Bell site. He also notes similarities to the Poole site on the Mid-Ouachita drainage.

Specific characteristics of the Hutt phase include:

Bois d'Arc Plain - sandy paste Williams Plain
Gary Points
Poole pipes, high bowl
Numerous drills or perforators
Shallow extended burials with sparse grave goods
Absence of burial mounds

Although the cultural inventory is very limited, this is similar to that described by Schambach for the Mid-Ouachita region. In terms of geographical location, the Hutt phase would fall into the Lowland Fourche Maline.

Hoffman (1969) has also commented upon the Gober complex, a Fourche Maline assemblage found in the central Arkansas drainage. Published information is limited, but Hoffman (1969) does list some essential characteristics as follows:

Williams Plain pottery
Gary points, pointed stems
Numerous argillite tools (choppers and hoes)

Milling stones
Extensive middens

This complex is to be found to the north of the Arkansas River in parts of northwestern Arkansas (Scholtz 1969) and the northern sections of the Ouachita Mountains south of the Arkansas River. The Gober complex appears most closely related to the sites in eastern Oklahoma along Fourche Maline Creek.

DISCUSSION

This survey of materials associated with the label Fourche Maline clearly indicates that the term is being used in a variety of ways by different individuals. This is largely a result of the fact that the generalized Fourche Maline as described in the 1950's extends over much too long a time span from the Archaic to periods of ceramic production. It has become a convenient label for archaeological assemblages which appear to represent "Pre-Gibson" times or what we think of as lacking the major characteristics of the Caddoan development. Here I refer to such things as mound building, either burial mounds or structure mounds, engraved ceramics, indications of a widespread trade network, the presence of identifiable house structures, and a more elaborate artifact inventory which suggests status differences of a stratified society. Many of the designated Fourche Maline sites appear to represent a "developmental" or "formative" period, out of which we can see the emergence of later Caddoan cultures. On the other hand, we can see at some Fourche Maline sites an extension backward into the Archaic period prior to the appearance of ceramics. Thus we appear to have a continuum at least from the Late Archaic up to the formation of what can be termed Caddoan. In addition, some

Fourche Maline sites (Sam, Wann, and Copeland) contain ceramic materials, including shell-tempered pottery, clearly attributed to Caddoan time periods. Consequently, we have no general consensus as to when Fourche Maline appeared nor how long it lasted. When this is the case, it should not be surprising that so-called Fourche Maline relationships are indicated almost everywhere.

It is necessary to revise or abandon the term Fourche Maline as it is currently employed if we are to communicate with each other in trying to unravel the prehistory of the Caddoan area (Trans-Mississippi South).

Schambach (1970, 1972) identifies three sequential phases of a Lowland Fourche Maline in Arkansas chiefly on the basis of abundant plain pottery (Cooper Boneware and Williams Plain), almost exclusively Gary type projectile points, and probably double-bitted stone axes and Poole pipes. This material resembles the early ceramic phase of Fourche Maline and appears to be contemporary with Marksville occupations in the Lower Mississippi valley. If we compare these above mentioned items of Lowland Fourche Maline with Oklahoma Fourche Maline, however, there are differences. One of these is in the pottery identified as Williams Plain. The Oklahoma material is a granular-clay or grog-tempered ware while the Lowland Fourche Maline ware is tempered with sand. Whether this temper difference is significant has not been established. There are also differences in other pottery attributes such as vessel form, base form, basketry impressions, etc. In fact, one cannot help but ask if we are not seeing in the ceramics a broad generalized ceramic horizon that is present all throughout the Trans-Mississippi South rather than specific relationships between two assemblages. This comment also applies to double-bitted axes and Gary type projectile points. These are not limited to Fourche Maline occupations in Oklahoma or Arkansas, and

the Gary type point is widely distributed outside of the Caddoan region itself. Pipes of any type are remarkably rare at Oklahoma Fourche Maline sites in spite of extensive excavations. Moreover, the difference between flexed burials in Oklahoma and extended burials in the Lowland Fourche Maline of Arkansas appears to me as a significant difference. Burial patterns, unlike simple utilitarian items such as a Gary type point, are more deeply integrated into the social structure, and hence are more likely to reflect differences in social organization or ideology. These differences between Oklahoma Fourche Maline and Lowland Fourche Maline lead me to ask if we are talking about two different cultural expressions of the same population, or if we are talking about a similar cultural development by two distinct populations.

Hoffman (1970a) has identified a Fourche Maline manifestation on the Little River drainage in southwestern Arkansas as the Hutt phase. This is essentially similar to Schambach's Lowland Fourche Maline and represents an early ceramic stage of development. Hoffman suggests that it is to be found in areas essentially uninfluenced by the Marksville peoples.

The Highland Fourche Maline in Arkansas is represented by the Gober complex along the Arkansas drainage. This is also an early ceramic occupation which appears more closely related to the Oklahoma Fourche Maline materials along Fourche Maline Creek.

The Arkansas authorities, if I understand them correctly, equate their Lowland and Highland Fourche Maline only with the early ceramic portion of what is known as Fourche Maline, essentially the time period dominated by the utilization of Williams Plain pottery.

Wyckoff (1966, 1970), in reporting on materials found in McCurtain county, Oklahoma, identified a complex which he called the Lamas Branch. This is represented at several sites

and appears to be a Late Archaic occupation lacking ceramics. Wyckoff suggests that the Lamas Branch complex is a regional example of Oklahoma Fourche Maline, the differences between Le Flore county and McCurtain county manifestations reflecting environmental variations and geographic location. He does not see ceramic levels of Fourche Maline represented in McCurtain county, at least in the Broken Bow locality. Unlike our Arkansas colleagues, consequently, Wyckoff relates his discussion of Fourche Maline to the Late Archaic levels and not to the ceramic bearing zones within the Fourche Maline time span.

Johnson (1962), in viewing the situation from Texas, has placed Fourche Maline as one part of a larger La Harpe aspect. This aspect includes both Late Archaic and early ceramic levels extending along a north-south belt from east-central Oklahoma to Houston, Texas. This area can be divided into three regions, a northern portion dominated by the Oklahoma Fourche Maline area, a central portion centered along Red River, and a southern portion in the region around Houston, Texas. Johnson also suggested that the time span involved can be divided into three phases: the earliest one, characterized by expanding stem projectile points; the intermediate period, by contracting stemmed points (Gary type); and the final period, by the appearance of ceramics. As more work is done, Johnson suggests, the chronology and areal differences within the La Harpe aspect can be refined and clarified for each area.

Johnson also indicated the need for subdivisions within Fourche Maline and attempted to show its broader relationship to other assemblages. The delineation of the La Harpe aspect, however, is rather arbitrary as there are no shared cultural characteristics which set it apart from other archaeological assemblages in adjacent areas. The name La Harpe, moreover, would be more appropriate for a

protohistoric or historic period than for one including the archaic and prehistoric materials.

Hardin and Robinson (1975) have recently assigned several sites (Vanderpool, Wendtland, and Dickson-Haraway) to Fourche Maline. These sites are located to the north of the Arkansas River valley and share many characteristics with Archaic and early ceramic occupations of northeastern Oklahoma. They were apparently assigned to Fourche Maline chiefly on the basis of abundant Gary type points, double-bitted axes, boatstones, and Williams Plain pottery. These items, however, are widespread throughout eastern Oklahoma and are not diagnostic of Fourche Maline.

From this review it is obvious that the term Fourche Maline means different things to different authors, and that considerable rethinking of such cultural assignments are necessary. It is quite evident that too long a time span is now included and that subdivisions should be made. It also seems clear that the assemblages represented by Fourche Maline contribute in some manner, probably as a formative stage, to the later Caddoan development. The presence of some Caddoan materials, however, also suggest that it overlaps with Caddoan developments, and that the roots for Fourche Maline lie within the Archaic.

One serious difficulty in our understanding of Fourche Maline has been the absence of radiocarbon dates. Earlier studies have relied heavily upon typology and similarities in trait lists which often obscure our understanding of the actual situation. Very recently, however, we have obtained a series of eleven radiocarbon dates from sites attributed to the Fourche Maline complex. These are listed in Table 2. Several of these dates are from earlier excavations at the Mackey and Williams I sites, while the others, Tucker (Neal 1977) and McCutchen-McLaughlin (Wyckoff 1976) sites are from

Table 2 Fourche Maline Radiocarbon Dates (Not corrected by use of tree-ring chronology)

SITE	LAB NUMBER	LOCATION	DATE
Tucker (Lt-37)	Tx-2485	F.1, Area B	A.D. 1390 ± 70
	Tx-2486	F.1, Area B	A.D. 1410 ± 60
McCutchen-McLaughlin (Lt-11)	UGA-1520	Control Bk.A 48-53 cm.	A.D. 35 ± 55
	UGA-1521	Control Bk.A 93-98 cm.	A.D. 5 ± 55
	UGA-1522	F.1, Gully	250 B.C. ± 55
Mackey (Lf-29)	UGA-1512	House #1 post	A.D. 1490 ± 50
Williams I (Lf-24)	UGA-1513	12 in.	A.D. 1100 ± 50
	UGA-1514	17 in.	A.D. 1230 ± 60
	UGA-1515	28 in.	45 B.C. ± 55
	UGA-1516	38 in.	A.D. 90 ± 90
	UGA-1517	Posthole 31 in.	A.D. 125 ± 105

recent excavations. No detailed reports are available for any of these excavations at this time.

The dates clearly indicate a dual occupation, an early period ranging from 250 B.C. to A.D. 90, and a later period ranging from A.D. 1100 to A.D. 1490. The absence of dates falling between A.D. 90 and A.D. 1100 is not compatible with our previous concept of Fourche Maline. Although additional radiocarbon dates from other sites may fill in this apparent gap, the need for differentiating these two occupations is clearly indicated. Rather than having a continuous occupation ranging from Late Archaic times up to Caddoan periods, at least two occupations are present with the later inhabitants reoccupying an older site location. This accounts, in part, for the presence of both Caddoan and Late Archaic characteristics at various Fourche Maline sites where the nature of the deposits were uniform and lacked any internal stratigraphic evidence that could be detected.

Consequently, the need to redefine the term Fourche Maline is obvious since it includes materials from Late Archaic times to later Caddoan occupations. The radiocarbon dates suggest an early occupation falling between 250 B.C. and A.D. 90, and a late occupation falling between A.D. 1100 and A.D. 1490. The late period is contemporary with Caddoan developments along the Arkansas valley and can be equated with the various phases of Caddoan development. For example, the Maxey Noded bottle, Hickory Engraved bottle, Woodward Plain jar, black stone beads, copper beads, conch shell, and cremation present at the Copeland site (Lf-20) can be attributed to a Harlan phase occupation at that site.

The early dates present at Williams 1 and the McCutchen-McLaughlin site suggest a Late Archaic occupation at both sites. Present evidence from McCutchen-McLaughlin indicates that this is a preceramic period. Materials from the

Williams 1 site have not been analyzed at this time so it is not clear if pottery is present in the dated levels or not. For the present, however, it appears that this early occupation is to be attributed to a pre-pottery phase of Late Archaic times. Additional studies resulting from current work in the Wister Lake area should clarify this occupation in terms of time and cultural content. In the meantime, I suggest that this early occupation be excluded from the previously defined Fourche Maline and that it be given a separate phase designation. The term Wister phase is suggested for reference convenience although later studies may suggest a more appropriate term when type sites can be identified and described.

Utilizing the radiocarbon dates available and considering them as representing either a Late Archaic occupation or one which was later deposited during Caddoan times leaves a chronological gap from around A.D. 100 to A.D. 1000, a period of almost 1000 years, when the dated sites were apparently unoccupied. It is reasonable to expect that additional dates will extend the Caddoan occupation backwards to around A.D. 700 or A.D. 800; also that the earlier occupation may be extended beyond A.D. 100. Nevertheless, a wide gap in time still exists between these two occupations. This is also the time interval when we see the appearance of ceramics in the Wister Lake area. Moreover, the emergence of Caddoan developments such as represented by the Evans or Harlan phases presumably have older formative occupations in the area unless they are intrusive into the region. The occurrence of Williams Plain pottery, crude incised wares which are not found on Caddoan sites, and the occasional examples of Marksville sherds suggest that intermediate occupations do exist in the region. It seems probable that when additional radiocarbon dates become available from other sites that this current gap between the Late Archaic and early Caddoan occupations will be eliminated. Although this

period cannot be identified by specific sites at this time I suggest that the term Fourche Maline be applied to the early ceramic bearing occupations that precede the emergence of Caddoan identity in this region. This identification of Fourche Maline would also be compatible with Schambach and Hoffman's usage of this term for the Arkansas region where it underlies the Caddoan occupations.

In summary, the radiocarbon dates now available indicate that the Fourche Maline focus as previously defined requires subdivisions into a least three phases: an early preceramic phase representing a Late Archaic occupation, an intermediate phase in which ceramics appear and which lacks the characteristics associated with the emerging Caddoan developments such as the Harlan phase, and a late phase representing a reoccupation by Caddoan peoples. While it is not possible to clearly delimit and characterize these cultural phases at this time, continuing fieldwork and study of materials from the Lake Wister area and the McCutchen-McLaughlin site should provide a basis for a new interpretation.

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The Caddoan Confederacies—Some Ecological Considerations

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ABSTRACT

Caddoan confederacies originated with the breakdown of ranked Alto societies in order to promote mutual aid for groups dispersed throughout territories on small plots of arable soils.

INTRODUCTION

In this essay I would like to offer some thoughts regarding two features of the cultural evolution of the Caddo, namely the presence of the two tribal confederacies separated by a large area of very low population density, and the earlier presence of ceremonial centers characterized by mounds and high-status burials.

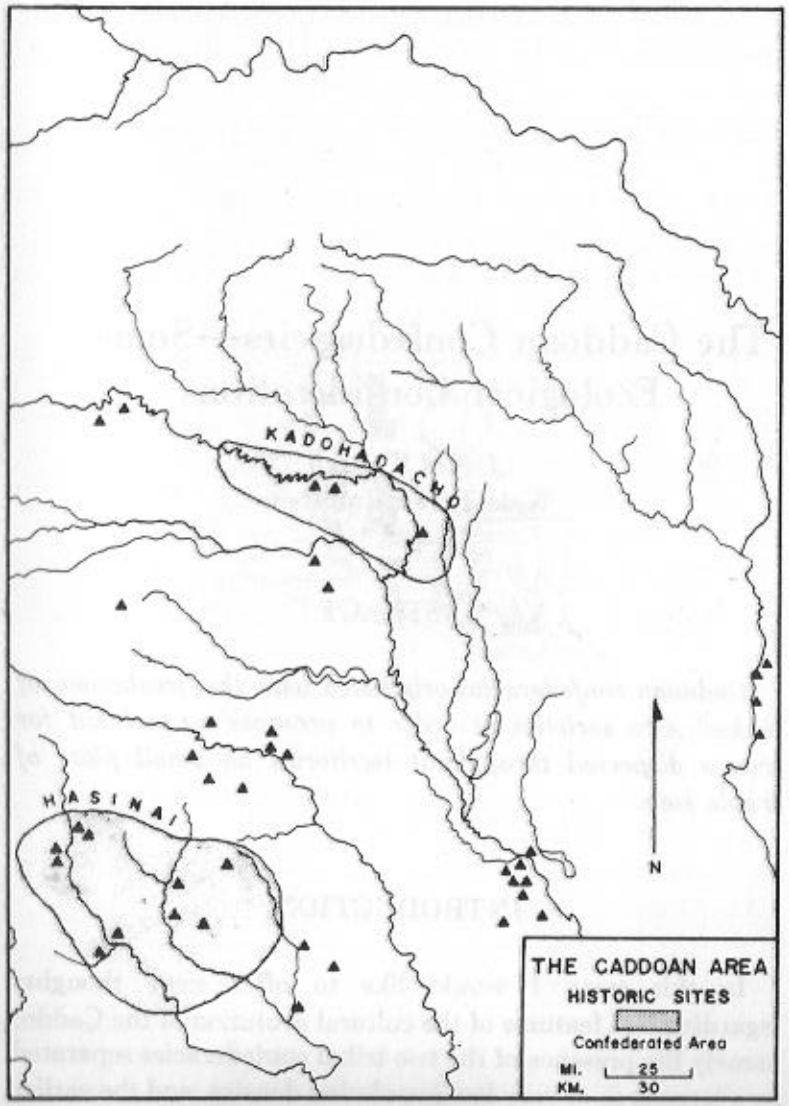

FIGURE 1.

At the time of European contact there were two major confederacies in the Caddoan area (Fig. 1), one in the Neches-Angelina rivers area of eastern Texas (the Hasinai confederacy of 10 tribes) and the other around the Great Bend of Red River (the Kadohadacho confederacy of four tribes). Essentially I am inquiring as to why these two regions contained the combination of social and natural factors leading to confederation and what these factors may have been. I shall argue that the appearance of confederacies, characterized by a tribal-level, egalitarian social order, was attendant upon the decline of major ceremonial centers which previously had performed the integrating function necessary to the society. These centers, which probably served a large number of small isolated hamlets as well as a large resident population, inhibited conflict by providing a common religious activity (including mound construction), a single person or group of persons centralizing the authority for settling disputes, and probably a binding network of trade alliances involving full or part-time specialists producing the elaborate artifacts interred with the social elite.

I will suggest that it was the decline of this means of social integration which led to the confederacy as a political organization, for the disappearance of the centralized control increased the dangers of intergroup conflict. If then we are to understand the appearance of the confederacies, we must explain why the stratified social organization disappeared: this is the objective of the second part of this essay.

THE FORM OF THE CONFEDERACIES

The Soils

By all written and archaeological evidence, the Caddo depended heavily on maize-beans-squash horticulture for

subsistence. Lacking the techniques of irrigation and fertilization, horticulture is dependent for its success on the nature and availability of suitable soil. Maize itself is a heavy feeder, requiring either soil that is rejuvenated frequently (artificially or by natural means such as inundation) or else a rotating field system.

Almost all publications dealing with the Caddo are introduced by an explicit (Webb 1960:35; Newcomb 1961:284) or implicit (Davis 1961a:4) assertion of geographical uniformity for the region. That the entire area shares a number of environmental characteristics is true—among these are acidic sandy soils, coniferous or mixed forest, and slow-moving, numerous streams. On the other hand, an aboriginal community or tribe does not adapt its culture to such a vast geographical area. It adjusts to a certain microenvironment, a tiny portion of the region which is exploited regularly for its products. For explaining or interpreting culture change, it is necessary therefore that the archaeologist orient his view to these particular niches upon which the Indians were reliant. When this is done in the Caddoan area, the notion of homogeneity quickly disappears. In regard to soils, there is great variety throughout the area, with some soils tillable and productive with the Caddoan technology, and others which probably were as resistant to their efforts as a salt marsh is to our own. It seems more than chance that the prehistoric and historically recorded settlements of the Caddo coincide with the distribution of certain soil types. It also appears that the vacant zone occurring between the confederacies was due in part to the soils of that region.

With a few exceptions on the northwestern and northeastern fringe areas, the soils of the Caddoan area can be divided into (1) the upland or sedimentary soils and (2) the lowland or alluvial soils. The upland soils are the product of

Tertiary, mainly Eocene deposits laid down during encroachments of the Gulf of Mexico over the coastal plain, and subsequent deltaic deposits of continental rivers during the recession of the waters (Sellards, Adkins, and Plummer 1932:526-529). The results were thick deposits of clay and sand. The clay, when exposed to weathering, leaches in the humid Caddoan area and leaves a mantle of sand of varying thickness, but seldom more than a meter and often only a few centimeters.

Eastern Texas is an area of low relief—maximum elevation is about 185 meters in the northwestern corner (Van Zandt County) (Texas Almanac 1965:324). Consequently the slow-flowing rivers crossing the area have meandered greatly, creating wide flood plains. The aboriginal population which sought a permanent water supply was usually required to settle on these alluvia rather than on upland sedimentary soils. Exceptions are found when sites were located around springs or on sedimentary bluffs overlooking a floodplain. However, most sites are located on terraces, relict natural levees or the modern river floodplain.

Variation Within The Caddoan Area

A second major distinction can be made between alluvial soils derived from the East Texas sand-clay Eocene uplands and those carried from the Cretaceous backlands farther to the west. Streams heading in East Texas will deposit only the former, while those originating elsewhere can be expected to yield a different sort of alluvia, especially in their upper courses before tributary streams bringing in the typical East Texas sands and silts make a notable contribution to the stream load.

Those rivers traversing East Texas and heading in the blackland prairie are the Trinity, the Sabine and the Sulphur.

In Henderson County, on the western edge of the Caddoan area, the floodplain of the Trinity varies in width from one to four kilometers on the east side of the river. This "bottomland" is composed of the compact black Trinity clay, heavy and waxy, sticky and plastic when wet (Hawker and Devereux 1929:1252-3).

While the Trinity River valley might be dismissed from consideration because of its western fringe position, the Sabine and Sulphur cannot, since they flow through the heart of the Caddoan area. Of even more interest here, the Sulphur and that section of the Sabine which is entirely in Texas lie in the vacant area between the Hasinai and Kadohadacho confederacies. Several Texas counties occupy the old vacant zone, and the river deposits in them are as follows. In Van Zandt and Wood Counties the Sabine floodplain is entirely of Trinity clay; its width varies from 0.7 to three kilometers (Goke *et al.* 1933). In Harrison County Trinity clay is still dominant in the wide "bottoms" but some deposits—probably natural levees from the description given—of Kalmia fine sand occur. This a loose, easily worked soil derived from the East Texas uplands (Van Duyne and Byers 1913:43). The Sulphur River exhibits an alluvium altogether similar to that just described. In southern Red River and northern Titus counties the one to six kilometer floodplain consists solely of Trinity clay. Farther east, in Cass County, only a few kilometers from the Sulphur-Red River confluence, the Trinity clays have been replaced by Johnston clays. These are also heavy black waxy clays, poorly drained. In this area, however, there are a few spots along the river where some sandy loams are present (Beck, Higbee and Marshall 1937), representing old terrace remnants or natural levees (Carter 1931:46).

For purposes of comparison, consider the alluvial soils along the Neches River which has its headwaters in Van

Zandt County. Near its origin, in western Smith County, there are a great number of soil types found adjacent to the river, none of which are clays. There are numerous natural levees and terrace remnants, many loose and well draned (Schoenmann *et al.* 1917). To the south in Cherokee County, the well-known George C. Davis Site is located on such a terrace remnant (Mowery and Oakes 1959:12, appended aerial photographs). Another example, the Angelina River which heads in Rusk County, shows greatly varied deposits of loams, sandy loams and clay loams (Hendrickson, Devereux and Templin 1925), the latter occurring in marshes within the floodplain, i.e., the backswamp. The contrast between the Sabine and Neches valleys can be seen in Figure 2, which shows sample portions of each in Smith County.

As might be expected, the Red River soil map reveals only minor clay deposits along its floodplain. In northern Red River County the wide valley soils consist of very fine sandy loams; a few small isolated patches of clay (Yahola clay) are also present, but in the main this region appears eminently suited to primitive horticulture (Carter *et al.* 1923).

Most of East Texas is covered by a dendritic arrangement of small creeks which feed into the major rivers. While the deposits of heavy clay carried by the Sulphur and Sabine might well inhibit horticulture along their banks, there remained available these minor streams which head in the sandy hills close by. Certain features of these small creeks in the vacant zone make them too less profitable for horticulturalists, however.

Along with various clays, the most frequent soils adjacent to the minor tributaries throughout the Caddoan area are loams. These vary in their productiveness: many types are ill-drained and marshy, and others contain so much silt that they are difficult to till. Typically, as one moves down each of the small creeks or streams there is a corresponding increase in

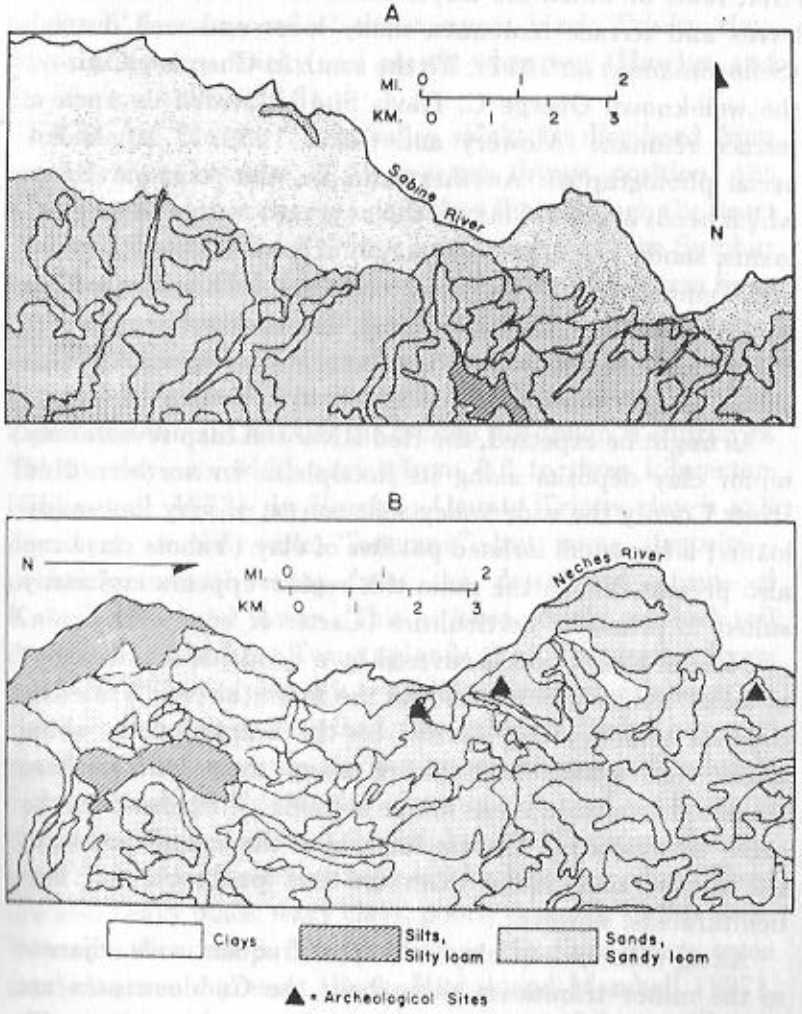

FIGURE 2.

the amount of clay present, explainable by the fact that the smaller, finer particles were carried farther and dropped last from the stream load. Also the heavy clays carried by the large rivers in the vacant zone have been deposited for considerable distance up most of the tributaries (e.g., Carter *et al.* 1923).

Soils of the Vacant Zone

In considering the horticultural potential of the vacant area versus that of the occupied area, I will describe first the soils in Red River, Titus, Cass, and Harrison counties. These four lie roughly along a northwest-southeast line through the heart of the postulated no-man's land. For Red River County I have already mentioned the extensive deposits of Trinity clay along the Sulphur River. These deposits are not confined to that stream, however, but also form the floodplain of its major tributaries which drain the central and south central portion of the county. A few of the streams, especially along their headwaters and intermittent tributaries, have deposited sandy loams. In Red River County, however, the Trinity clay is dominant (Carter *et al.* 1923).

Titus County

South of Red River County, in Titus County, Trinity clay is confined to the floodplain of the Sulphur River. Other Titus County streams exhibit two kinds of soils along their banks—Sanders clay and the Meadow series. The former is a heavy, sticky brown clay, not suitable for hoe agriculture. Meadows soil is the name given to the alluvial soils which are not uniform in texture, color or composition over any considerable area. It includes the heterogeneous mixture of sands, clays and silts washed from adjacent hills and deposited on the lowlands (Rice and Watson, 1910:25). It is made clear that the coarser-textured Meadow soils are

found near headwaters and smaller streams; the heavier soils, i.e., silts and clays, collect along the larger bottoms. Hence while some of the Meadow deposits may be suitable for primitive horticulture, all of them are not. Sanders and Trinity clay deposits can certainly be ruled out. In short, Titus County offers some areas agreeable to aboriginal farming methods, but they are limited in size and widely scattered over the county.

Cass County

In Cass County, the stream bottoms are composed almost exclusively of Bibb fine sandy loam. Some of this alluvium is silty loam or silty clay loam, while in other areas there are mounds of sand (probably natural levees). Along the western and northern edges of the county there are minor amounts of fine sandy loam (Beck, Higbee and Marshall 1937).

Harrison County

The streams in Harrison County predominantly flow through the low-lying, poorly drained soils of the Sanders series, including the heavy Sanders clay. From the Indian's point of view, the Sanders fine sandy loam was the most attractive of these soils; it occurs along the upper reaches of all the tributaries to the Sabine and Little Cypress, the major streams of the county. Already mentioned are the deposits of attractive Kalmia fine sand along a six kilometer section of the Sabine River. As it approaches Caddo Lake, the alluvium of Little Cypress is altered: the Sanders silty loam and Sanders clay are found to accompany, with increasing frequency, isolated patches of Kalmia fine sandy loam and Susquahanna fine sandy loam. The former two probably represent old terrace remnants (Carter 1931:44), while the latter are upland soils, of moderate productivity (Van Duyne and Byers 1913).

Before moving on to those counties believed to contain the sites of the Hasinai and Kadohadacho tribes, the description of the intervening area should be put in its proper perspective. I am not trying to create an image of a barren wasteland in regard to the above four counties. To the contrary, there are numerous excellent habitation areas in each: alluvial soils are not the only ones used by the aborigines. The upland soils are available, particularly when the meandering streams cut along one edge of the floodplain, allowing a settlement on the "bluffs" to take advantage of the loose loam or sand of the uplands as well as the proximity of water. Also the Eocene clay beds of East Texas are prime aquifers, and numerous springs are known in 11 counties (Baker 1963; Broom, Alexander and Myers 1965): sites are found around them. The point that I want to make, after the following discussion of additional counties, is that some portions of the Caddoan area are less amenable to intensive settlement than others. Certain areas are, I believe, better able to support major concentrations of population deriving subsistence through horticulture, and the attractiveness of these areas would tend to foster the integrative device of the confederacy. As villages spread over these latter areas, the danger of confrontation would always be present. In the case of the more isolated, smaller areas of arable land the chances of competition from a neighboring tribe—or any social group—is diminished as a factor of the distance between the cultivable plots. According to my model, it is this threat of conflict that can call into being an integrating device such as the confederacy and give it a positive selective value in cultural evolution.

Soils of the Confederated Zones

Soil surveys have been published for Cherokee and Nacogdoches Counties, both of which are in the heart of the

historic Hasinai country. A study of the soil maps of these two counties reveals some marked differences from those of the more northerly counties discussed above. For example, there are only 1,800 acres of clay soils in Cherokee County, comprising 0.3 percent of the total (Mowery and Oakes 1959:9-10); in Nacogdoches County there are 704 acres or 0.1 percent (Hendrickson, Devereux and Templin 1925:16). This compares with 2.1 percent in Harrison County, 3.4 percent in Cass, 10.6 percent in Titus, and 31.6 percent in Red River County.

Cherokee County

More to the point is the nature of the soils found along the stream courses. Aerial photographs of Cherokee County, overlaid by a soil distribution map, reveal the following: in the northwestern portion of the county, the Neches bottom land is marked by a wide expanse of the undesirable Bibb clay loam (poorly drained, adhesive). These deposits are continuous, or nearly so, for about 15 kilometers along the river. After this, however, there follow some 50 kilometers of varied soil types adjoining the Neches. Generally these soils consist of small (approximately one to five acres) tracts of clay loam and fine sandy loam of a series (Iuka) said to be "moderately well-drained and....among the most productive soils in the county...." (Mowery and Oakes 1959:23). The small patches of Iuka soils are usually surrounded by soils of the Bibb series, and probably represent old terrace remnants. When the Iuka soils recede from the water edge, they yield again to wide bottoms composed of the Bibb soils.

As it flows along the western border of Cherokee County, the Neches River receives 12 or more tributaries, among them Bobby, Flat, Jordan, Tails, Bowles, and Cedar creeks. Almost all of these feed in south of the northwestern exposure of Bibb soils mentioned above. Unlike the secondary streams

in Cass, Titus, Harrison and Red River counties, the Cherokee County steams show a great diversity of soil types along their banks. As was the case along the larger Neches, there is seldom a continuous soil belt flanking a stream: rather there are numerous types of soils traversed by the creeks, most of the plots less than 10 acres in size.

Nacogdoches County

Nacogdoches County, just across the Angelina River from Cherokee County, is laced by numerous tributaries to the Angelina and Attoyac Bayou, the latter forming the eastern county line. The dominant—almost the exclusive—soils found along these tributaries are types "fine sandy loam" and "very fine sandy loam." A few, such as Carisso and Tuscosso creeks southeast of Nacogdoches, flow through silty clay loam, and Bibb series soils appear along portions of the Angelina and a few places along Attoyac Bayou; otherwise these streams also display floodplains and terraces of loose fertile loams and sandy loams. Deposits along the Angelina, and to a lesser extent along Attoyac Bayou, consist of discontinuous patches of tractable alluvia interpersed with Bibb soils, similar to the situation in Cherokee County (although the Nacogdoches County "patches" are, on the whole, larger). The deposits of loams along the tributary creeks are continuous, however.

Bowie County

Like the area of the historic Hasinai, the Kadohadacho "territory," i.e., the Great Bend of Red River, shows frequent tracts of light, tillable soils. Bowie County forms the extreme northeastern portion of Texas. Here the Red River flows in a generally eastern direction, making its turn to the south 30 kilometers past the Texas line in Arkansas. The county is bounded on the south by the Sulphur River, the intractable

clay soils of which have already been described. Minor streams draining the interior of the county are lined with loams, either very fine sandy loam along the small courses, or silty clay loam along the larger creeks. The silty clay loam varies in its texture; generally the natural levees, when present, offer adequate drainage for horticulture. Land farther from the stream channel progressively increases its clay content and thereby its toughness (Schoenmann *et al.* 1921:46).

A study of the soil map along Red River indicates that much the same situation occurs there. To simplify the complex configuration of soils, one can say that sand and sandy loams generally occur near the river itself, separated only by the continually shifting area designated "riverwash". Farther back is a low region of clay which represents the backswamp behind the sandier natural levees. It is, of course, the natural levees that were favored as aboriginal habitation and farm land, even as they are the most prized "bottomland" today. Three soils comprise the great bulk of the natural levee area: Yahola very fine sandy loam, Miller very fine sandy loam, and Miller very fine sand. Modern production statistics indicate that of the three, Miller very fine Sandy loam yields the most abundant maize harvest.

Summary

The situation in regard to soils in the East Texas region can be summed up as follows: Red River, Titus, Cass and Harrison counties show relatively extensive deposits of soils having low productive potential for horticulturalists, whereas the more southerly Cherokee and Nacogdoches counties hold greater promise for such farmers. Specifically, Red River County streams have extensive deposits of Trinity clay; Titus County has large deposits of Trinity and Sanders clay, as well

as the clays and silts of the Meadow series; Cass County exhibits low-lying, poorly drained Bibb series soils along stream bottoms; and Harrison County has Sanders clays, although deposits of silty loam, sandy loam, and fine sand appear in the eastern portion. In Cherokee County, Bibb soils are found along part of the Neches and in scattered places along tributaries. The remainder of the floodplains and terraces however are composed of small patches of highly desirable sands and sandy loams. Much the same situation prevails in Nacogdoches County immediately to the east. For a full appreciation of the marked differences between the two areas described, the reader should compare a soil map of, say, Cass County with that of Nacogdoches or Cherokee County. The differences, especially to anyone convinced of the uniformity of the Caddoan area, are truly startling.

To summarize the situation for extreme northeast Texas, it can be said that suitable land was present for horticulture from the Sulphur River northward, but the greatest concentration lay along the stream bed of the Red River. Tributaries possessed loose sandy loams on their natural levees, but these were not nearly so large as those along Red River. Occupation could not spread southward from the Red River in a continuous manner due to the clayey backswamps bordering the natural levees. Furthermore the tortuous meanderings of the Red break up the continuity of the natural levees; any occupation favoring these soils would be characterized by isolated villages, even if soil and firewood exhaustion did not enter as factors requiring vacant land, which they almost certainly did. This is not true of those tributaries which drain the county interior already mentioned. The sand or clay loams are unbroken along their banks, or nearly so.

The Great Raft

Historic records give no indication of Indian settlements along the Red River between modern Natchitoches and the Foster Site, near the Great Bend. All attempts to explain this settlement pattern by recourse to soil distribution have proved futile. For example, the soil map and aerial photographs of Bossier Parish reveal extensive deposits of loose, fertile alluvium along this entire stretch, interrupted only occasionally by expanses of clay. Almost all the light soil occurs as natural levees, composed of the Yahola series, especially Yahola very fine sandy loam. These soils are well-drained and fertile, and are placed in the capability unit of I-1, indicating their suitability for a wide range of uses with little or no required fertilization or irrigation (Chaffin *et al.* 1962:56). These easily worked soils are quite scarce along the interior streams of the parish, where most of the floodplains and adjoining formations are clay of several series. In short, if the area above Shreveport and below the Foster Site was not settled in early historic or late prehistoric times, it was not because of a lack of arable land.

Clarence H. Webb has suggested (personal communication, December 1968) that the Great Raft may have been a factor discouraging settlement. The Great Raft on Red River was a gigantic log jam which extended, just prior to its removal, some 160 kilometers upriver from Natchitoches. It was present when Bienville first arrived in 1700, and was said then to have been older than the memory of any living Indian (Hardin 1935:769-775). It was formed by Red River undercutting its sandy banks and toppling trees into the water; the resultant accumulation of logs and brush retarded the current, and the more sluggish stream began to drop its silt load and raise its bed. This, along with the tangle of debris in the channel, backed up the tributaries to form the numerous

swamps, marshes and lakes between Natchitoches and the Great Bend, including Lake Bistineau, Caddo Lake and Clear Lake. The endemic poor drainage, flooding and clouds of mosquitoes effectively prevented Anglo settlement of the area until the 1830's, when Henry Shreve cleared the raft and opened the region for occupation. Archaeological evidence would indicate that the attractiveness of the land along the affected portion of Red River began declining in early Fulton Aspect times, say A.D. 1200-1400.

THE RISE OF THE CONFEDERACIES

Basic Premises

Before proceeding with the description of ecological factors which led to confederation, a relationship must be pointed out between the settlement size and social stratification. It is clear that the decline of large villages in the southern Caddoan or Hasinai area was accompanied by a concomitant decrease in social stratification, the small hamlets of late prehistoric times giving no evidence of differential access to the basic resources using Beardsley's (1956) model for detection.

In discovering some of the ecological factors involved in confederacy formation in the Caddoan area, I consider a change in settlement pattern to be the most significant, the determining alteration which leads from a stratified to a nonstratified society. Because of the importance accorded the articulation between technology and environment in determining the direction of cultural evolution (what has been referred to as the techno-environmental concept), those cultural features more directly related to subsistence techniques are the first to be altered by any shift in this articulation. The readjustment within this cultural core then determines what possible forms the remainder of the traits may take, and in this remainder is included the degree of

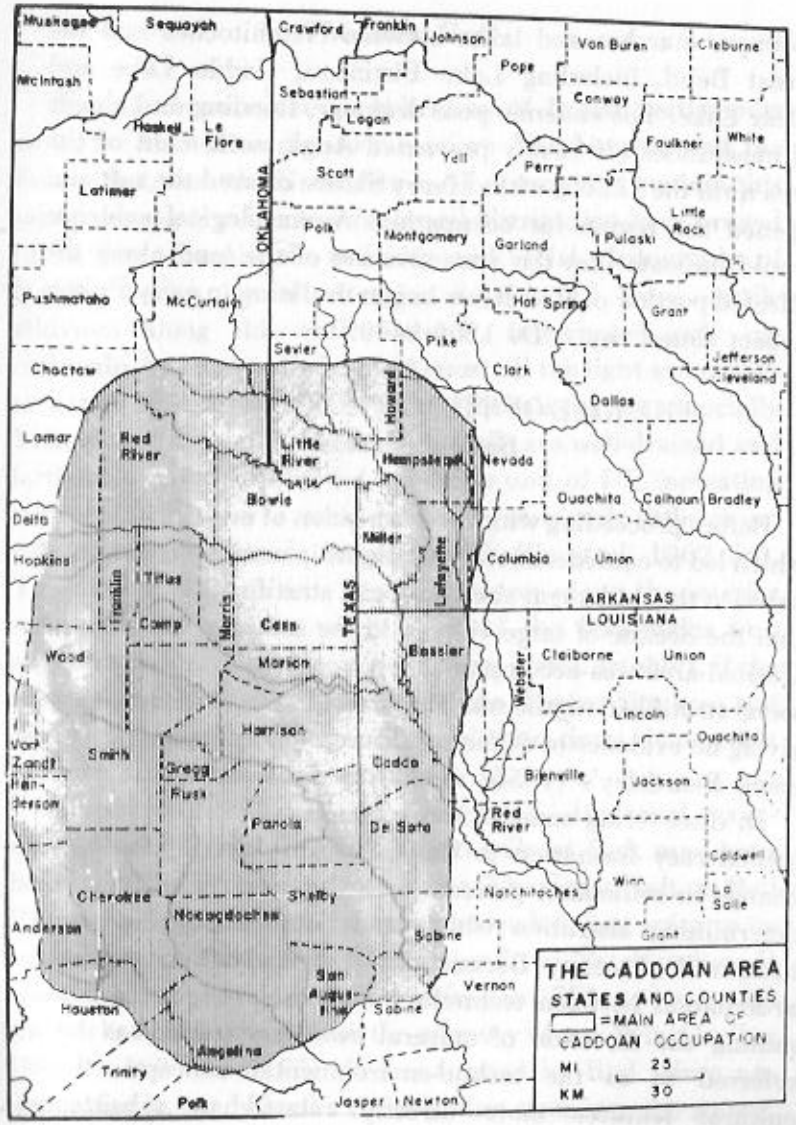

FIGURE 3.

social stratification. If, then, in examining the Caddoan area and the observed change in the settlement pattern from large population concentrates (probably with some satellite hamlets) to a pattern of predominantly hamlets with a few or no large sites, the explanation is considered to lie in a change in the interaction between technology and environment, a change which makes the new settlement economically more efficient.

Another useful concept in an ecological approach to the demise of the large Caddoan population centers is that the social stratification accompanying such villages demands the production of a deployable surplus. Differential access to basic resources, or the removal of certain portions of the population from food-producing activity, requires that certain persons be supported by increased labor on the part of the remainder of the group. Fried (1967:185-204) sees in this incipient exploitation of labor the origin of private and alienable property, and ultimately the origin of statehood. Of interest in the present context is the fact that a reversal of the process can also occur, namely a decrease or elimination of surplus production which would encourage abandonment of the institution of a privileged class. Although again the prime or casual factor is production, a decrease in production which eliminated the support for a privileged class would also eliminate that means of social control whereby harmony was maintained in a large population aggregate, encouraging a change to a more dispersed settlement pattern.

I have presented two different possible explanations for the dissolution of the large ceremonial centers: the first is that food production faltered and was no longer able to support such a concentrated number of persons in a single village or densely populated area, and secondly that the same failure of production removed the necessary social controls required to maintain the cohesiveness of the population, the social control

being the class of privileged individuals supported by the deployable surplus. It is not my intention to demonstrate that one or the other of these took place, but rather to give evidence that the factor which accounts for both—a decrease in production—may have occurred.

The Late Prehistoric and Early Historic Settlement Pattern

One of the most consistent observations of early visitors among the Caddo was the dispersed settlement pattern. There is considerable evidence, both written and archaeological, that this pattern conformed to the distribution of those soils easily worked by primitive horticultural techniques. Because such soil plots are small and scattered (except those cases along rivers where the large mound sites are found), the result was a scattered hamlet settlement pattern. Now in the case of consistent turmoil and warfare, not only were these isolated hamlets exposed to attack by easily superior numbers, but the source of livelihood was readily destroyed by firing a ripened crop either in the field or in storage. The amount of damage which could be done by a hostile party would be far out of proportion to its numbers, and the settlement pattern to which the hostiles also must conform left them exposed in turn to retaliatory action. Politically autonomous social groups, crowded into an area comparable in size to that occupied by the Hasinai or Kadohadacho confederation, had in their power to wage a war of enormous destruction against their neighbors. It is my hypothesis that the Caddoan confederacies represent the social mechanism whereby the dangers implicit in close-quarter living and vulnerability of the basic food resources were averted. For additional comment on the dangers inherent in such a settlement pattern see Fried (1967:118-119) and Quain (1937:252-253). The

concern with harmony shown in all tribal level organization is discussed at length by Marshall Sahlins (1968:1-13).

To justify the formulation of the hypothesis it is necessary to show that the settlement pattern within each confederacy was affected to a significant degree by soil distribution.

Arable Land and the Settlement Pattern—Written Evidence

In describing the land around the East Texas missions in 1691, Casanas wrote (Casanas in Hatcher 1927:209):

> This province of Asinai has but one fault, that of being very thickly covered with a great variety of trees. Furthermore, there are few stretches of open country. There are three places in this province where—I will not say pueblos, but cities can be built. There are other places which are not so large but still very good.

A little later in his report, in describing the opportunities for missionary work, Casanas reports (Casanas in Hatcher 1927:28):

> I believe it would be very easy to induce them to live close to each other. What they will dislike most will be to build new houses and to open new ground for planting.

Casanas had just mentioned that the Indians needed most of all axes and mattocks to help in planting crops, and anyone familiar with the East Texas woods can understand the reluctance to open new ground (cf. Vayda 1961 for a general consideration of land clearing activity among horticulturalists).

Velasco (in Casteneda 1936:26) wrote in 1716, "It appears that these Indians live separately and widely scattered." Also Teran (in Hatcher 1932:29) writes that:

> The country is very rough and well timbered. There were no open spaces save clearings of about 200 feet in circumference that were occupied by their quarters. In places there were ravines and in other spots sand, all reduced to cultivation.

As already quoted, the Frenchman Joutel gives a clue when, in describing the Hasinai country, he writes (Joutel in Cox 1906:137):

> By the way we saw several cottages at certain distances, straggling up and down, as the ground happens to be fit for tillage.

Hidalgo, writing in 1710, describes the Hasinai country this way (Hidalgo in Hatcher 1927:55):

> The whole country, as far as it has been examined, is wooded. It contains many small open spaces, and stretches of sand marshes where the Indians live. No places are found here suitable for gathering the Indians together to settle except by cutting and clearing away the timber.

Espinosa, in his Cronica written a few years after Hidalgo's description, states (Espinosa in Hatcher 1927:153):

> ...since the country is so thickly wooded, there are no places suitable for irrigation even with a great deal of

> work. This has been (sic) the greatest difficulty at all times in gathering the Indians into compact set-

Arable Land and the Settlement Pattern—Archaeological Evidence

While the usual report of a Caddoan site will describe the Tertiary geologic strata in the general area—an almost totally useless bit of trivia—few have recorded the local soil types upon which the Indians were dependent. The frequency and productivity of these soils are ignored, and only seldom are mentioned additional exploitable microniches in the vicinity of the site. For each late prehistoric and early historic site, I attempted to record the soil type and its extent. Although well over 100 such sites are on file at the University of Texas and Southern Methodist University, the problem was compounded by the inadequate data as to the exact site location and the lack of sufficiently detailed soil maps.

It was possible to plot 23 of the late prehistoric and early historic period sites on the maps, however. Fourteen of these occurred either on tracts of loose friable soil covering less than 100 acres, or on similar but larger plots (i.e., 100-300 acres) which are very narrow stretches of alluvium or more extensive uplands which impinge only briefly on a local water source. It is interesting to note that, even though the exact determination of a site location might not be possible, it was often seen that it lay in an area characterized by a great variety of soil types, most of small size.

Neither the written nor the archaeological evidence explains the ecological factors operating to produce the configuration of historic Caddoan society. Rather both tend to confirm the nature of the resultant adaptation, i.e., the scattered hamlet type settlement pattern. The explanation of

this pattern will not be one of simple environmental determinism because, in much of the Caddoan area, it was preceded by this pattern of relatively large villages representing a sizable agglomeration of people gathered around a "ceremonial center"—the George C. Davis site is an example. Since it is evident that a more concentrated pattern is possible given the Caddoan technology and the environment of the region, any explanation of the decline in social complexity will involve cultural as well as natural factors, barring the future discovery of a *Deus ex machina* in the form of drought, epidemics, or rootworms. In the following pages I want to explore some of these factors which led to the demise of the ceremonial centers and the rise of the confederacies.

In an article describing three types of political organization and the attendant settlement pattern of each, William Sears provides a model which can be used to compare the Caddoan materials (Sears 1968). Although some of the basic premises of his argument could be questioned, the distinction drawn between a priest state and a village community neatly expresses the differences seen between the large Gibson Aspect and the smaller, more scattered Fulton Aspect sites in portions of the Caddoan area. The ceremonial centers, containing abundant evidence of elaborate ritual, seem to have exercised control over a territory the boundaries of which are, if not known, at least knowable through a more detailed artifact analysis. One feature of the priest state is the governing suborganization of the priesthood, a class or caste which is probably represented by the elaborate status burials found in the Caddoan mounds. Sears' village community type organization likewise fits my interpretation of the written and archaeological evidence on the Caddoan late prehistoric and early historic period, particularly in the Hasinai area. It is the explanation for the change from one to the other that is

needed, presented in the form of a testable hypothesis. I believe the shift involved the exhaustion of the few plots of land large enough to support a village on the scale of the Davis Site. To my knowledge the only alternative explanation yet put forth is a nontestable statement that the disappearance of ceremonial centers was due to "acceptance of many foreign innovations" which "diluted the culture" (Bell and Baerreis 1951). My own hypothesis has been anticipated, albeit in a more general form, by Newcomb (1961:283). For future hypothesis testing a control group is provided in the form of such sites as Sam Kaufman, Belcher and Foster along Red River, where the old ceremonialism lasted longer than elsewhere in the Caddoan area.

Ecology of the Major Ceremonial Centers

The historical records, parts of which were cited above, indicate that a consideration for suitable crop land was a major determinant of Caddoan settlement patterns at that time. A high correlation of early sites, especially major ceremonial centers, with a particular set of exploitable microenvironments—"catchment" in current jargon—suggests that natural features were factors determining the location of these sites also. In the following discussion of some of these sites I will point out what these features were, why they were important, and how their continued exploitation may have contributed to the decline of the ceremonial centers and ultimately to the appearance of the Caddoan confederacies.

In the analysis of the microenvironments of the ceremonial centers and their large associated villages I have selected five examples for detailed consideration. Some Caddoan sites of major importance (Harlan, Crenshaw, Sanders) could not be included because soil maps of the counties involved have not

been published and others (Sam Kaufman, Washington, Ozan, Mineral Springs) were analyzed but omitted because of space limitations. Those described represent all sections of the Caddoan area which appear to have had the traits attendant upon social stratification. The sites are George C. Davis, Mounds Plantation (and nearby sites, including Belcher), Hatchel, and Spiro. Each will be examined, but because all share certain features of location and natural environment, the setting of the Davis Site will be described in more detail.

The George C. Davis Site

The George Davis site is strategically located for the exploitation of at least four microenvironments. These are the two nearby streams (the Neches River and Bowles Creek); the heavily timbered bottomland with populations of deer, bear and smaller mammals and also trees producing pecans, walnuts, chinquapins, and fruits such as persimmons and mulberries; the nearby Lake Duren and its surrounding marsh, the habitat of waterfowl at certain times of the year and mussels year-round; and the natural terrace on which the site itself is located, which grew the domesticated plants.

The soil on which the site occurs is classified as Amite fine sandy loam and is the largest tract of that type in Cherokee County. Eight percent of the soils in the county are included in management groups 1 or 2, indicating a high productivity; Amite fine sandy loam is part of grouping (1), constituting 0.1 percent of the total county lands, i.e., 800 acres total. It yields 20 bushels of maize per acre without special treatment, only two bushels less than the most prolific but often overflowed bottomland silt loams.

If each of the listed microenvironments were considered valuable by the Davis site inhabitants, there are several characteristics of the Neches River area which seem to narrow

the possible locations of such a large village to a few particular sites. For example, old cut-off sloughs or marshes like Duren Lake are not frequent along the east side of the river in this area, less than a dozen showing on the 1959 aerial photographs of Cherokee County; of these, Duren is easily the largest. Still more confining is the distribution of extensive tracts of fertile soil near the river. The Davis site plot of Amite fine sandy loam has no equal considering proximity to the river, size of the soil occurrence, and fertility. In the northern part of the county the alluvial natural levees or terraces fronting the present bottomlands are of soil series Iuka or Independence, the former subject to occasional flooding and the latter of low fertility. Moving southward there is a continual occurrence of heavier soils well back from the river, particularly of the low-fertility Ruston series. Beginning here, some 15km from the northwestern edge of the county, the Neches flows through an intricate maze of various soil series and types, nearly all of them of very small size, less than 10 acres. As the Davis site is approached down river the Neches swings to the east, cutting toward its old terrace deposits and away from the tiny pockets of stiff or infertile recent alluvium. It is here that the mounds were built, on a tract of productive soil able to support a large population. South of the site the river straightens again, with a reappearance of small expanses of various soil types, occasionally interspersed with sizable stretches of loams or sandy loams, all of moderate productiveness. The point I am making is that the Davis site appears to be located in an extremely advantageous area, given a horticulture-hunting-gathering mode of subsistence. With the ample area provided for agricultural expansion *within an unbroken area* there arose a large population concentration. The necessary social controls engendered by such a population could easily lead to a stratified society and a position of cultural leadership for the

village as a unit. Should there be a serious failure of the subsistence sources, however, the entire system would collapse, because there existed no other spot similarly endowed for supporting such a large village. At least one of the alternatives in such a situation would be a dispersion of population, taking advantage of the many smaller scattered plots of arable fertile soils along the river and minor interior streams.

The Mounds Plantation Site

In the area around the town of Belcher, Caddo Parish, Louisiana, there are at least four separate mounds or mound groups. This is within a section along the west bank of Red River some 25km by 6.0km in size. The soils chosen by the mound builders were usually natural levees of Red River, either on old abandoned channels (Belcher and Mounds Plantation sites) or on the active levee (Cedar Bluff mound). The Huckaby mounds are situated on a deposit of sand along Kelley Bayou, possibly another old cut-off channel and levee of the Red River, this one along the very edge of the uplands forming the western valley edge. These Huckaby mounds are approximately 10km northwest of the north end of the large plot of levee soil containing the other three mounds or mound groups, and on the opposite side of the backswamp.

There are several features of this environment that would have allowed, even promoted, a dense population base requiring social stratification. The first of these features is a large tract of loose, easily tilled soil in the immediate vicinity. Beginning at the community of Dixie (very near the Mounds Plantation site) and continuing northward along the river for some 15km is the largest continuous section of natural levee in the parish, consisting in the main of the fertile Miller fine sandy loam, Miller fine sand, and Miller silt loam. These soil

deposits are terminated along their western edge and either end by a heavy clay backswamp—there is then an "island" of fertile loose soil, surrounded by heavy clays or water (Burgess *et al.* 1908). Beyond the backswamp clays to the west there is a maze of bayous, creeks and lakes collectively referred to as the lake region. These, coupled with the marshes in the backswamp, are even today a haven for large numbers of wild game, especially waterfowl and deer. The big island of natural levee soil described above is the closest such deposit to these marshes and, significantly it seems, the Belcher and Mounds Plantation sites are situated on the back edge of the levees, away from the shifting river but within a few kilometers of the lakes, and a few hundred meters of the timbered bottomlands.

Webb (1959:12) has suggested, on the basis of the scattered midden debris around Belcher, that the mound there had no unusually large village associated with it but rather was a center for a number of groups living in small dispersed habitations along the river. While this certainly appears to be the case, there is little reason to assume that these habitation areas were separated by any natural features; the soils are largely continuous, and no other natural agency divides the levee in this area. If we are to accept Webb's scattered dwelling interpretation, then we must also recognize that we are dealing with small contiguous groups, probably constantly contacting each other on their fringes and even jostling for land. Thus whether the mounds served to unite a single large village, or a number of contiguous small hamlets, their function of social integration was the same.

Given the above situation, there are several potentially disruptive forces which might account for the decline of social stratification at these sites. Population pressure on the land would be one; the island metaphor used to describe the natural levee also points up the limitations on continuing

expansion. Eventually the population may increase to a point where internal altercations over cropland become disruptive, or migration occurs. A second explanation is the accumulating Great Raft in Red River, building the river bed and making damaging floods more commonplace. Quite possibly the true situation is a combination of both these and other factors not recognized. This area does not figure in the early historic records of the Caddo, however, the implication being that it had been largely abandoned by A.D. 1700.

The Hatchel Site

The Hatchel site is in the extreme northeastern corner of Texas, just south of the east-west flowing Red River. The site consists of two superimposed flat-topped mounds some five meters in height and 18 by 35 meters on the sides; the whole was covered in turn by midden deposits up to four meters thick, either added with purpose to the earlier mounds or, less likely, representing an unintentional accretion from a village site as Krieger (1946:211) has claimed. Nearby is the extensive Mitchell site, a village and cemetery covering an area one kilometer across, and some three kilometers away is the E.H. Moores site, another large village of the same size (Jackson n.d.a.). These sites are located on the largest deposit of Miller very fine sandy loam in the county, part of the Red River natural levee system and surrounded by heavy clays. This particular tract, some five to six square kilometers in extent (about 2000 acres) is again isolated by water or backswamp from additional light soil deposits suitable for horticulture. The soil itself is considered among the best in the county, being one of the more elevated bottomland types and relatively free from the threat of flooding. It is also considered a prime "corn-soil" (Schoenmann *et al.* 1921:61). Two oxbow lakes are present within three kilometers of the mound

and villages, which are situated on the backside of the levee, away from the river but immediately adjacent to the backswamp, here approaching its maximum width. The Hatchel inhabitants would have been able to obtain products from the lakes, the river, the fertile natural levee and the immense, heavily timbered clay backswamp. They could not, however, expand their population indefinitely because of the confining limits of arable land. It is pertinent here to stress the fact that the concatenation of those several econiches present at Hatchel, like Davis, is found only in a very few locations in Bowie County, none of which rival the Hatchel site's advantageous setting. The natural levee throughout Bowie County is composed of many soil types; most of these are not suitable for horticulture, consisting of clays, nearly sterile sands, or frequently flooded, low frontlands. When suitable soils do occur, they are usually quite restricted, less than 20 acres, and many of these plots are Yahola (rather than Miller) very fine sandy loam, a soil more susceptible to drought damage than the less porous Miller (Schoenmann *et al.* 1921:56). Thus, as at Davis, there was an opportunity for productive horticulture in these smaller soil tracts, but such a mode of subsistence could not support the system of social stratification responsible for the Hatchel mound.

The Spiro Site

The famous Spiro site, located on an inside bend of the Arkansas River in southeast Oklahoma, is another example of social and cultural elaboration within a circumscribed area of fertile soils and plentiful wild foods. In north central LeFlore county, the Arkansas River makes a wide bend to the north. As is the case with Red River, rich natural levee soils are present on the inside of the bend, but each end of the oxbow curve cuts back into low silts, clays or sterile riverwash. Again

there is the image of an island, this one measuring about eight kilometers in length but much narrower, the levee following the turn of the river and itself inscribing an oxbow figure approximately one kilometer wide on the average.

The highest portion of the levee, that closest to the river, is Yahola very fine sandy loam, backed by a narrow band of Yahola silty clay loam (one of the best crop lands in the county). The Spiro site proper, consisting of nine mounds and 80 acres of occupational debris (Brown 1966), lies on a tiny patch of Lonoke silty clay loam "unsurpassed for agriculture by any soil in the Arkansas Valley" (Knobel, Boatright, and Boatright 1931:22), but immediately adjacent to both the Yahola silty clay loam and the higher Yahola very fine sand deposits. South of the Spiro site, about 1.5 km distant, is a typical backswamp of Miller clay, unsuited for horticulture but heavily timbered. Immediately west of the site is an unusual appearance of upland soils near the river, these being infertile, poorly drained mudflats derived from sandstone bedrock. Across these, a distance of about three kilometers, lay a still more extensive backswamp and marsh region. The occupants had access to all these econiches in addition to the river.

If the disappearance of intense ceremonialism at the Spiro site was due, as I have suggested in previous examples, to the inability of the powered elite to successfully integrate and harmonize an expanding population on a limited amount of arable land, then the following settlement pattern points up several aspects of the resultant culture change. The late prehistoric Ft. Coffee focus is represented by at least seven sites in the vicinity of Spiro, most of them comparatively small villages and associated cemeteries, without mounds or other criteria of social stratification. These sites are scattered on the narrow strips of loose soil along streams draining the uplands mentioned above, on parts of the natural levee distant from

the Spiro site itself, or on less suitable, stony soil (Orr 1946: Fig. 30). This proliferation of small late sites around the center is, I believe, the result of a breakdown in the social integrating function of the priest-rulers, making life in a concentrated settlement impossible. As a result; their supporting class, the laboring Spiroans, simply went back to the farm.

SPECULATIONS

In describing each of these major Caddoan sites I have stressed the fact that each developed in an area which circumscribed the land available for occupation, the limitations to settlement expansion including both soil and water supply. Carneiro (1961) has pointed out some of the implications of limited available resources which encourage the appearance of social stratification and other trappings of social complexity. This model appears to be applicable to the Caddoan area, as is that of Orans who sees population size as the causative factor in increasing stratification (Orans 1966).

The Caddoan confederacies, however, represent a sociopolitical adaptation not to a concentrated settlement pattern but to a dispersed one. As one factor involved in the dispersal of the ceremonial centers, I have suggested soil exhaustion in their immediate vicinity, and the occurrence of additional arable land only in small plots then required a decreased population density for efficient exploitation. Under soil exhaustion I include not only the depletion of plant nutrients but also the invasion of croplands by hard-to-remove natural vegetation. Under present conditions persimmon trees are a notorious pest, entering cultivated fields soon after new ground is broken. On the southeastern fringes of the Caddoan area there is also competition from the dwarf palmetto, especially on the natural levees near streams. The role of soil

exhaustion in dispersal is difficult to quantify due to the lack of survey around the major centers—the population density in their immediate vicinity simply is not known and cannot even be estimated. It is not to be expected that actual crowding of sites will be clearly discernable in the archaeological record. In a study of population dynamics, Birdsell has found that the maximum carrying capacity of an area is seldom if ever attained before migration or "budding off" occurs. Ethnographic examples indicate social pressures encouraging emigration may become effective at as low a level as 30 to 50 percent of capacity (Birdsell 1957:54).

The previous discussion has attributed the presence of ceremonial centers to the requirements of large population concentrations for a means of social integration and control. The location of the centers and the nature of the settlement patterns around some of them suggest that they may have served also as collection and redistribution points for products obtained from econiches to which only a portion of the population had access. The increased efficiency which would follow the systematic redistribution of these goods has led Elman Service to propose redistributive activity as the economic force behind the appearance of the chiefdom level of social organization. The chief collects the goods in one of several ways—e.g., tribute or temple offerings—and doles them out in payment to his subjects, often diverting part of the largesse to a body of retainers, priests or other members of the social elite (Service 1962:141-152).

In Polynesia Marshall Sahlins has found a correlation between the degree of social stratification and the need for redistribution of products from several exploited microenvironments (Sahlins 1958:248-250). Direct evidence in the form of plant or animal remains has not been sought diligently in the Caddoan sites although some has turned up in the course of excavations, suggesting that the surrounding

sources of wild foods were used to an unknown extent. These include mussel shells (George C. Davis, Belcher, Mounds Plantation, Spiro), miscellaneous animal bones (all the above plus Sam Kaufman), acorns, hickory nuts, and cane matting (Davis, Belcher). At this time it is impossible to gauge the importance of redistribution activity by members of the social elite in the growth of the Caddoan ceremonial centers. Service includes the Southeast in his list of chiefdoms (1962:153), but the historic Caddo are surely to be excluded. The main difficulty at present is the lack of data on the sustaining area, i.e., small supporting sites near the centers, the sites that would have been exploiting a specialized niche and contributing its goods to the ceremonial center. Certainly here is a major problem for future research, which could lead to a complete reevaluation of the nature of the large Early Caddoan sites.

Pursuing Sahlins' Polynesian findings and their application to the Caddoan area, there is an interesting parallel suggested in the social organization. In Polynesia it was demonstrated that the ramage organization was highly correlated with a scattered settlement pattern, in turn demanded by a dispersed series of exploited microenvironments. The requirements of redistribution of the several products strengthened the kin bonds between households (the ramage is a lineal descent group). As I have pointed out, microenvironments along the major rivers in the Caddo country were separated by considerable distance (several kilometers often intervened between backswamp marshes and the rivers, for example), and the scattered settlements found around at least some of the major ceremonial sites have been described, e.g., Belcher. Possibly as a partial consequence of these factors, investigators have noted peculiarities in the clan system of the Caddo: among the Hasinai these include a ranking of clans (Swanton 1931), with offspring belonging to

the "stronger" of the parents' clans, and marriages often took place between members of the same clan. Ranking and endogamy, while decidedly atypical or even excluded by definition from the usual concept of clan organization, are both characteristic of Sahlins' ramage organization (Sahlins 1958:139-40). If the scattered households of the Late Caddo period represent the dispersal of population concentrations caused by soil exhaustion, the lingering ceremonialism found at a number of sites of this period throughout the region may be interpreted as homage being paid to selected individuals belonging to a particular ramage, individuals which in older times would have been accorded the attention exemplified by some Gibson Aspect burials, rich with tangibles signifying special status. Even the formulation of a testable hypothesis for the above suggestions must await further research however, particularly that dealing with the relationship between the major centers and their contemporary outlying hamlets. As a guide and example of what might be done in the Caddoan area, see Struever's application of Sahlins' model to Hopewellian sites (Struever 1965).

SUMMARY AND CONCLUSIONS

Just prior to the introduction of effective maize horticulture into the Caddoan area, there were numerous groups, possibly organized as bands, exploiting the game and vegetal resources along streams in the region. The increased efficiency of maize horticulture transformed these into sendentary groups, some of which were located in more favorable spots than others for purposes of horticulture-based subsistence. The differential advantage lay in relatively large expanses of light, fertile soil and the presence of additional exploitable econiches, particularly marshes, rivers and backswamps. These factors permitted an expansion of

population and the settlement of large villages, which in turn both allowed (through surplus production) and demanded (for internal organization and possibly for redistribution of variable products from the several econiches) a system of social stratification which may have been similar to Sahlins' ramage system of social organization. In time, because the major population centers were on tracts circumscribed by land unsuited for horticulture, and limited usually to stream banks by their water requirements, population pressure began to make itself felt. The intial effects probably were an increased strain on existent institutions of social integration, e.g., a progressive inability of the priest-chief to preserve internal harmony in the face of more frequent disputes having their origin in a shortage of basic resources. In any case, the result was a reversion to a more dispersed settlement pattern in order to take advantage of small, isolated plots of suitable soil. This dispersal removed both the economic support and the function of social stratification, resulting in the more egalitarian system found by the early explorers.

A very similar example of reversion to a less complex form of social organization has been reported from Marajo Island in the mouth of the Amazon River. Here the remains of an elaborate culture, archaeologically the Marajoara Phase, shows evidence of decreased social stratification and population concentration through time, along with the disappearance of mound construction and differential burial practices (Meggers and Evans 1957:259-424). One explanation offered is that the culture was intrusive from a relatively benevolent ecological niche from the horticulturalists' point of view, and the natural resources on Marajo Island could not support such an elaborate social structure on its weaker economic base (Meggers and Evans 1957:419). An alternative explanation is that migration to the more suitable horticultural areas on the mainland reduced

the population density until the chiefdom soical structure collapsed (Sanders and Price 1968:130). The latter explanation is entirely analogous to the one I have offered for a similar phenomenon of culture process among the Caddo. Both assume that a "critical mass" is necessary for social stratification to appear, and once the population density declines below a certain point, the former institution either disappears or its function is altered.

Among the Caddo, this alteration in settlement pattern not only caused the demise of social stratification with its attendant traits, but at the same time created a need for a new means of social integration. This need was answered by a confederacy retaining many of the older traits of the priest-state, particularly in the office of the *xinesi*.

In their early stages of a rapid growth based on newly introduced cultigens, especially a more productive type maize like that found at the George C. Davis Site (Yarnell 1964:113-114; Jones 1949:247), the major Caddoan centers very probably attracted hunting and gathering immigrants. Coupled with the confined areas suitable for horticulture (what Carneiro called a "circumscribed" environment), these factors accelerated the effects of an expanding population and at least partially account for the suddenness of the Caddoan experience. There followed the building of ceremonial structures, the earthen mounds, and the acquisition through manufacture or trade of special ritual objects, all functioning to emphasize the distinctiveness or authority of a portion of the society, and marking an increased degree of social control exercised by that group. A concomitant control of trade routes and the retention of specialists allowed these centers to interact with each other and with other similar sites throughout the Southeast, forming a giant interaction sphere characterized for at least part of its existence by the dissemination of those styles and ar-

tifact motifs referred to as the Southern Cult. All of this, however, was dependant on a flow of surplus foodstuffs into the major centers. As the center expanded and became elaborated this flow became progressively weaker due to declining productivity of the limited land and an emigrating population. The result finally was a breakdown of the social superstructure erected on the old economic base, and the emergence in some areas of a new system of social organization compatible with the cropping of small isolated plots, i.e., the confederacy.

The above conceptualization of events suggests an explanation of the origin of tribes encountered by the Spanish and French. As was pointed out in the introduction and elsewhere, the tribes were localized groupings varying in details of language and religion and probably ceramic manufacture. The differences found between tribes may have arisen initially between large population centers (the major villages surrounding mound sites) or between hamlets participating in separate religious centers. Each of the historic tribes then may be viewed as the dispersed descendants of the inhabitants or supporters of a large Gibson Aspect site. Future research oriented toward plotting the distribution of ceramic microtraditions and correlating these with larger, earlier sites in the area would provide a test of this hypothesis. If the separate tribes of the historic period are the results of expansion from these centers, then another line of reasoning for the community macrostructure and the vacant zone appears: as settlements spread outward from the major centers, they would have their most dense occurrence near those ancestral sites, expanding into the less attractive vacant zone from its outer edges. The contact period found this process just beginning, and consequently the confederacies were largely congruent in location with the earlier, larger ceremonial centers.

*This article represents a revised and abbreviated version of Chapter IV of my Ph.D. dissertation, *Caddoan Ecology* (Southern Methodist University, 1969).

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Jonas Short And Coral Snake Mounds: A Comparison

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ABSTRACT

The Jonas Short mound in San Augustine County, Texas, and the Coral Snake mound in Sabine Parish, Louisiana, are compared. Both mounds shared artifactual and structural similarities with Marksville mounds in the Lower Mississippi Valley. They are regarded as evidence of ancestral Caddoan manifestations.

INTRODUCTION

The Jonas Short and Coral Snake mounds represent an extreme westerly expression of Woodland burial practices, out of Adena-Hopewell, by way of Marksville. These sites are of importance in furnishing a perspective on the relationship of the cultures of the Lower Mississippi Valley with their neighbors to the west, the Caddo, and on the possible development of the Caddoan culture from what has been termed Lowland Fourche Maline (Schambach 1970).

The Jonas Short mound, in San Augustine County, Texas, was excavated by E.B. Jelks in the fall of 1956, as part of the salvage archeology in the proposed McGee Bend Reservoir (Jelks 1965).

Coral Snake mound, in Sabine Parish, Louisiana, was recorded in January, 1965, and the first season of excavation followed immediately (McClurkan *et al.* 1966). A second season of excavation was done in 1966-67 under the direction of Harald P. Jensen, then of Southern Methodist University (Jensen 1968). A third season of work was done in Toledo Bend Reservoir, directed by J. Ned Woodall, but no further work was done at Coral Snake mound. A nearby site, however, some 30m east of the mound, was excavated and proved to be late Caddo in origin, probably historical, as indicated by trade beads and a cast brass French trigger guard filial.

Geographically the Jonas Short mound is located in the extreme southeastern corner of San Augustine County, Texas. Coral Snake mound is some 65km northeast of the Short mound, and 400m east of the Sabine River (in 1965) in Sabine Parish, Louisiana. A third mound showing some relationship to these two and to the Marksville culture is the Bellevue mound in Bossier Parish, Louisiana (Fulton and Webb 1953), approximately 112km north of Coral Snake

mound. It should also be remembered that a significant amount of Marksville and later Lower Valley affiliated material was recovered from the Davis site (Newell and Krieger 1949) which lies some 97km northwest of the Jonas Short site. Other evidence of Lower Valley influence in this western area has been noted in the literature. Schambach (1970:410) and Hoffman (in Davis 1970) mention sites in the Red River Valley of southwest Arkansas as being Marksville (Bellevue)-related; these include the Red Hill, Cicero Young and Shanes Mound sites. Late Marksville material was recovered from the Ferguson site in Hempstead County, southwestern Arkansas (Schambach n.d.). Marksville ceramics were found in the Livingston Reservoir area (McClurkan 1969) and in the Houston, Texas, area at Wallisville Reservoir (Shafer 1966). These sites and areas are mentioned to reestablish what we already know; the Adena-Hopewell-Marksville and later Lower Valley cultural influences were felt over a wide area to the west of their Lower Valley heartland, and evidence of the influence has been on record for some time.

The Jonas Short mound initially presented a specific anomoly in that, aside from one sherd identified as Coles Creek Incised, there were no diagnositc Lower Valley pottery types at the site. Other materials, mentioned below, showed affiliation with Adena-Hopewell cultures and materials identified as Caddoan in nature were present both in and surrounding the mound.

When work was done at Coral Snake mound, similarities to the Jonas Short mound were easily seen; submound cremations, two subsequent building stages above the submound pit, borrow pits encircling the mounds, and caches of artifacts including large ceremonial points, copper ornaments, perforated teeth and boatstones. Jensen (1968:41) lists the above characteristics, then states,

> Jonas Short lacks: prepared fire hearths, isolated secondary cremations, non-cremated burials, ochre concentrations and ochre with caches, and Marksville pottery. While there are many parallels between the two mounds, there appear to be equally as many differences....

The major problem at both sites was the apparently fortuitous inclusion of sherds in the mound fill, which in other contexts would be classified as Caddoan affiliated. Had only one or two sherds been recovered from the fill or had the sample been restricted to the upper levels of the mound caps, then it would have been relatively easy to explain their presence and keep Marksville and Caddo well separated, temporally. As it was, however, significant numbers of Caddoan sherds occurred in both sites, in both construction stages at each mound. So, the first question was, what were those Caddo sherds doing in a Marksville mound?

A second basic, and equally important, question was, since the mounds were obviously Marksville or Marksville-inspired, then where was evidence of the resident, supportive population which should also be identifiable as Marksville-affiliated?

Perhaps neither question can be satisfactorily answered on the basis of available data, but an examination of current knowledge certainly suggests areas of investigation which, to our knowledge, have not been pursued previously by students of the Caddo culture.

Since detailed descriptions of artifacts, features and other cultural materials have appeared in previous publications, specifically the Coral Snake mound material (McClurkan *et al.* 1966; Jensen 1968), it is felt that more descriptive emphasis should be devoted to the previously unpublished material, comparisons of this material with other extant data,

and suggestions for possible avenues for further research.

For the benefit of the archeological community the descriptions of the Jonas Short site material is herein extracted from its original source (Jelks 1965:28-47), and, for the most part, in its original wording, though the format has been altered.

THE JONAS SHORT SITE

This was one of a number of sites excavated in the McGee Bend Reservoir (Lake Sam Rayburn) by Jelks and others. On the basis of these excavations, Jelks defined two foci in the Caddoan tradition; the Brookeland Focus, affiliated with the Caddoan Gibson Aspect, and the Angelina Focus of the later Fulton Aspect.

The principal feature of the Jonas Short site was an earthern mound which measured some 29m in diameter at the base and rose to a maximum height of 2.15 to 2.45m above the surface of the alluvial terrace on which it stood. This is the only known mound site in the McGee Bend Reservoir area.

Features

Features at the Jonas Short site were: Burial 1 (an Angelina Focus interment west of the mound), Burial 2 (a cremation beneath the mound), the mound structure itself together with the borrow pit around its base, and five caches of artifacts and other objects within the body of the mound, plus a scattering of occupational debris on the terrace where the mound was situated.

Burial 1 was encountered about 61m due west of the mound. It was a semiflexed inhumation in an oval grave which could be traced in section from the bottom of the grave (1.3m below the surface) upward for about 60cm where it

gradually faded from view. The grave dimensions were 135cm by 84cm. On the bottom of the grave was a thin layer (2.5 to 5.1cm) of clean, yellow-white sand upon which the body had been placed.

The skeleton lay on its right side with the head to the west-southwest and the knees were drawn up in a tightly flexed position. The person was an adult, probably male.

The only associations were two Perdiz arrow points which rested on the right fibula a few inches below the knee and a small flint chip, beneath the right femur, showing evidence of light retouching along one edge. It is possible this flake was an accidental inclusion. A third Perdiz point from the burial area was not found in place, but its similarity in material and workmanship to the others indicates that it was probably a burial offering also. The Perdiz points and the semi-flexed position indicate Angelina Focus affiliation for Burial 1.

Burial 2 is the previously mentioned cremation found beneath the mound. It consisted of burned bone scraps among which lay two copper bracelets distributed over an area approximately 183 by 61cm wide. Bits of charcoal were present too, and patches of black substance which appeared to be burned organic material adhered to many of the bone scraps. Since the soil had a burned appearance it is probable that the bodies were cremated on the spot.

The cremation was in the lower part of the mound fill just above the submound soil. Most of the bone scraps were too fragmentary for positive identification, but human teeth representing two different individuals and one fragment of a human mandible could be recognized.

One of the bracelets consits of a strip of copper bent into a circular shape with a gap of 1.6cm left between the two ends. The strip is rectangular in cross section; its total length is 18cm, its maximum width is 1.2cm, and the strip is 2.0mm thick. There is a slight tapering toward each end, and the ends

themselves are rounded. The average diameter of the bracelet is 5.8cm.

The second bracelet is multiple and consists of four separate elements, each made of a copper bar that is square to sub-rectangular in cross section, stacked on top of one another. The bars were bent into individual bracelets, three of them having gaps 4.0-5.0mm wide between the ends of the bars, the other with its ends meeting to form a complete circle. The diameter of the multiple bracelet is approximately 6.3cm.

Since a depression was excavated in the surface of the ground prior to construction of the mound and Burial 2 was placed in it, the specific purpose of the depression must have been to contain the cremation.

Excavation revealed the following facts regarding the structure of the mound. A shallow, saucer-shaped depression had been dug into the top of the alluvial terrace, the cremated remains of two or more persons had been placed within the depression, and the mound had then been erected over the cremation.

There were two principal structural members making up the body of the mound: a basal member, Zone A, composed largely of light gray sand, and an overlying mantle of compact, reddish, sandy clay, Zone B. The surface of Zone A did not exhibit a humus line, nor was it hard-packed from occupation; there was no accumulation of debris on it and there was no evidence that a structure had been built on it. Consequently, it appears that Zone B was added shortly after Zone A had been laid down. It may well be that construction of the mound was a continuous operation with the mantle of sandy clay being added purposely as a protective veneer. The general integrity of each major zone was maintained throughout. Zone A averaged around 1.8m thick in the middle; Zone B had a maximum thickness of about 1.8m.

The borrow pit around the mound was originally about 1.2m deep and some 4.6m wide where trenched.

Cultural material was present in both Zone A and Zone B of the mound. A large portion occurred as apparently random inclusions in the mound fill, but several concentrations of artifacts (here termed caches) were placed purposely. The caches were evidently made during construction of the mound, as no intrusive pits were discernible by which they could have been introduced once the mound had been completed.

Cache 1 was a concentration of artifacts encountered in the southwest quadrant of the mound and associated with Zone B. No indication of an intrusive pit was detected during the stripping process above the cache nor was any pit outline discernible at the level of the artifact concentration. The artifacts were a horneblend syenite boatstone, a shaped and perforated quartz pendant, and nine quartz crystals, three of which are slightly grooved at one end, presumably for suspension. The boatstone measures 16.0cm long, 3.5cm wide at midpoint, and is 3.1cm thick. The concavity is 1.8cm deep, 11.0cm long, and 2.2cm wide, and two small, round holes have been drilled through the bottom along the median line. The specimen is symmetrical and is well finished. The concavity held 22 tiny quartzite pebbles, seven to 10mm in diameter, all worn smooth by stream abrasion. This specimen was examined by J.T. Lonsdale of the Texas Bureau of Economic Geology and was identified by him as being made of a distinctive horneblend syenite from deposits near Little Rock, Arkansas. The perforated quartz pendant is pentagonal in shape, has a maximum length of 3.6cm, a maximum width of 3.1cm, and a maximum thickness of 1.3cm. Two of the nine quartz crystals are fragments which have been chipped from streamworn quartz crystals, small portions of the streamworn surfaces remaining in both cases.

Of the seven complete crystals (ranging from 3.9cm to 6.3cm long), three have shallow grooves at one end, the other four are unaltered. The three grooved ones were certainly designed for suspension and it appears likely that the perforated pendant and the nine crystals were part of a single necklace or similar ornament. There is a slight possibility that the objects are burial offerings and that the skeletal material that may have originally accompanied them was completely decomposed, leaving no trace. However, the soil was carefully troweled in the vicinity of the cache and not the faintest sign of bone scraps, organic staining, or other indication of skeletal material was found. A similar problem in connection with Cache 2 is described below.

Cache 2 was also located in the southwest quadrant of the mound in Zone B. Cache 2 specimens are: a large oval, percussion-chipped bifacial foliate with one end pointed; a Gary dart point; four large, expertly chipped stemmed foliates or spear points; one reel-shaped gorget made of cold hammered sheet copper; a small skull fragment which, from the curvature, seems to be human, but which cannot be positively identified; a number of perforated elk teeth. Eleven of the elk teeth were saved, but several others were in such an advanced state of decomposition that they could not be salvaged. As in the case of Cache 1, no evidence of an intrusive pit was discernible, and consequently, it is most likely that the Cache 2 artifacts were placed in position during construction of the mound. The large oval bifacial foliate is of gray flint and measures 16.7cm long, 10cm wide at the broadest point, and has a maximum thickness of 3.2cm. The edges are sinuous and sharp except for three short sections which have been ground or worn smooth. The reel-shaped copper gorget has four projecting arms of equal length at the corners, and there were two small, round holes symmetrically spaced on the long axis. The body (discounting the arms) is

8.9cm long by 6.3cm wide and the average thickness of the sheet copper is 1.0mm. The arms are all approximately 4.5cm long. The sheet was cold-hammered, presumably from small pieces of native copper; the interleavings were insecurely welded in several places and the leaf edges have separated slightly from the body of the sheet. Except at the ends of the arms, the edges of the gorget were turned under and hammered flat, resulting in thickening along the edges. The elk teeth are unaltered except for the perforations which average about 3.0-4.0mm in diameter. They were resting against the underside of the copper gorget when found, and several of them were stacked together with the holes in alignment showing that they had been strung, although no trace of the string remained. The position of the gorget with respect to the elk tooth beads suggests that it was strung on the same string with the teeth. Two of the stemmed foliates also lay against the gorget in positions suggesting that they, too, may have been strung along with the elk teeth. The fragment of skull is badly deteriorated and undoubtedly would have been completely decomposed were it not for its proximity to the gorget which provided preservative copper salts. It is probably human. There are no indications that it is a bone artifact, and the question of whether it is the sole surviving remnant of a burial, or just another object placed in the cache, remains unanswered. Two of the stemmed foliates lay against the copper gorget in almost upright position with the stems down. Both have rectangular stems and approximately square shoulders. The longer one, 14.5cm long, is made of an unidentified red and tan banded stone, while the shorter one is 11.7cm long and is of light gray chalcedony. The longer one has been polished all over to the extent that the flake scars are virtually eliminated except for slight traces of fine retouching along the blade edges. The smaller one has also been smoothed on both faces, but to a lesser degree. The largest of

the stemmed bifacial foliates, 17.3cm long, is made of dark gray flint. Two notches in the base resulted in sharp barbs at the shoulders and left a short, approximately rectangular stem. The fourth stemmed foliate is made of an unidentified greenish-gray stone. It is 14.7cm long and has a strongly expanding stem. Like the other stemmed artifacts it is thin and well made with fine retouching along the blade edges. Neither it nor the largest foliate exhibits polishing like the other two. The Gary dart point is of petrified wood and measures 7.3cm in length. While several other dart points made of petrified wood occurred as apparently accidental inclusions in the mound fill, none is of the Gary type, nor do any exhibit the excellent workmanship of this specimen. Since it is different in type and workmanship from the random projectile points, and since it lay near the other objects of Cache 2, it is probable that it was intentionally deposited with the other objects.

Cache 3 was a concentration of stone chips, bone scraps, and pebbles, among which were two fragments of petrified wood bifaces and a boatstone made of horneblend syenite. This cache was also in the southwest quadrant of the mound in the upper few centimeters of Zone A. The few bone scraps were too fragmentary for identification. The boatstone is similar in shape to the one from Cache 1 except that it is considerably shorter (10.1cm compared with 16.0cm). There are two small holes symmetrically spaced along the long axis. The biface fragments of petrified wood are similar to others found scattered at random through the mound fill and in the trenches around the mound. There is a possibility that their proximity to the boatstone is purely fortuitous.

Cache 4 consisted of a small heap of waterworn pebbles, stone flakes, and one dart point made of petrified wood. The location was in the southwest quadrant of the mound in the upper part of Zone A. The dart point, 4.2cm long, has a

rectangular stem and squared shoulders. It is classified as a Kent point.

Cache 5 was a concentration of objects scattered over an area some 1.8m across in the southwest quadrant of the mound in upper Zone A. Included were 61 small streamworn pebbles, eight petrified wood chips, a quartz crystal with one end grooved, and two dart points made of petrified wood. Like the other caches, this one appears to have been deposited purposely during the construction of the mound. The dart points are medium-sized (4.8cm and 5.0cm long) examples of the Kent type. The quartz crystal is similar to those found in Cache 1, it is about the same size and has one end grooved in the same manner as three of the Cache 1 crystals.

Artifacts of forms that occur commonly in the region were found scattered through the mound fill and in the upper part of the alluvium surrounding the mound. As those in the mound fill are similar to those from the alluvial terrace, they undoubtedly were included fortuitously in the earth from which the mound was constructed. Included are Brookeland Focus dart point types Kent, Woden, Form X and Form Z (not described here). Other traits attributable to the Brookeland Focus are Bronson, Harvey, subtriangular and ovate "knives", and Perkin "pikes". Angelina Focus traits comprise a series of plain and decorated clay-tempered pottery (including a sherd of Pineland Punctated-Incised), a Form 1 drill, and (from Burial 1) two Perdiz arrow points. Also present were 100 sherds of Bear Creek Plain, five sherds diagnostic of the Alto Focus (two Weches Fingernail-Impressed and one Holly Fine Engraved), and one sherd identified as Coles Creek Incised, a Lower Mississippi type.

Summary

The Jonas Short site had, as its principal feature, a mound in the shape of a cone, possibly truncated in its original form,

measuring approximately 29m in diameter at the base. It consisted of two major members, a basal one of gray to red sand (Zone A) and a superficial mantle of tough, red clay with some admixture of sand (Zone B). The earth making up the mound fill appeared to have been taken from a borrow area encircling the base of the mound. There was no indication of an appreciable time interval between the two mound members. A large, shallow depression had been dug before the mound was built, and at least two individuals (Burial 2) had been cremated in the depression. The mound was then erected over the cremations. In the cremation area were two copper bracelets.

During construction of the mound, five caches of artifacts, mixed with pebbles and stone chips in some cases, were incorporated in the mound fill. Artifacts in the caches included boatstones, grooved and ungrooved quartz crystals, elk tooth beads, projectile points, large stemmed bifaces, a copper reel-shaped gorget, and a perforated quartz pendant. All these objects, as well as the cremation and its copper bracelets, are in primary association with the mound and may be related with certainty to the people who erected it.

Both Brookeland Focus and Angelina Focus peoples must have occupied the site before the mound was built as artifacts representative of both foci were found in the mound fill. The Coles Creek Incised sherd and all of the Alto Focus sherds were found in the terrace. The sample of artifacts from the terrace, though small, was distributed in a significant way, the Brookeland Focus remains being deeper in general than those of the Angelina Focus.

The area around the mound was probably occupied after the mound was built as well as before, but there is no way of being certain. The mound was a prominent topographic feature in any case and undoubtedly was a well known landmark long after all knowledge of its builders had passed

from memory. The question of who built the mound, and when, can best be pursued through a comparison of the mound and its contents to known prehistoric complexes.

COMPARISON OF THE MOUNDS: THEIR STRUCTURE AND CONTENTS

In external dimensions, the Jonas Short and Coral Snake mounds were quite similar; Jonas Short was 2.15 to 2.45m in height and had a base diameter of about 29m; Coral Snake was the same height and had a base diameter of about 24.5m. Both mounds exhibited the same basic architectural configuration: Stage 1 was a shallow, circular depression excavated below the existing ground surface, Stage 2 (Jelks' Zone A) was a small dome shaped mound erected over the circular depression, and Stage 3 (Jelks' Zone B) was an additional cap laid over the Stage 2 inner mound. In both cases the Stage 1 depression had been used to receive human cremations, and the second and third stages of construction showed the inclusion of deliberate caches of artifacts, and, at Coral Snake, of other cultural features.

At the Jonas Short site there was evidence of occupation on the terrace around the mound. The inclusion of similar material within the mound fill, and the cultural affiliation of this material indicates this occupation was extant at the site before, during, and after the construction of the mound. At Coral Snake the fortuitous inclusion of numerous random artifacts, ceramic and lithic, within the mound fill argues for a similar occupation around this mound. This occupation was not located during the excavation season, largely due to lack of concentrated effort. The surrounding area was very heavily overgrown and the examination which was done did not produce any surface indications of occupation in the immediate vicinity.

There were equally strong similarities in the artifact content of these two mounds and in the arrangement and placement of some of these inclusions relative to the two above-ground construction stages.

Close parallels between some of the artifact classes at the two sites should be noted:

1. Ceremonial bifacial foliates. Four such artifacts were recovered from Jonas Short, two of them had been polished to some degree; at Coral Snake six large foliates were found, two of them showing evidence of polishing.

2. Quartz crystals. At Jonas Short, 11 specimens of crystal were found, four of these show evidence of shaping apparently for suspension from grooves; another is polished all over and has one complete perforation. At Coral Snake one quartz item was recovered, an anthromorphic figurine of unique workmanship, also perforated, apparently for suspension.

3. Copper artifacts. Jonas Short contained two copper bracelets and a reel-shaped gorget. Coral Snake produced a circular gorget fragment, a trapezoidal gorget, 25 copper beads (both rolled sheet and drilled nugget types), four cymbal-shaped earspools and one "yo-yo"-shaped earspool, and one copper fragment of unknown purpose.

4. Drilled animal teeth. At Jonas Short, 11 drilled elk teeth were recovered; there were others but it was not possible to save them. At Coral Snake the drilled teeth were from raccoon; 19 were recovered, and there were others which were decayed and unsalvageable.

5. Boatstones. Each site produced two boatstones. The two from Jonas Short were both of a horneblend syenite. At Coral Snake one specimen was also of horneblend syenite, very similar in form to the two from the Short mound. The other was of a tan quartzite.

6. Dart points in caches. At Jonas Short, Kent type dart points were found in two caches of material. At Coral Snake,

a group of four Gary type points comprised one cache of material.

It should be noted that there were more caches of artifacts at Coral Snake than there were at Jonas Short, and the builders of Coral Snake used ochre copiously with some of the material caches and with one of the cremations. No ochre stains were noted at Jonas Short.

Some more general, but equally significant, parallels are also present. Mention has been made of the apparently random inclusion of a number of artifacts within the mound fill. These artifacts include a number of diagnostic types; sherds showing affinity with both Lower Valley (at Coral Snake, the sherds were in the mound; at Jonas Short the single Coles Creek sherd came from outside the mound) and Caddoan cultures and dart points of types common to this area and previously assigned to either late Archaic or Woodland contexts. Since these artifacts were present in both the primary and secondary mounds, and since the earth used for fill apparently came from the immediate vicinity of the mounds, it follows that the artifacts represent evidence of occupation in the area and were fortuitously included in the mound when constructed.

In regard to the internal structural stages at Jonas Short, Jelks (1965:33) state, "While the dividing line between Zones A and B was relatively clear at most points, there was no indication of an appreciable time interval between the two". At Coral Snake, Jensen (1968:34-35, 39) remarks on the differences in the ceramics between Stages 2 (the primary mound) and 3 (the secondary or outer mound); most of the Lower Valley ceramics were recovered from the inner mound, and most of a wide variety of variously tempered plain ware, including the Caddoan sherds was recovered from the outer mantle. There was, however, a mixture of the two gross categories in both stages. He then conjectures, "Either

Caddoan-like pottery is earlier than suspected, or the third stage is considerably later than the preceding one" (Jensen 1968:39). Had there been any appreciable time interval between the construction stages it is most likely this would have been detected, either as a relatively hard packed surface on the inner mound, or an incipient A zone on the inner mound's surface. Neither was noted. This held true for both sites.

One of the real problems in Caddoan research (and related problems of "pre-Caddoan" ceramics) has been the lack of radiocarbon determinations during the early period of research, plus the geological context of the Caddoan area, which, for the most part occurs on the Gulf Coastal Plain. This area is characterized by a relatively thin sand mantle overlaying basal clays, generally of Eocene origin. The thinness of the sand mantle, which contains the cultural material, usually precludes the existence of detectably stratified sites. A site with no more depth than a decimeter of two may contain evidence of occupations spanning thousands of years. Even with sites which do have some respectable depth, reliance was, as often as not, placed on artifact stratigraphy from arbitrary levels. This affords some indications of trends but does not always give the clear-cut picutre we would like. An example of this is the Jones Hill site in Polk County, Texas (McClurkan 1968). Two relatively darker zones could be seen in profiles through the site, but their diffuse nature did not allow their excavation as separate units. In this case, also, we see the early appearance of plain, sandy paste pottery in conjunction with late Archaic dart points in the lower zone, and the later appearance of decorated, Caddoan-like ceramics and arrow points in the later, upper zone. The earlier sandy paste pottery and dart point forms did not disappear in this upper zone, although

they did diminish in frequency. McClurkan (1968:11) remarked:

> The dates indicate a total span of occupation at this site of perhaps 1,000 years. Two charcoal samples from each of the two dark strata were used for dating. The two samples from the lower dark zone (Zone 2) produced dates of 1410±190 B.P. (A.D. 540; Tx-336) and 970±120 B.P. (A.D. 980; Tx-325). The two samples from the upper dark strata (Zone 4) gave dates of 810±80 B.P. (A.D. 1140; Tx335) and 390 ±100 B.P. (A.D. 1560; Tx-330) The length of time separating the two zones, based on the later date for Zone 2 and the earlier date from Zone 4 could be as little as not time or as much as 460 years.

A cursory review of other site reports from the east Texas area shows the possibility of such a situation occurring at other sites (Duffield 1959; Tunnell 1959; Story 1965; Webb *et al.* 1969). The evidence presented in these reports is not conclusive, but it is certainly suggestive of an early, plain pottery horizon.

Along with this early pottery horizon, there is also ample evidence, of long standing, of influence from Lower Mississippi Valley cultures. Webb *et al.* (1969) shows ceramic types at the Resch site from Tchefuncte through Coles Creek. The Lower Valley pottery at the Davis site has been known since at least 1941. Shafer (1966) reports Tchefuncte and Marksville ceramics from the Wallisville Reservoir in Chambers County, Texas. Sherds of Marksville-affiliation were recovered from the Livingston Reservoir (McClurkan 1969:27). Scurlock mentions a report of Marksville ceramics at Toledo Bend (Scurlock 1964:6-7), but this particular report was not verified. Further Lower

Valley or Woodland influences are described for Louisiana, Texas, Oklahoma and Arkansas in Davis (1970).

When Jelks wrote his report on Jonas Short, he offered three possible theories regarding it (Jelks 1965:274):

> 1. The mound was built by some essentially nonlocal culture (Adena? Hopewell? Copena?) which occupied the area briefly but left little imprint on the local people.
> 2. The mound and its contents constitute a burial complex of the Alto Focus. Suggestions of stylistic relationships between Alto Focus artifacts and those of the Adena, Hopewell and Copena cultures have been pointed out by Newell and Krieger (1949:218-224).
> 3. The mound represents a cremonial aspect of the Angelina Focus that did not find expression in ordinary habitation sites. This appears the least likely of the three theories.

If we tentatively eliminate the possibility of the last construction stage as being considerably later than the first, we are left with Jensen's (1968) first alternative; "Caddoan-like pottery is earlier than suspected....".

The significant factor is not that the artifacts were included in the fill, but that the material demonstrated, in both sites, the juxtaposition of two cultures which are usually thought of as being separated by a respectable period of time.

So we arrive again at the two basic questions mentioned at the first of this paper; 1) what were those Caddo sherds doing in a Marksville mound? and, 2) where was the resident, supportive population which should also be identifiable as Marksville-affiliated?

At the outset of this conjecture, let us say that we feel we

have too long viewed the whole Caddoan-Lower Valley situation as a black-white, either-or situation. The issue has been, does Caddo equate temporally with Coles Creek and later, or does Caddo extend back in time to be coeval with Marksville? The truth, we believe, as with so many dichotomized questions, lies somewhere in the middle or someplace else. A review of the evidence which has been on had, in part, since the 1950's, plus later data from the Caddoan area, shows that we may well have had some clues to the answers for the questions posed in this paper for some time. The problem was not a result of lack of evidence, but rather understandable conservatism in interpretation and perspective, plus the nature of the sites themselves.

From one perspective we have been viewing Caddo as coming into being somewhere around A.D. 900, when, in reality we are looking at fully developed Caddo at that time. It seems unlikely that "Caddo" sprung forth, full blown, as Athena from the brow of Zeus. It developed somewhere, somehow. Albeit, once the impetus came the development was relatively rapid, but it did develop. The evidence we have (and have had) indicates this developmental process could well have taken place, *in situ*, within what we term the Caddoan area.

In 1957 at the Fourth Caddoan Conference, mention was made of the need to examine and understand the pre-Gibson, post-Archaic occupation of the Caddoan area (Davis 1959:13). Webb (1958:54-55) recommended investigation of Caddoan origins out of local cultures, or determination of the influx of peoples with a fully developed culture, plus the examination of a number of related points. Those are not the earliest mention of "pre-Caddoan" pottery in the area, but prior to this approximate time so little work had been done that the concept could successfully be ignored with little difficulty. The Fourche Maline Focus had been developed

earlier (Bell and Baerreis 1951) and included plain pottery as one of its later attributes. The postulation of the La Harpe Aspect (Johnson 1961) merely extended farther south the concept originally put forth as Fourche Maline. Indeed, the presence of pottery in the Caddoan area at times considered too early for true Caddoan had been recognized for a considerable time, certainly back in the 1940s. By 1970 the need to view Caddoan prehistory as beginning earlier was expressed by E. Mott Davis when he stated, "The chronological problems are far from being fully solved, but it now appears that Caddoan history extends farther back in time than Ford though, but perhaps not as far as Krieger thought" (in Davis 1970:34-35). The point to be made in citing these observations is not that there was recognition of an early ceramic complex in this area, but rather there was and continues to be an insistence on terming the early pottery as *pre*-Caddoan. Attempts to relate this early pottery to the Caddo are scarce, to say the least. One instance is a statement by Mott Davis (1970:38) in reference to a personal communication from Dessamae Lorraine regarding the material from the Pat Mayse Reservoir where it was seen "that Williams Plain is the precursor and ancestral type of the Caddoan Sanders Plain type into which it grades". To our knowledge the idea of in place development of the Caddo has never been seriously pursued. No series of hypotheses to this end has ever been concretely formulated, much less acted upon.

We think, with the evidence offered here we can safely eliminate Theory 1, and concentrate on the general idea offered in the other two theories.

One of the more unfortunate gaps in our current knowledge is a good understanding of the origin of this early ceramic horizon in the western Gulf Coastal Plain. That it was well established by the time of Christ we think has been demonstrated, but this does not pin down its beginning, or its

direction of entry. Perhaps for our purposes here these points are not of great concern. That the ceramic tradition was extant early is of concern. Early and continuing influence on this plain pottery tradition from the Lower Mississippi Valley is a well documented fact, also. From the radiocarbon dates presented in Phillips (1970:957) pottery appears in the Lower Mississippi Valley some time around 400-500 B.C. It is perplexing that there seems to be no "pre-Tchefuncte" ceramic horizon.

From the earliest appearance of ceramics in the Lower Valley their influence is seen in the Red River and Sabine River drainages. This Lower Valley influence seems to occur with the sandy paste pottery tradition. Does this mean the early plain ceramic horizon was already present? We do not think this question can be answered definitely one way or the other, but the impression is that the plain pottery tradition was already in existence when the Lower Valley influences began to be felt. Let us reiterate, this is an impression, not a fact. If this early, plain ceramic horizon is a southern extension of the northern, Eurasian Neolithic derived intrusion (Griffin 1967:186), then it is possible this Lowland Fourche Maline culture could have been in existence as early as some time shortly after 1,000 B.C. This is, of course, purely supposition, but something which bears exploration.

Shambach (1970:425) has stated: "Within the 300 B.C. to 500 A.D. span of the Fourche Maline phases at Cooper and Means, changes in the direction of Caddoan culture are already evident, or so it seems to me". It seems to us that at A.D. 200-300 at Coral Snake, and by inference at Jonas Short, proto-Caddo, or Incipient Caddo, or early blooming Caddo, call it what you will, was already underway. By A.D. 700, according to Shambach (1970:426), vessel forms are present which indicate incipient Caddo. By A.D. 1000 or slightly earlier we see fully developed Caddo.

We believe the Jonas Short and Coral Snake mounds are glimpses, all too limited and specialized, granted, into the early development of what will later be recognized as Caddoan culture. For a long time the early, so-called, pre-Caddoan ceramic horizon was virtually ignored. There was little or no attempt to either explain it or to relate it in any way to the Caddo. Caddo was Caddo and nothing else, apparently, would do. It is our recommendation that we reorient our hypothetical approach to this problem and consider, for purposes of future research, this Lowland Fourche Maline horizon not as pre-Caddo, but as ancestral Caddo. Research could be initiated by examining material already on hand from past surveys and excavations in the four states comprising the Caddoan area. We believe a re-examination of extant collections and data will open up new avenues for subsequent research and perhaps clarify some of the points raised in this paper. Additional data will no doubt be necessary to confirm or deny the ancestral Caddo concept, but the data already on hand examined from a different perspective may furnish significant results.

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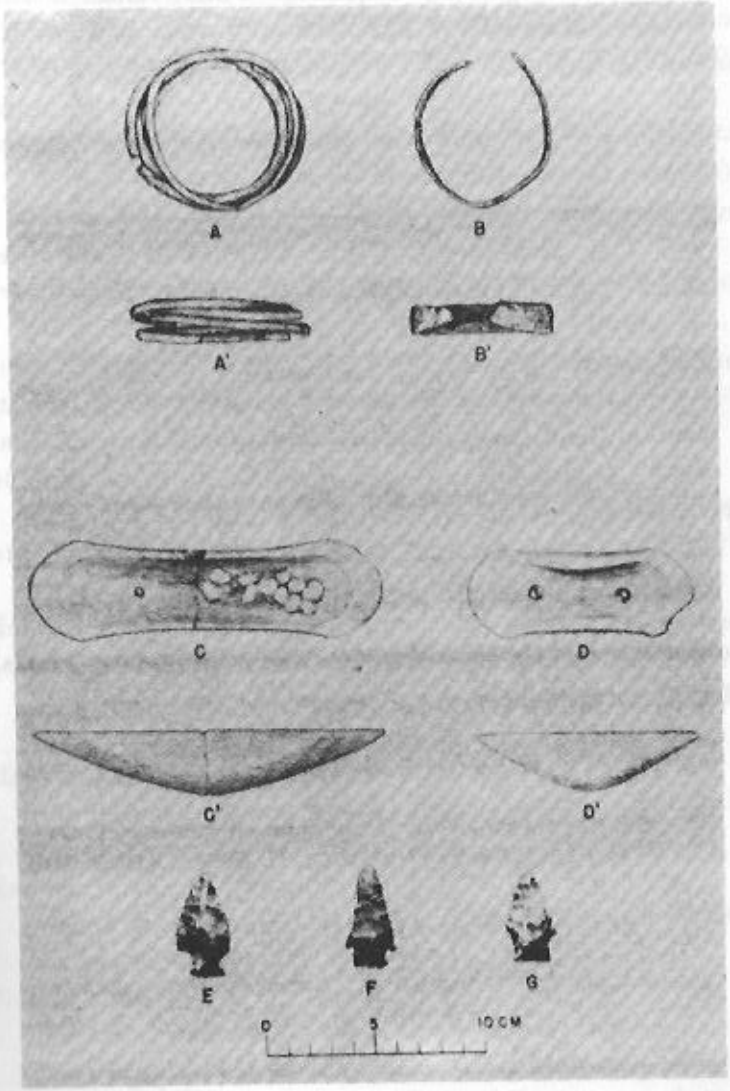

FIGURE 1. Jonas Short Site, top and side view of artifacts. A-A', B-B', copper bracelets from Burial 2; C-C', boatstone from Cache 1; D-D', boatstone from Cache 3; E, *Kent* dart point from Cache 4; F-G, *Kent* dart points from Cache 5.

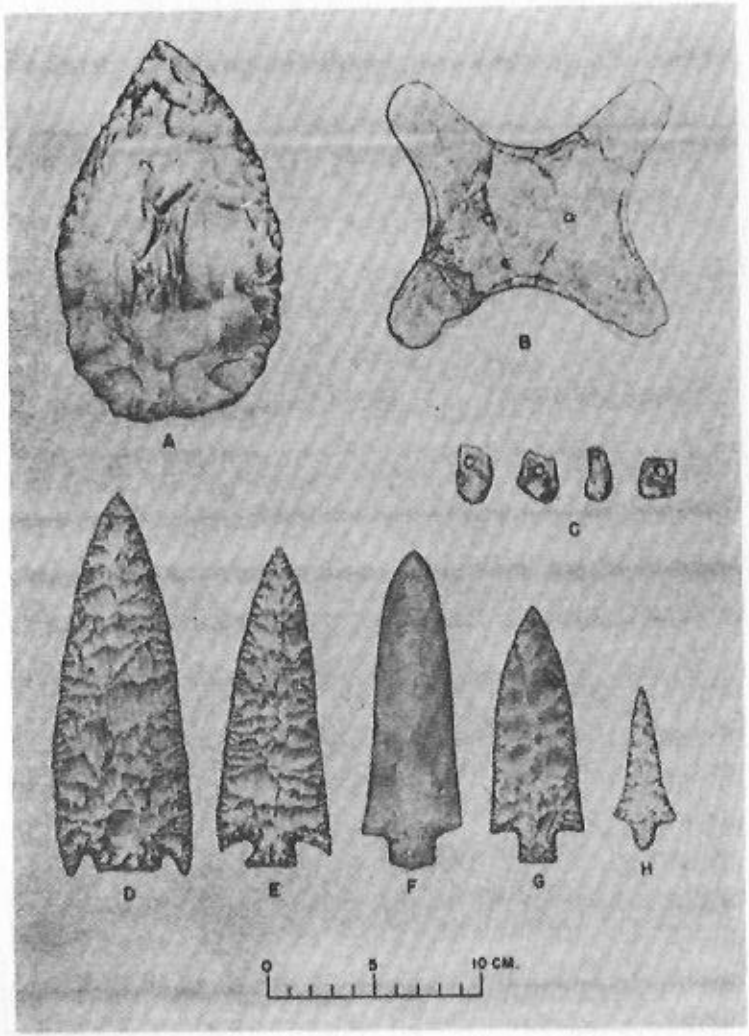

FIGURE 2. Jonas Short Site, artifacts from Cache 2. A, oval blade; B, copper reel-shaped gorget; C, elk tooth beads; D-G, stemmed knives or spear points; H, *Gary* dart point.

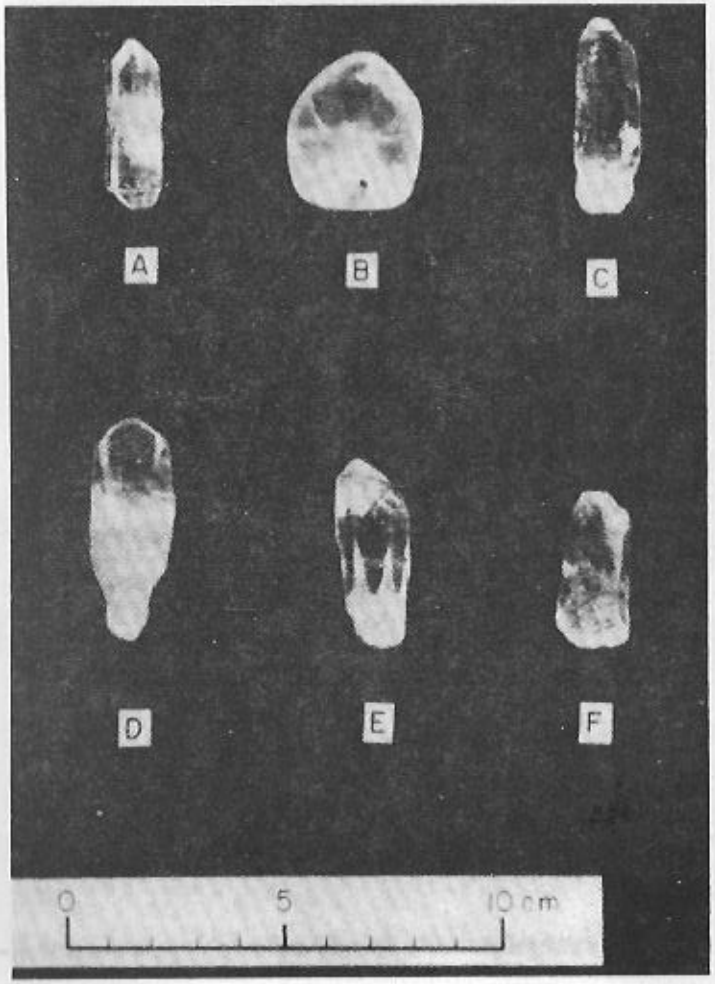

FIGURE 3. Jonas Short Site, quartz artifacts from caches. A, C-F, grooved crystals (A, C-E from Cache 1; F from Cache 5); B, perforated pendant (from Cache 1).

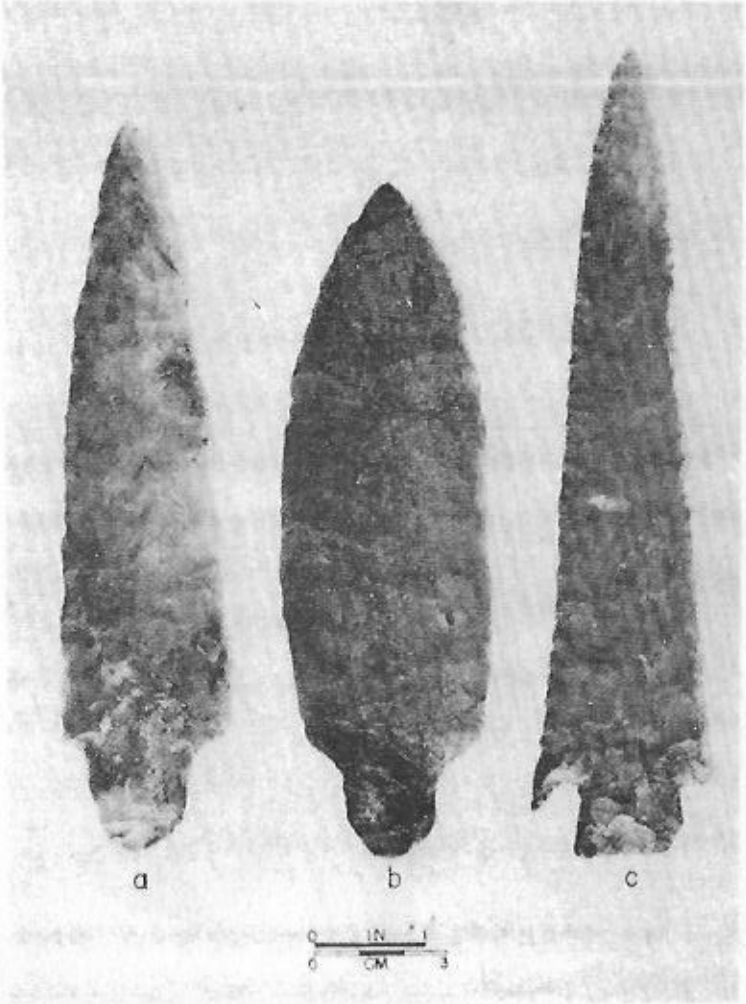

FIGURE 4. Large blades. a, b, from Cache 1; c, from mound fill. Coral Snake Mound.

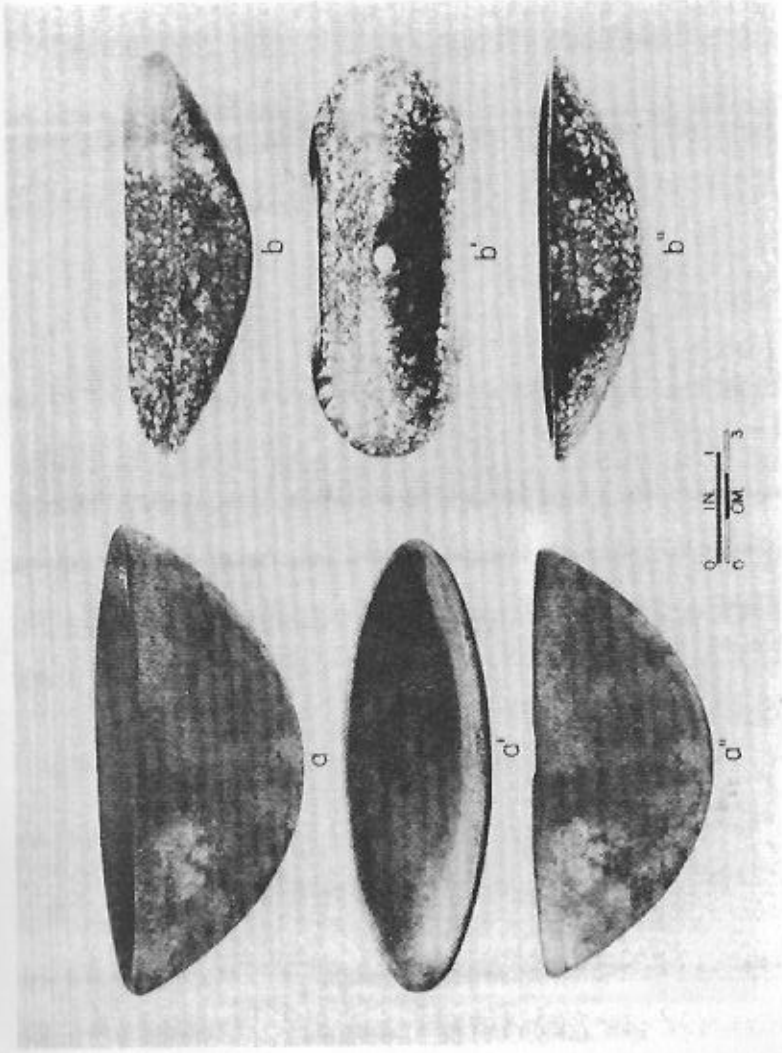

FIGURE 5. Boatstones. a-a", boatstone from Cache 2; b-b". boat-stone excavated by amateurs. Coral Snake Mound.

FIGURE 6. Copper artifacts. a, b, c, earspools from Cache 3; d, gorget fragment; e, earspool from mound fill; f, h, i, rolled sheet beads; g, j, drilled nugget beads. Coral Snake Mound.

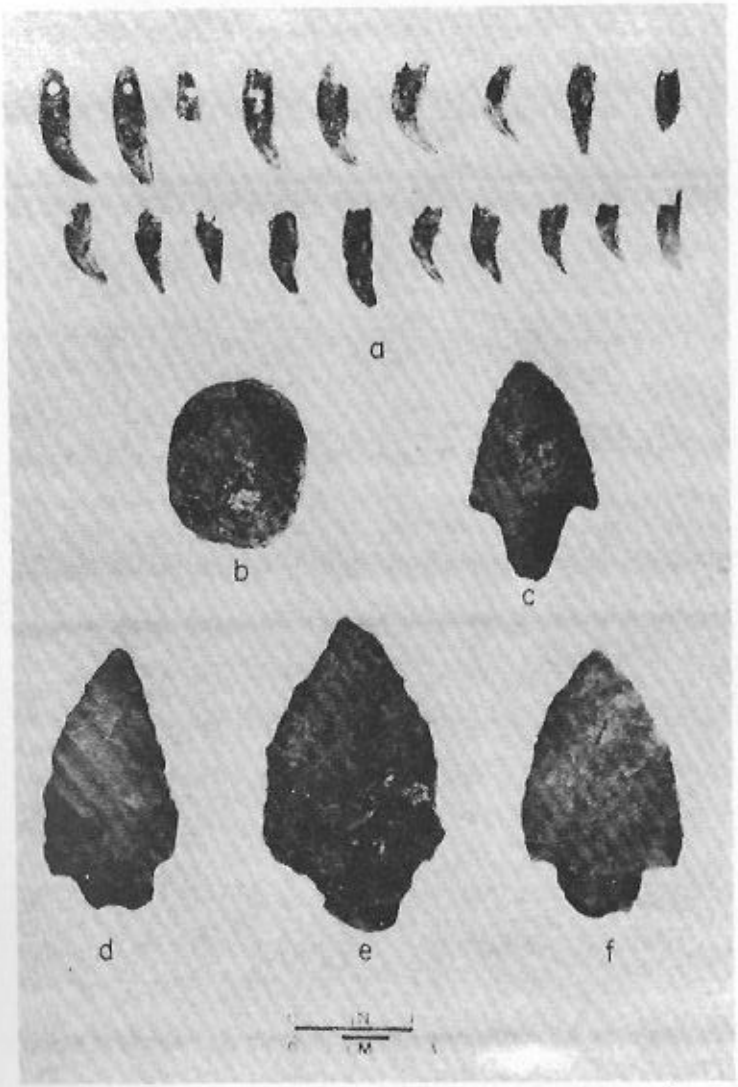

FIGURE 7. Artifacts from Caches. a, drilled raccoon teeth from Cache 4; b, large drilled nugget copper bead from Cache 4; (note cordage at top) c-f, dart points from Cache 5. Coral Snake Mound.

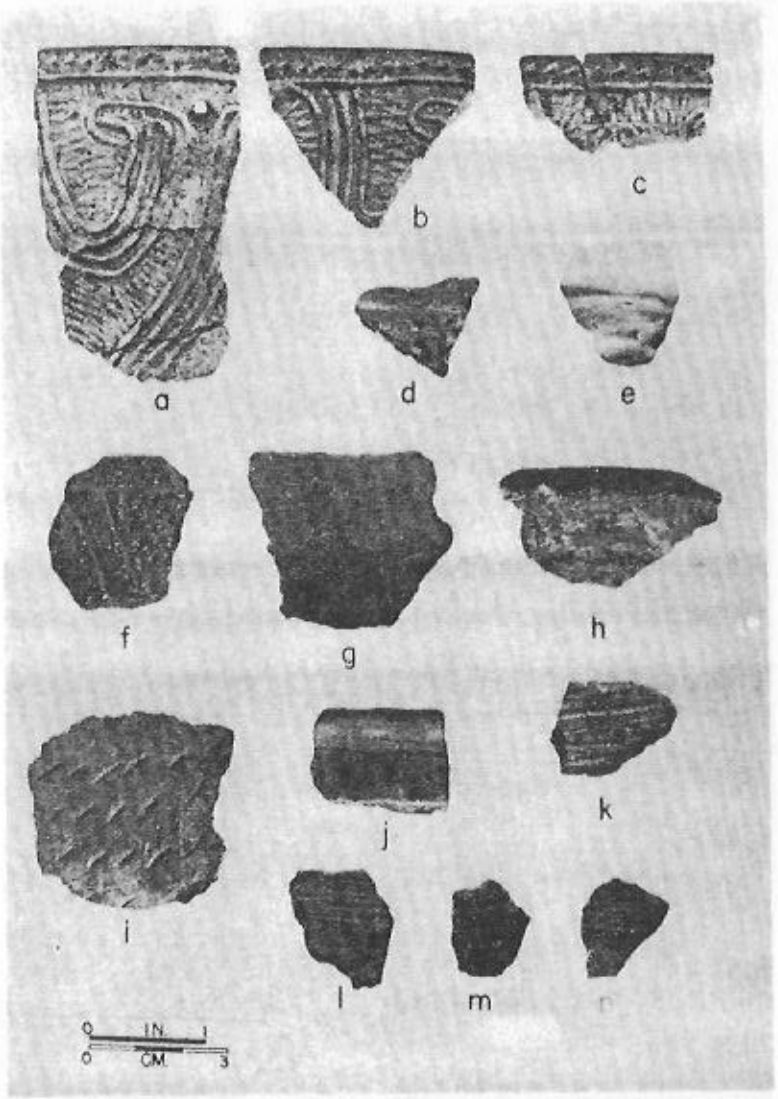

FIGURE 8. Pottery. a-c, Marksville Stamped; d, e, Churupa Punctated; f, i, Pennington Punctated-Incised; g, Hodges Engraved; h, unclassified incised sherd; i, unclassified punctated sherd; j, unclassified engraved rim sherd; k-n, unclassified brushed sherds. Coral Snake Mound.

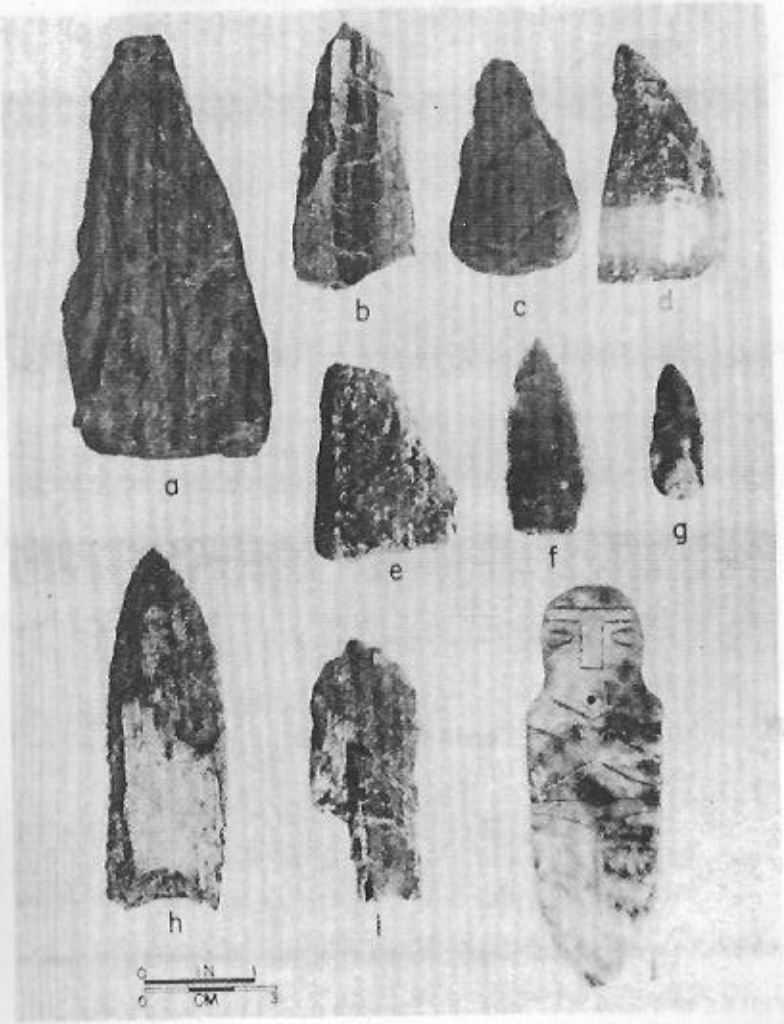

FIGURE 9. Blades and Quartz Figurine. a-e, triangular blades; f-i, lanceolate blades; j, quartz figurine. Coral Snake Mound.

Preadaptation For The Southern Cult In The Caddoan Heartland

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ABSTRACT

The Southern Cult in the Caddo heartland seems to have caused little, if any, social changes in the traditional Caddoan way of life. It seems merely to have added but another set of portable commodities and styles into a pre-existing exchange system.

INTRODUCTION

Investigations within the Caddoan archaeological area have generally focused upon documenting those sites considered to be of particular importance. This has meant that many sites with earthen mounds, cemeteries and other impressive surface features have been dug while smaller villages

located on minor drainages were ignored. Thanks to concerned amateur archaeologists and to recent salvage archaeology excavations, this trend is slowly being reversed.

Excavations at the larger sites have unearthed evidence that some mounds served as burial locations for an individual or individuals who were buried with many exotic special purpose "ceremonial" artifacts. Many of these items were made of exotic nonlocal materials (copper, flint, marine shell, pottery) and in numerous cases designs included on the artifacts were similar to those described as signaling the presence of the "Southeastern Ceremonial Complex" or the "Southern Cult" (Waring and Holder 1945).

In the 30 years since the Southern Cult was defined, Caddoan archaeologists have been as quick as most other Southeasterners to get on the Cult bandwagon. Consequently, authors have compared their artifacts and design styles to those set out in the original Cult definition and to others reported by subsequent authors. This activity has tended to emphasize the importance of the Cult by recognizing the similarities of Cult artifacts and design styles to each other without looking at the expectable consequences of the pan-Southeastern revitalization movement that reputedly was reflected by the Cult (Larson 1971).

Recent analysis and synthesis of information collected from the Spiro site in eastern Oklahoma has led James A. Brown to question the meaning of the Southern Cult (Brown 1976). Brown (1976:132) concludes that the Cult, as known archaeologically, is symbolic of an "inter-regional interaction sphere similar to that of the Olmec and other advanced ecologically interdependent chiefdoms." It is symptomatic of a hierarchical social system which necessitated the redistribution of critical resources through the hands of a "premier lineage."

A NEW PERCEPTION OF THE CULT

It is my thesis that in the Caddoan heartland (the Red River Basin in the four state area) the Cult represents a new outer wrapping, a veneer and in fact a late comer, on a redistribution system that was thoroughly entrenched in pre-Cult times. We will not attempt to determine a cause for the development of the redistribution system in Caddoan prehistory, but we will attempt to show that the Cult as a "Johnny-come-lately" was readily accepted by many prehistoric Caddoans in the heartland and that it remained active until just before the historic period.

CHRONOLOGY

Before reviewing sites and assemblages in detail, it is necessary to look at the temporal relationships of the Caddoan sites to be discussed. Prior to the 1970s almost all major intersite correlation was done on the basis of ceramic seriation using intrusive pottery types. In most cases these ceramic correlations still hold up today. With the advent of radiocarbon dating, it has been possible to get a new angle on evaluating intersite artifact assemblages. Partly in response to the new dates, a new regional scheme has been developed for relating sites. This new system, Caddo I and V, has been used here to correlate the various foci, phases, and complexes (Fig. 1).

Caddo I, the earliest horizon includes the Alto Focus (which subsumes the Gahagan Focus), part of the Sanders Focus, and the Lost Prairie and Miller's Crossing phases. This horizon is dated from about A.D. 850 to 1100 on the basis of dates from the George C. Davis site in Texas (Story 1972:55, Table 1), the Mounds Plantation Site (Webb and

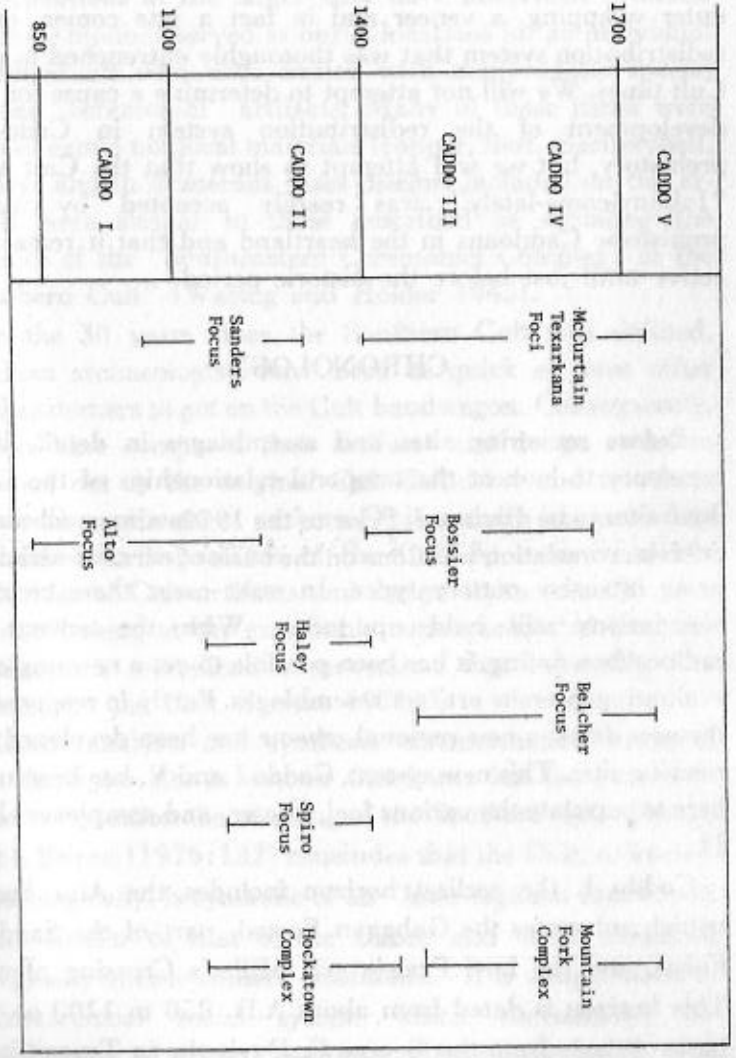

FIGURE 1. Correlation of Foci and Complexes with horizons used in text.

McKinney 1975:72), and the Sam Kaufman Site (Skinner, Harris, and Anderson 1969:Table 1).

The following horizon, Caddo II, includes all or part of the Sanders and Haley Foci and is contemporary with the Spiro Phase (Brown 1976:129). The Spiro Phase at Spiro dates from about A.D. 1200 to 1350 and is contemporaneous with the burial component at the Sanders site and with the Haley Focus (Brown 1976:124). The Hockatown Complex (Wyckoff 1967:126) is also attributed to this horizon. Stages IV to VI at George C. Davis are contemporary with Caddo II (Story 1972). For the purpose of this discussion, Caddo II is dated A.D. 1100 to 1400. Southern Cult traits occur in several excavated components during this period.

The following horizon, Caddo III, is dated by some authors between A.D. 1400 and 1500. Caddo IV is then dated from A.D. 1500 to about 1700. For the purpose of this discussion, the two are lumped together since dating of the Bossier Focus, a Caddo III and IV phase, is insecure, and some authors believe that the Haley Focus evolved into the Belcher Focus. Bossier may be a very short-lived phase or may represent a marginal aspect of the Belcher or Texarkana/McCurtain Foci. Moreover, the McCurtain Focus is dated A.D. 1400-1700 (Wyckoff 1970:112) and a chart prepared by C.H. Webb can be interpreted to indicate that Belcher spanned the same period (Neuman 1970:Fig. 1). The end of this horizon is marked by post-1700 radiocarbon dates from the Belcher site (A.D. 1755 $\pm$ 100, Webb 1959:207), the A.W. Davis site (A.D. 1700 $\pm$ 100, Wilson 1962), and the Woods Mound group in the Mountain Fork complex at Broken Bow Reservoir (A.D. 1791 $\pm$ 147, Wyckoff 1967). In no case are Southern Cult artifacts associated with historic trade goods from these sites. However, two late McCurtain Focus burials from the Sam Kaufman site were associated with historic trade goods

(Harris 1953; Skinner *et al.* 1969:26), thus indicating that Caddo IV extends into the historic period. Having established a temporal framework for evaluating sites within the Red River Basin, it is possible to evaluate the archaeological data.

ARCHAEOLOGICAL DATA

There is considerable evidence throughout the Caddoan area for an exchange system that precedes the spread of the Southern Cult throughout the Southeast during Mississippian times. In pre-Caddo times, exotic goods and "important person" burials are reported from such sites in the Caddoan area as the Jonas Short Mound (Jelks 1965:22-52), Coral Snake Mound (McClurkan, Field and Woodall 1966:3-26; Jensen 1968), Mounds Plantation (Burial Pits 6, 10-14 under Mound 5), Crenshaw (Wood 1962; Durham and Davis 1975) and a few others (Fig. 2). The nature of the interaction sphere that brought copper, marine shell, flint, and other exotic trade items to these sites is at present not understood. Nevertheless, it is obvious that some form of exchange was practiced and that the exchange system reached some considerable distance in order to secure copper.

The Alto Focus dominates our understanding of the Caddo I period. In part, this is due to the widespread understanding of the Caddoan area on the basis of the George C. Davis site (Newell and Krieger 1949). Although this was the first major synthesis of Caddoan archaeology, Kreiger's interpretation is based on a viewpoint from near the southwestern edge of the Caddoan archaeological region. More recent syntheses are available (Webb 1960; Davis 1970), but these have served different purposes. The publication of a final report on Mounds Plantation (Webb and McKinney 1975) allows a broader evaluation of the Caddoan heartland in Caddo I times.

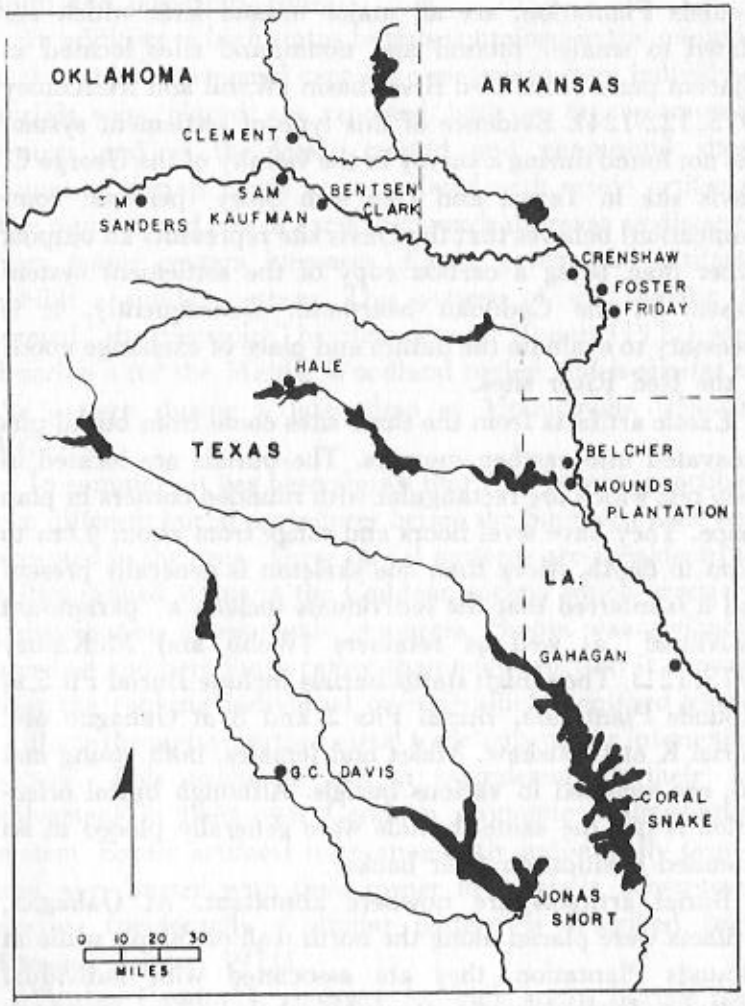

FIGURE 2.

Three major Alto ceremonial centers are located on the banks of the Red River. These sites, Gahagan, Crenshaw, and Mounds Plantation, are all major mound sites which are related to smaller mound and nonmound sites located in adjacent parts of the Red River basin (Webb and McKinney 1975:122-124). Evidence of this type of settlement system was not found during a survey in the vicinity of the George C. Davis site in Texas, and Dee Ann Story (personal communication) believes that the Davis site represents an outpost rather than being a carbon copy of the settlement system present in the Caddoan heartland. Consequently, it is necessary to evaluate the nature and place of exchange goods at the Red River sites.

Exotic artifacts from the three sites come from burial pits excavated into earthen mounds. The burials are located in deep pits which are rectangular with rounded corners in plan shape. They have level floors and range from about 0.6m to 5.5m in depth. More than one skeleton is generally present and it is inferred that the individuals include a "paramount individual" as well as retainers (Webb and McKinney 1975:121). These high status burials include Burial Pit 5 at Mounds Plantation, Burial Pits 2 and 3 at Gahagan and Burial K at Crenshaw. Males and females, both young and old, are included in various burials. Although burial orientation is not the same, burials were generally placed in an extended position on their backs.

Burial artifacts are nowhere abundant. At Gahagan, artifacts were placed along the north wall of the pit while at Mounds Plantation, they are associated with individual skeletons. Pottery vessels are rarely included. Clay pipes, both effigy and Red River types, arrow points, Gahagan knives (or bifaces), copper-covered artifacts including ear ornaments, polished stone tools (particularly celts), bone tools, shell artifacts, woven baskets and mats and a few other items are

included with Alto burials. Evidence of regional artistic design styles is not pronounced as in later burials attributed to Spiro and post-Spiro times.

In addition to high status burials contained in the mounds at the major ceremonial centers, cemeteries where individual burials were placed are reported both at the ceremonial centers and at the lesser mound and nonmound sites. Cemetery burials rarely are associated with exotic artifacts. The number and size of earthen mounds decrease as distance from major centers increases. Exotic ceremonial artifacts exhibit a similar pattern. This pattern of site ranking is termed "site hierarchy" by Struever and Houart (1972) who describe it for the Middle Woodland period and is similar to the pattern during a later time at Moundsville (Peebles 1971).

In summary it has been shown that Alto peoples practiced two different burial procedures before the Southern Cult was accepted in the area. These burial patterns are considered to reflect ranked status in the Caddoan society which practiced redistribution of economic resources. Status was probably ascribed and hereditary rather than achieved, and it appears that the ranking individual or individuals acquired exotic artifacts through an extrasocietal trade network or interaction sphere. This exchange system complemented their involvement in their own Caddoan economic redistribution system. Exotic artifacts were apparently individually owned and were buried with their owner in specially constructed graves. Incidentally a similar pattern is described from Etowah (Larson 1971).

During Caddo II, evidence for high status burials continued in the Caddo heartland and extends upstream to sites including T.M. Sanders (Krieger 1946) and Bentsen-Clark (Banks and Winters 1975). There is a decline in mortuary elaborateness at George C. Davis during this period (Story

1972:60-61), and there are no other published reports of Caddo II high status burials from the Neches, Sabine, Cypress or Sulphur River drainages. While there is abundant evidence of mortuary elaboration in Haley Focus sites, Webb (1959:199) stresses that Haley people only had minor evidences of the Cult and that ". . . the more specific motifs and god-animal representations, the engraving of shell bowls and gorgets, the copper plates and emblems, are all lacking." It appears that during Caddo II, when Spiro was at its zenith, the appearance of Cult symbols did not significantly change the mortuary pattern that previously had been established and moreover that the areal distribution of high status burials associated with earthen mounds was primarily restricted to mainstream of the Red River from Gahagan to T.M. Sanders. The number of Cult artifacts decreases as distance from the site of Spiro increases. This pattern is in keeping with the understanding of Spiro as a regional center and these mound sites representing local centers (Peebles 1971). If this was the case it is no longer necessary to consider Sanders an outpost of Spiro.

During the subsequent Caddo III and IV periods, it had been thought that social ranking as reflected by high status burials had generally been discontinued in the Caddoan area and that this was correlated with the discontinuation of mound building. However, evidence for high status burials has been reported from the Sam Kaufman, Clement (Webb 1959:197-198), Belcher (Webb 1959), Friday and Foster sites (Moore 1912), all of which are located in the Red River basin. While it is true that there is no evidence for major mound construction during this time, high status burials were placed in natural rises, knolls or previously constructed mounds. While status differentiation as reflected in mortuary practices is areally restricted to the Red River basin at this time it appears that this part of the Caddoan area remained

actively involved in an interregional interaction sphere. We expect that this reflects the continuation of regional redistribution of economic goods from major "local center" sites such as Sam Kaufman, Belcher, and others to support villages represented in part by the Bossier Focus (Webb 1948), the Mountain Fork Complex (Wyckoff 1967), and other complexes located between major sites and also away from the mainstream of the Red River.

CONCLUSIONS

The area described as the Caddoan heartland coincides with the territory occupied in historic times by the Kadohadacho Confederacy. It may well be that a system of commodity redistribution and an extra-regional exchange in exotic goods persisted into historic times. In any case, it appears that in the Caddoan area, the presence of the Southern Cult represents a case of "much ado about nothing". Cult artifacts appear as an addition to an earlier viable interregional interaction sphere that extended well beyond the limits of the Caddoan area. Southern Cult artifacts and styles may represent useful pan-Southeastern horizon markers but they did not seem to have caused any major change in the social organization of the prehistoric Caddo. An interaction sphere and ranked status had previously been a part of the Caddoan way of life. The introduction of Cult designs served to signal some minor cosmetic surgery for Caddoan society. Although a few wrinkles were removed, it was still the same traditional system.

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Distribution Of Natchitoches Engraved Ceramics

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ABSTRACT

Natchitoches Engraved pottery occurs as a resident pottery type in historic Caddoan sites in Louisiana, Texas, Arkansas, and Oklahoma. It occurs as trade ware in historic Norteno sites, in the Tunican Trudeau site, and at Ft. Conde on Mobile Bay.

INTRODUCTION

In 1945 Dr. Clarence H. Webb (1945:52-83) described and named the type "Natchitoches Engraved" on the basis of vessels found by him at the Lawton Gin site in Natchitoches Parish, Louisiana.

The purpose of this short paper is to give the reader some idea of the distribution of this Historic Caddoan pottery type as we presently know it. In 1954, Suhm, Kreiger, and Jelks (1954:334) described the distribution of Natchitoches Engraved as from the ". . . City of Natchitoches in central Louisiana over northern Louisiana, extending into northeast Texas as far as Lamar County". This short paper will extend the distribution somewhat.

In the future, research should be done to determine the variations found in Natchitoches Engraved ceramics. While such a detailed treatment is beyond the scope of this study, some comments on these variations can be made. Some variations are found with few ticked lines, while some other varieties have heavily ticked lines. Most varieties have curvilinear, ticked lines, while other varieties have a few, almost straight, ticked lines. It is sometimes difficult to separate Hodges Engraved and Hudson Engraved vessels from Natchitoches Engraved, except by temper and the fact that most Hodges and Hudson Engraved vessels do not have ticked lines. Natchitoches Engraved is about 95 percent fine, pulverized shell temper, while Hodges is clay-grit-grog tempered. Bone and shell temper together, sometimes occurs in Natchitoches Engraved. Once in a while a vessel of Natchitoches Engraved will be found, where the design is incised instead of engraved.

In color, Natchitoches Engraved ranges from yellows and reddish-browns to mahogany-brown and blacks. Some vessels found in the Ouachita River area are painted red and white. Red slipping occurs in several sites and the rubbing of red or white pigment in the decorated lines of the vessels occurs.

Natchitoches Engraved is a very fine time marker for Historic Caddo, because it is nearly always found with European trade goods.

SITES WHERE NATCHITOCHES ENGRAVED OCCURS

Above, it has been stated that Natchitoches Engraved is usually found with European trade goods. However, during this study, three sites were found where no trade goods have been found to date. One of these sites is the Cedar Bluff site, east of Natchitoches, Louisiana, in Winn Parish. Other vessels in this site appear to belong in the Belcher Focus.

Another site is the Rhymes site in Ouachita Parish, Louisiana. The collection of Manning Durham at Monore, Louisiana should be checked as to other vessels.

The last of the three prehistoric sites where Natchitoches Engraved has been found is the Beene Plantation site in Bossier Parish, Louisiana. Clarence Webb's collection from this site should be checked as to other pottery types found at this site.

HISTORIC SITES WHERE NATCHITOCHES ENGRAVED OCCURS

Natchitoches Engraved pottery is found in the following sites in the Natchitoches area; all of these sites have yielded European trade goods such as glass beads, knives (iron), kettles, guns, and gun flints.

1. Southern Compress site, Natchitoches Parish, Louisiana.
2. Los Adaes site, Natchitoches Parish, Louisiana (Gregory 1973:356-363)
3. American Cemetery, Natchitoches Parish, Louisiana.
4. Wilkinson site, Natchitoches Parish, Louisiana.
5. Lawton Gin site, Natchitoches Parish, Louisiana.
6. Old Chamard site, Natchitoches Parish, Louisiana.
7. Fish Hatchery site, Natchitoches Parish, Louisiana (Walker 1935:1-15).

8. Bead Hill or Arnold Place, Natchitoches Parish, Louisiana.
9. Drake's Salt Lick, Winn Parish, Louisiana.
10. Dois D'Arc Hill site, De Soto Parish, Louisiana.
11. Shamrock Subdivision site.
12. Moon Lake site, Natchitoches Parish, Louisiana.

The above 12 sites are in the area near Natchitoches, Louisiana, and are probably all Historic Caddo sites.

The Fatherland site located on St. Catherine's Creek in Adams County, Mississippi, had a few sherds of Natchitoches Engraved. This site is probably the Grand Village of the Natchez Indians (Ford 1936:92; Neitzel 1965).

The Trudeau site on the Mississippi River in West Feliciana Parish, Louisiana, and the Hudson site in Catahoula Parish, Louisiana, both produced a small amount of Natchitoches Engraved. The Trudeau site is probably Tunica and the Hudson site has not been correlated with a historic group.

A single vessel of Natchitoches Engraved came from Fort Conde on Mobile Bay. This vessel can be accounted for by a visit to Fort Conde by two Natchitoches chiefs between 1730 and 1740.

Information on the above sites are taken from the site notes of H.F. Gregory and C.H. Webb in the Williamson Museum at Natchitoches, Louisiana.

The Keno and Glendora sites located on Bayou Bartholmew (a tributary of Ouachita River) both had Natchitoches Engraved with European trades goods. Some of the Natchitoches Engraved from these two sites had a beautiful red slip applied to the vessels. These two sites are type sites for the Glendora Focus or Ouachita River Caddo (Moore 1909:27-151).

The Douglas and Greer sites, near the mouth of the Arkansas, are reported to have Natchitoches Engraved,

painted over with white and red paint. This should be checked out and the vessels located if possible (Gregory and Webb notes).

Natchitoches Engraved occurs on the Sabine River near Longivew, Texas, in the following sites.

1. Susie Slade site, Harrison County, Texas.
2. Kinslow site, Gregg County, Texas.
3. Millsey Williamson site, Rusk-Panola, County, Texas.
4. C.D. Marsh site, Harrison County, Texas.
5. Brown Burial site 1, Harrison County, Texas.

The above five sites belong to the Kinsloe Focus. However, the Brown Burial site 1 may be an Allen Focus Cemetery (Jones 1968:1-291).

One other site is located on the upper Sabine River in Rains County, Texas. It is the Gilbert site (Story *et al* 1967:125-129). It belongs to the Norteno Focus. Natchitoches Engraved occurs in the site, but it might be trade ware.

Several sites in the Big Bend area of Red River have yielded Natchitoches Engraved pottery (Harris, Harris, Blaine and Blaine 1965:299, 301, 303). These are listed below.

1. Atlanta State Park site on the Sulphur River has a burial that contained a vessel of Natchitoches Engraved. The engraved lines were filled with a bright red pigment which turned out to be vermillion, a French trade product (Harris, and Miroir 1980).

2. The Handy Cemetery at the Battle Mound produced several vessels of Natchitoches Engraved. This site is located in Lafayette County, Arkansas. Most of the village area has been destroyed by Red River. The mound was built during the Belcher Focus.

3. Roseborough Lake site located in Bowie County, Texas, has produced quantities of Natchitoches Engraved

(Harris and Miroir collections). Two sherds from two vessels have red vermillion rubbed in the decorated lines. This site is the possible location of La Harpe's Nassonite Post of 1719 (Harris, Harris, Blaine and Blaine 1965:359; Miroir *et al.* 1973:113-167).

4. Ely Moore site located in Bowie County, Texas, has produced a lot of Natchitoches Engraved (R.K. Harris collection). This site is possibly a Glendora Focus site from the Ouachita River area, judging from other sherds and burial vessels found at the site.

5. Wright Plantation site in Red River County, Texas, has a very small historic area near Mound B. This site has produced one sherd of Natchitoches Engraved with a few glass beads and two gun parts (R.K. Harris collection).

On upper Red River above the Wright Plantation are located two historic sites. One is the Womack site in the northwest part of Lamar County, Texas. The Womack site has produced a vessel of Natchitoches Engraved from Burial 1, and eight sherds of Natchitoches Engraved from middens (Harris, Harris, Blaine and Blaine 1965:289-301). The Womack site belongs to the Norteno Focus and is probably the site where Du Rivage obtained two Kichai guides to guide La Harpe to the Arkansas River in 1719 (Harris, Harris, Blaine and Blaine 1965:359-360).

The other site is the Spanish Fort site in Jefferson County, Oklahoma. This site has produced a sherd or two of Natchitoches Engraved. One sherd from the McMillan area has red pigment rubbed into the lines of the design (Harris collection). Spanish Fort site belongs to the Norteno Focus.

CONCLUSIONS

Natchitoches Engraved pottery occurs along Red River from Natchitoches, Louisiana, to Montague County, Texas,

and Jefferson County, Oklahoma. It also occurs on the Ouachita River in Louisiana and Arkansas and on the Sabine River in East Texas. It occurs as resident ware in nearly all historic Caddo sites, and as trade ware in the Norteno sites, and at Ft. Conde on Mobile Bay in Alabama. It is not quite clear yet whether Natchitoches Engraved is resident or trade ware among the Tunica Indians in Louisiana.

A thorough study should be made of Natchitoches Engraved, Hodges Engraved, and Hudson Engraved pottery types in the historic Caddoan sites, in order to see what the relationship between these types may be and to distinguish the varieties of each type.

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The Atlanta State Park Site In Northeastern Texas

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ABSTRACT

Data are presented on a site [41CS-5] located on the south side of Lake Texarkana, in Cass County, Texas. Evidence shows occupation of the site began during the Archaic Period and extended through time into the Historic Caddoan Period. Burial 2 produced, among other things, a shell-tempered vessel of Natchitoches Engraved with French vermillion in the engraved lines.

INTRODUCTION

The site was located just to the west of the Atlanta State Park area by the late M.P. Miroir. The site, which was given the number CS-5 by Miroir, was the remains of a large Indian village with a cemetery located in the village area. A forest of large pine and oak trees covered the site, making it extremely hard to determine the size of the village. The site was located on top of a terrace about 20 feet above the Sulphur River.

Testing of the site was done in 1963 by M.P. Miroir, R. King Harris, Floyd Cigainero, Paul Schoen and Janson McVay. Three burials were located, and a test trench 10 feet long, 2 feet wide, and 30 inches deep, was excavated. As the lake filled, the water covered a portion of the Atlanta State Park site and a large concrete boat ramp was built. During the construction, approximately 98 percent of the site was forever destroyed, but this paper is written from data preserved by the authors from their work on this site.

BURIAL 1

This burial was found by Floyd Cigainero. The burial was made in a prepared pit, which measured 63 inches long, 22 inches wide, and 19 inches deep. The skeleton was in very poor condition—just a trace here and there, but it seemed to be extended on the back, with head to the east. Near the right shoulder was located a vessel typed as Emory Punctate-Incised (Harris, Harris, Blaine and Blaine 1965:209-300). This vessel is shell-tempered and is shown in Figure 1A. Below the lower jaw, over the chest area, were found 583 glass trade beads, which break down into types (see glass bead section) as follows: 3 Type No. 3; 568 Type No. 11; 1 Type No. 45; and 11 Type No. 46 (Harris and Harris 1967:139-155). These beads are shown in Figure 1B.

BURIAL 2

This burial was found by Paul Schoen. The burial was made in a prepared pit which measured 72 inches long, 26 inches wide, and 28 inches deep. The skeleton was in very poor condition, was extended on the back with head to the east, and appeared to be the remains of a female who was around 20 to 25 years of age. Figure 1 shows a diagram of this burial. Burial goods consisted of two pottery vessels, an iron awl, two iron knives, a brass bracelet, and 1,258 glass trade beads. Vessel 1 was found at the right shoulder and was a shell tempered vessel of Natchitoches Engraved (Webb 1945:52-83). The engraved lines on the vessel had a bright red pigment rubbed into them. An analysis of the red pigment was made by Robert Forrester, a chemist, and found to be mercuric sulphide, or vermillion (Forrester, personal communication, 1963). Vermillion was a common trade item used by the French during the 18th century. Figure 1F shows this vessel. Vessel 2 was found near the right foot and is shell tempered. The rim was broken from the vessel and the broken edge is smoothed so one would be at a loss to type it. It could be of the type Emory and is shown in Figure 1G. Figure 1C and D shows two French clasp knife blades of Type 1(Harris, Harris, Blaine and Blaine 1965:350) found near the left shoulder. Figure 1E shows an iron awl found near the knives. The knives and awl were too far oxidized to clean for names of makers. A brass "C" bracelet was found on the left wrist. It was made from a plain piece of brass, bent in the shape of the letter "C". The bracelet is not shown, but its location is shown in Figure 1H, on the left wrist of the skeleton. A total of 1,258 glass trade beads were found in the chest area below the lower jaw. The beads are not shown, but they break down into the following types: 4 Type No. 5; 756 Type No. 11; 3 Type

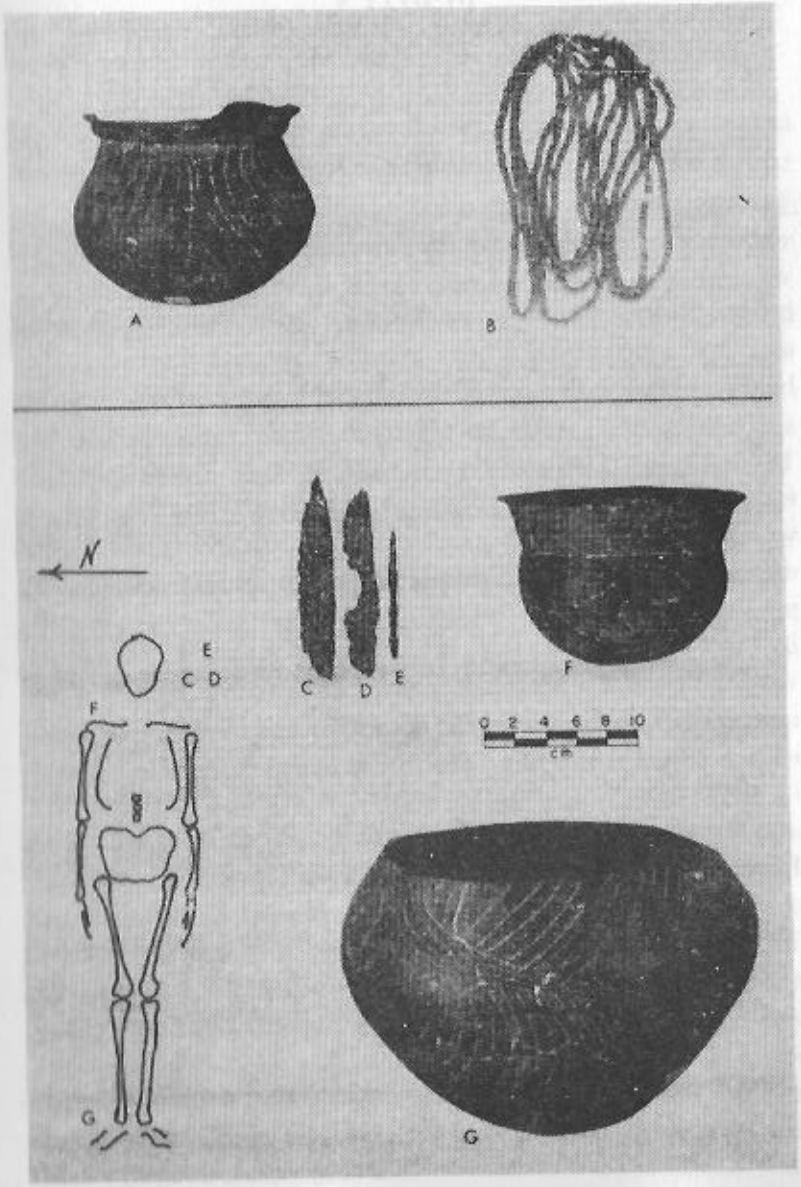

FIGURE 1.

No. 45; 2 Type No. 46; 489 Type No. 48; 2 Type No. 50; 1 Type No. 51; and 1 Type No. 60.

BURIAL 3

This burial, which was found by Janson McVay, was made in a prepared pit which measured 68 inches long, 31 inches wide, and 26 inches deep. The skeleton was in very bad condition but was extended on the back with head to the east and appeared to be a female around 30 to 35 years of age. Burial goods consisted of 2 shell-tempered jars of the type Nash Neck Banded (Suhm, Krieger and Jelks 1954:332). These two vessels were placed near the right shoulder and both vessels were covered on the outside with soot as though heavily used for cooking. This burial is not illustrated.

DISCUSSION OF BURIALS

Burials 1 and 2 belong to the Historic Caddoan Period, but the focus cannot be determined. The village and burials are very near the Portage of the Nassonites visited by Benard de La Harpe in 1719. La Harpe reached the Nassonite Portage on April 3, 1719, and went overland to the Nassonite village on April 4, 1719 (Smith 1958:250; Miroir, Harris, Blaine, and McVay (1973:160).

Burial 3 belongs to the Prehistoric Caddoan Period, and probably belongs to the Texarkana-McCurtain Focus of the Fulton Aspect.

GLASS TRADE BEAD TYPES BURIALS 1 AND 2

A description of glass bead types and the number of each type found in the two Historic Caddoan burials appears below (Harris and Harris 1967:129-162).

Type No. 3. Large, white, opaque, round necklace bead of simple construction. The glass is porcelain-like in texture. 3 specimens. Tumbled.

Type No. 5. Medium, white, opaque, barrel-shaped garter bead, of compound construction. The inner layer of glass has a porcelain-like texture, while the outer layer is clear glass, but has a slightly frosted appearance, probably due to age. 4 specimens. Tumbled.

Type No. 11. Medium, Peacock Blue, opaque, barrel-shaped garter bead of simple construction. The glass has fine lines running lengthwise with the bead, giving it a texture reminiscent of stripped sugar cane. 1,324 specimens. Tumbled.

Type No. 45. Small, white, opaque donut-shaped garter bead of compound construction. The inner layer has a porcelain-like texture, and the outer layer is clear, but has a slightly frosted appearance, probably due to age. 4 specimens. Tumbled.

Type No. 46. Small, Peacock Blue, opaque, donut-shaped garter bead of simple construction. The glass of this bead has a sugar cane-like texture. 13 specimens. Tumbled.

Type No. 48. Small, dark Bluebird Blue, translucent, donut-shaped garter bead of simple construction. 489 specimens. Tumbled.

Type No. 50. Small, black, opaque, donut-shaped garter bead of simple construction. The glass is porcelain-like in texture. 2 specimens. Tumbled.

Type No. 51. Small, red, opaque (outer layer), donut-shaped garter bead of compound construction. The outer layer of glass is brick red, and the inner layer is a translucent light green. This bead is generally referred to as "Cornaline d' Aleppo." 1 specimen. Tumbled.

Type No. 60. Small, Gobelin Blue, opaque tube-shaped (bugle) garter or necklace bead of simple construction. The

glass is porcelain-like in texture. 1 specimen. Tumbled.

From the types found in these two burials, both burials were made between 1700 to 1740 A.D. It was in 1719 that La Harpe was in this area.

TEST TRENCH

A test trench 10 feet long, 2 feet wide, and 30 inches deep was made to the west of the burials. The site had never been cleared of timber and the ground was covered with pine needles. All artifacts were *in situ*, as the area was not disturbed.

The top 6 inches contained sherds of the following types: Emory Punctate-Incised, Natchitoches Engraved, Avery Engraved, Simms Engraved, Nash Neck Banded, and McKinney Plain, as well as numerous plain sherds. One will recognize the first two types as belonging to the Historic Caddo, and the other types as belonging to the Texarkana-McCurtain Focus of the Fulton Aspect of the Caddoan area.

The next 8 inches down produced sherds of the following types: Crockett Curvilinear Incised, Hickory Fine Engraved, Haley Complicated Incised, Haley Engraved, as well as several plain sherds. One will recognize the above types as belonging to the Alto and Haley Foci of the Gibson Aspect of the Caddoan Area.

Near the bottom of the pottery zone at about 13 inches were found 6 sherds of Coles Creek Plain and Coles Creek Incised.

From 14 inches down to a depth of 30 inches, only a few chips of flint and three dart points were found. Two of the dart points were of the type Edgewood and one was a large Gary in type.

It appears from the results of the test trench that the site was first occupied during the Archaic period. This oc-

cupation, however, was very sparse.

The initial pottery-producing occupation occurred during the Coles Creek period. Subsequent occupations were of the Alto and Haley Foci of the Gibson Aspect. Of course, there is the possibility of some type of interaction between Alto and Haley. Following these occupations was a Texarkana-McCurtain Focus (Fulton Aspect) occupation and finally an Historic Caddo one. Thus, it appears the site was occupied by man over a long time period.

In conclusion, one of the most important pieces of data from this site is the use of French Vermillion in decorating pottery.

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Lithic Technology In Northeast Texas

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ABSTRACT

Attention is drawn to the importance of lithic analysis in revealing behavioral correlations. Progress along this line is being made especially on the Paleo-Indian and Archaic traditions in East Texas.

When presented with the idea of doing an update on the study of stone technology in Northeast Texas, I knew that I was taking on a multi-facted problem. Considering the problem facing Clarence Webb in his 1958 synthesis of the entire cultural and environmental history of the area, one can only wonder how he managed (Webb 1960).

Any analysis of stone tool manufacture and use is a relatively new thing, and the researcher is tempted to assume certain feelings of pompous superiority over his mastery of mid-1970s methodology. This feeling quickly melts when that individual works through the literature being published about the time of Webb's summation in 1958 and later to about 1965. I can only say of the decade between 1955 and 1965—how did they find the will to continue with flaked stone studies in the face of uncertainty, absence of guidelines, and no glory? What progress was made must be credited to the University of Texas and their amateur co-workers. Caddoan ceramics, mounds, houses and projectile points were being treated by Oklahoma, Arkansas and Louisiana, but the other tools were, relatively speaking, being ignored.

Anything else that I could say would be repeating the summation of Dee Ann Story's paper on the East Texas Archaic (Story 1976). She completely up dates the Archaic excavations and developments after 1960.

Between 1958 and the opening of the anthropology department of Southern Methodist in 1964, only three or four persons in the South-Central United States had any acquaintance with a standard morphological typology for stone tools or with stone technology. The resistance to proven archeological techniques of the Old World was to be expected and it held progress at bay for much too long. In early 1977 we have not had enough time for thoughtful archeology to achieve its potential, seeing that it has had less than 10 years in which to deliver.

What is at stake in modern archeology is the ability of science to use the stone tools, their processes of production, and their use as the raw material of interpretation. In other words, can we do with flaked stone what earlier scientists and historians did with ceramics, architecture and art? No, these are not exclusive categories. But we cannot treat essentially

utilitarian tools exactly as we would art objects. Stone tools took part in almost everything that the prehistoric people did in their everyday affairs. These tools will eventually inform on those activities, but it takes much effort and patience to decipher the message.

By the 1960s it had become rather obvious that flaked stone tools other than projectile points needed to be classified and/or described so that a more complete picture of the material remains could be reported. For a brief period the typologists plunged down a dead-end path. The objective was clearly to set up an orderly division of attribute clusters that would permit the reader to "see" what was present in the collection. Each excavator set up his private system that was peculiar to his one site. The system had no aim beyond description and was not compatible with any other system for purposes of comparison. The key terminology ran to letters and numbers, type A7, B3, etc.

Partly overlapping this development was a brief period of attempts at standardization. Unfortunately, the otherwise sober and sincere scientists became giddy with alliteration. We read of Bristol bifaces, Perkin pikes, Guadalupe gouges, and others. Silly sounding or not, these named artifacts were the result of a felt need for intersite communication, a standardization of more parts of typology. We do not know what would have happened if the historic index typology (Steward 1955) had been extended to all tools, but I am awfully glad that morphological typology (Bordes 1961) arrived in time. The latter is logically suited to utilitarian tools just as the former works better with art forms, best with ceramics, and not quite so well with projectile points.

Southern Methodist University cannot take credit for introducing morphological typology to the study of lithics. The anthropology department did begin, however, with a team of American-trained and Old World-experienced ar-

cheologists. Led first by Ed Jelks, then James Sciscenti, and since by Alan Skinner, the SMU Contract program has stressed cultural behavior. The University of Texas has tended slightly more toward environmental reconstruction. Local resistance was light, but adjustments had to be made. Much of the Old World methodology had to be modified, and much of the existing Texas approach needed to be incorporated.

Pleasing results have begun to appear within the Caddoan area since the early 1970s. These represent a shift from classification toward description of behavior. Site reports and survey summaries are now including not just lists of lithic tools but are attempting interpretive analyses of intrasite clusters of tools, debris and debitage. These, in time, will lead to the discovery of tool kits, work areas, and the various divisions of labor (Struever 1971).

There are two serious problems related to stone technology in the area. First, there is little cryptocrystaline rock available as raw material. Pebble chert is abundant, but it will not permit quality flaking. Typology is thus made quite difficult, and wear patterns are all but unreadable. Even the debris fails to lend itself to reliable interpretive analysis. The second problem relates to the amount of attention paid to lithics at those sites where ceramics and architecture were present. If ethnic affiliations, temporal position, and activity specific areas could be determined from nonlithic data, then why should one have worked at the difficult problem of complex typologies, technological analyses, etc. for chipped stone? It was time consuming, frustrating, and simply was not done.

Thus, when we came to sites without ceramics and architecture, the methodology for interpretation of behavior was lacking.

The poor quality of raw material is obviously not the fault of archeologists working in Texas, nor can I see any reason to

disparage the work at Caddoan sites. During the same time period I neither saw nor did anything different in the Southwestern United States. If there is any carping to be done, it would be a minor complaint that archeologists in Texas have a tendency to reject outside ideas until they have clearly proven themselves. This tendency has had mixed results. Few sites have been destroyed in attempts to test academic hypotheses, but not many humanistic reports have appeared either.

Story (1976) cites a complaint by McCormick (n.d.) that there are problems dividing the theoretically desirable from the realistically possible. I am compelled to answer that while we may not be able to do much about the time-cost factors, we certainly may improve our techniques of interpretation.

One of our lingering problems is still typology. We often fail to communicate, and we often use the wrong laboratory approach to seek certain answers. The ultimate example in clear thinking about typology is still "Types of Types", (Steward 1954). We still have respected archeologists referring to a Folsom point as a cultural type, and in the next breath calling it a functional type. We also have some of the same people saying that there is no difference between debris and debitage.

Another problem related to chips and flakes is the concept of why one separates them at all. The reasoning of the 1960s was description. The aim in the 1970s has become more processual and interpretive. Classification criteria which merely aid categorization (re: flakes have bulbs and chips do not) do nothing toward understanding. We can show, especially in the Archaic, that people used as many unretouched flakes as they did finished tools.

Much of what has been said about the new archeology is untenable in the foreseeable future. We are not going to find the laws of human behavior, at least until we have some

ethnohistory. Many researchers are just getting into it, but ethnohistory does not consist of sequences of foci each characterized by certain material remains. The kind of history that we need must concern itself with behavioral events, their causes, and their effects. This will come about soon.

Meanwhile, what has happened in the years since Webb's summary? For the pre-projectile point period, the archeological fringe is still crying "wolf" and the rest of us are bored. They produce no diagnostic tools, no sites and much noise.

The Paleo-Indian period still seems to be elusive in Northeast Texas. A really productive site has yet to be found although isolated points continue to be reported. Transitional Paleo-Archaic or early Archaic stages are now well known with base camps in Texas and Louisiana (Webb *et al.* 1971). The John Pearce site shows how the materials at the Wolfshead site should divide in a stratigraphic sense (Duffield 1963). The assemblages are very similar and are linked in some manner to the Dalton Complex that stretches continuously to North Carolina.

Story (1976) reports practically no progress on Archaic interpretation since the Webb summary. She feels that this is because of nebulous and static thinking about the Archaic of East Texas. I can only agree that until very recently, no models were presented for testing and no efforts were made to look for an early woodland period. What if some of the lithic sites, labeled as Archaic, turn out to be Poverty Point, Adena or Hopewell hunting/gathering seasonal sites? Despite these negative feelings, progress is being made with numbers of Archaic sites.

Without the systematic investigation of Caddoan sites, we would be hard put to interpret some of the flaked stone portions of seventh and eight century sites. That is to say, while good analytical work on ceramics, architecture and

general behavior at major sites such as George C. Davis (Story, in progress) and the Resch sites (Webb *et al.* 1969) has been done, the interpretive work on flaked stone does not stand on its own. For the Caddoan era in Texas, we can only read that they owned many different forms of flaked stone tools. As far as any interpretation of form and function, we must wait a bit.

My strongest feeling about the last 20 years of lithic studies in northeast Texas is that we are very close to a breakthrough. Story's (1976) summation of Archaic studies is too modest. As far as lithic technology is concerned, the greatest progress has been made in Archaic studies, particularly in Paleo-Archaic continuity and in work on the entire assemblage. She is right, of course, on the greater overall progress of the Caddoan studies but not because of the work on lithic technology.

Let us keep morphological typology distinct from "cultural" classification and both clearly separate from functional analysis. Let us test our statements about activity by intense studies of wear patterns and of specific debris. Let us test our apparent clusters and spacings with appropriate statistics (Woodall 1969). Let us create time-space units that could be compatible with reality. All of these are being done in some areas, but the activity and socio-political interpretation is still very weak.

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Caddoan And Poverty Point Archaeology: Essays In Honor Of Clarence Hungerford Webb

Part III
Poverty Point Archaeology

LOUISIANA ARCHAEOLOGY 6, 1980

Poverty Point Period Social Organization In The Yazoo Basin, Mississippi: A Preliminary Examination

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ABSTRACT

Previous models proposed to explain Poverty Point Period florescence share a common weakness: their data base is limited to a small number of the larger Poverty Point sites [primarily the type site in northeastern Louisiana]. This lack of regional perspective has hampered the deduction and evaluation of decisive test implications. Quantitative analyses of data derived from published reports and recent surface collections have been used in evaluating inter-site distributional patterns within the Yazoo Basin in western

Mississippi. This pilot study indicates that, although there is a near identity in the artifact assemblages from the Yazoo Basin and northeastern Louisiana, there are suggestions that the structural relationships within the two regions are quite different. It appears that Yazoo Basin Poverty Point populations may not have attained chiefdom level social organization.

INTRODUCTION

Arguments for complex social organization during the Poverty Point period have, for the most part, been restricted to data derived from the type site for the culture, the Poverty Point site in northeastern Louisiana. Large and elaborate earthworks combined with an impressive array of non-utilitarian artifacts, exotic in both workmanship and material, have led researchers to the conclusion that the Poverty Point site was a paramount ceremonial center controlling long distance trade and a local support zone. A complex of traits thought to be characteristic of the Poverty Point culture has been defined on the basis of the Poverty Point site assemblage. Webb (1968: Table 2) codified these traits and listed those sites which display a sufficient number of traits to be considered "definite or possible" Poverty Point sites. Recently Webb (1977: Table 15) has expanded this list to include 70 sites located throughout most of the Lower Mississippi Valley and portions of coastal Louisiana. Webb (1968, 1977) noted that these sites occur in clusters which appear to be spatially distinct. Gibson (1973) designated these clusters as "interaction basins" with the implication that each represents a separate socio-economic unit.

Early in the research on Poverty Point sites, the precocious rise in organizational complexity was seen as a result of interaction between the more sophisticated Hopewell groups of

the Midwest and Archaic peoples in the Mississippi Valley (Ford, Phillips, and Haag 1955:155; Ford and Webb 1956:129). With additional radiocarbon dates for both complexes, it became evident that Poverty Point preceded Hopewell. Webb (1968:318) and Ford (1969:181) then viewed the Poverty Point development as a result of the introduction of a group of traits from Mesoamerica. These traits included mound building, centralized ceremonialism, various specific artifact types, and, by inference, agriculture.

Recently Gibson (1973, 1974) has proposed a reinterpretation of the Poverty Point culture. Using an ecological point-of-view, he argues that a chiefdom level social organization arose in the Poverty Point interaction basin as a response to an unusual and favorable environmental setting. According to Gibson's model, the Poverty Point site represents a regional center of chiefdom level social and economic control resulting from an intensification of existing hunting and gathering patterns in an advantageous environment defined by the boundary of two major physiographic zones. This interpretation is based, for the most part, on an analysis of extensive surface collections from the Poverty Point site. Only one other site in the Poverty Point interaction basin has been excavated. Gibson is forced to rely on surface collections from other sites in the area in evaluating the regional implications of his model.

In fact, Poverty Point period research has been largely restricted to major sites thereby weakening attempts to define the nature of the relationship between the presumed ceremonial centers and their hinterland. It is the purpose of this paper to provide a preliminary test of the regional implications of chiefdom level social organization. The analysis will center on the site cluster located in the Yazoo Basin of western Mississippi. Additionally, the developmental aspects of indigenous origins theory will be examined.

Webb (1977) tabulates the presence or absence of 38 traits for 33 sites in the Yazoo Basin. Funds provided by the Graduate School and the Center for Archaeological Research at the University of Mississippi have made it possible to revisit five of these sites in order to conduct surface collections. The Mississippi Archaeological Survey loaned surface collections from a number of sites. The data derived from these collections will be combined with that presented by Webb in an evaluation of Poverty Point period social organization in the Yazoo Basin.

A MODEL OF POVERTY POINT DEVELOPMENT AND SOCIAL ORGANIZATION

Gibson's (1973) reconstruction of Poverty Point social organization relies heavily on the evolutionary scheme outlined by Service (1962) in conjunction with a review of ethnographic accounts of aboriginal groups (primarily Natchez) in the Lower Mississippi Valley. His arguments for indigenous development involve the assertion that the Poverty Point culture had reached the chiefdom level of social organization. In his original statement, Service did not develop the archaeological implications of his scheme. However, Sanders and Price (1968) were quick to see its potential in an ecologically based explanation of the evolution of culture in Mesoamerica. Combining these and other sources, Gibson (1973:88-116) outlines a set of five major chiefdom level test implications appropriate to the Poverty Point data.

The first of these chiefdom level characteristics is demographic. According to Gibson (1973:115) chiefdoms range in size from 1,000 to 10,000 people and display specific population densities. The second expectation is site stratification. Each chiefdom should display centralized

control of economic, political, and social power. This will be expressed in the settlement pattern by a single, paramount site surrounded by small, subordinate sites. This leads to the third test implication, central place redistribution. Materials, both local and foreign, are redistributed throughout the chiefdom's interaction basin from the paramount site. The fourth factor is ranked status and the last is a subsistence technology involving craft specialization and ecological diversity with labor divisions following kin lines.

Gibson (1973:117-201) developed and tested the archaeological implications of these characteristics concluding that the sites in the Poverty Point interaction basin represent the remains of a chiefdom level group during at least one phase of their occupation. Moreover, he argues that this stage was achieved independent of external influences. A key element in his developmental scheme is a rich environment characterized by the intersection of two diverse biotic zones in combination with physiographic circumscription. These factors are believed to have led to population growth, local exchange, sedentary villages, centralized control, and ranked status. The model relies primarily on work by Carniero (1970) and Sanders and Price (1968).

There are two aspects of Gibson's thesis which need to be emphasized. In the first place, three and probably four of the five chiefdom characteristics may be tested most readily by reference to regional distributional data. Gibson, limited in his analysis to two sites, Terral Lewis and Poverty Point, is unable to examine the strongest test implications of chiefdom level demography, site stratification, and central place redistribution. Full evaluation of his ecological model for Poverty Point subsistence awaits excavation data from other sites in the Poverty Point interaction basin. Secondly, the sharp environmental contrasts which play a critical role in Gibson's developmental scheme are not present in the Yazoo

Basin. If chiefdom level social organization was achieved in this area of the Mississippi Alluvial Valley, a reevaluation of the Gibson model will be required.

THE YAZOO BASIN

There are a number of factors which make the Yazoo Basin a strategic setting in which to examine the Poverty Point culture. Slightly less than half of the known sites assigned to the period are found in this area. Two out of the three major excavations, Jaketown and Teoc Creek, are located in the Yazoo Basin. As was noted above, the lack of dramatic physiographic contrast makes the region an exception to the environmental setting common to most Poverty Point sites. Finally, there is an apparent association between Poverty Point sites and the second to last meander belt of the Mississippi River. This may provide the possibility of refining ecological and chronological interpretations.

Fisk (1944) and Saucier (1974) outline the major features of the Yazoo Basin as a physiographic zone. The region (Fig. 1) encompasses nearly 200 miles of the eastern portion of the Lower Mississippi Alluvial Valley stretching from Memphis to Vicksburg. Its greatest width, 60 miles, occurs near the latitude of Greenwood, Mississippi, from whence it tapers to a point to the north and to the south. The western boundary of the basin is the Mississippi River while the eastern bluffs of the Mississippi Valley form the opposite limit. The distribution of Poverty Point sites within the basin in somewhat more restricted, measuring 130 miles north-south and 40 miles east-west.

The dominant topographic features of the Yazoo Basin are the two meander belt ridges which trace abandoned courses of the Mississippi River. These ridges are elevated above the surrounding landscape by the natural levee and point bar

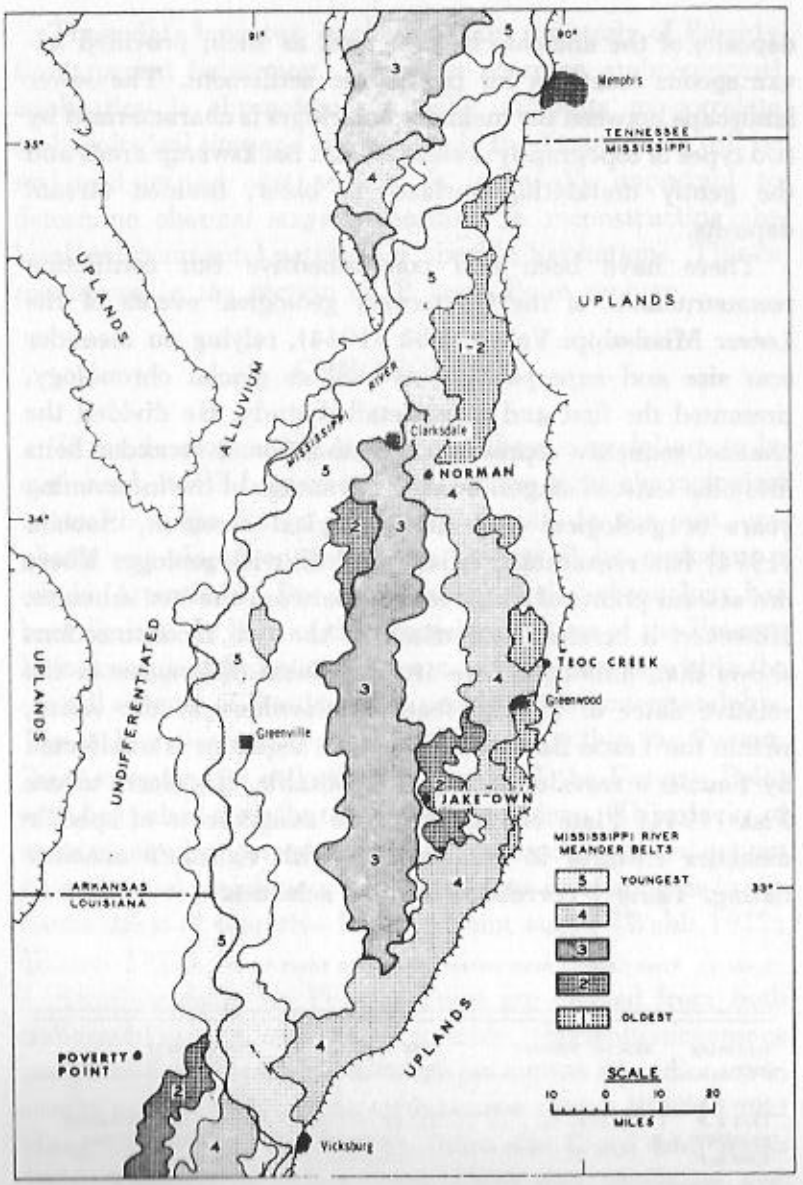

FIGURE 1. The Yazoo Basin
(After Connaway, McGahey and Webb 1977: Fig. 7)

deposits of the ancient channels and, as such, provided advantageous locations for prehistoric settlement. The lower landscape between the meander belt ridges is characterized by two types of topography: relatively flat backswamp areas and the gently undulating surfaces of older, braided stream deposits.

There have been two comprehensive but conflicting reconstructions of the Quaternary geological events of the Lower Mississippi Valley. Fisk (1944), relying on meander scar size and superposition as well as glacial chronology, presented the first and most detailed study. He divided the channel sequence represented by abandoned meander belts into nine lettered stages. Taking advantage of the intervening years of geological and archaeological research, Saucier (1974) has reexamined Mississippi alluvial geology. There are several points of disagreement between the two schemes. However, a careful comparison of the two reconstructions shows that, although there are significant differences in the relative dates of alluvial features elsewhere in the valley, within the Yazoo Basin Fisk's relative sequence is unaffected by Saucier's reevaluation. It is profitable, therefore, to use Fisk (1944: Plate 15) for the stage assignments of specific meander features in combination with Saucier's absolute dating. Table 1 correlates the two schemes.

Table 1. River Channel Associations within the Yazoo Basin

Beginning Date	Saucier Meander Belt Number	Fisk Channel Designation	Meander Belt Ridge
9000 B.P.	1	A3	Yazoo
7500 B.P	2	C1	Yazoo and Mississippi
6500-6000 B.P.		C2(Early)	Yazoo and Sunflower
6000 B.P.	3	C2(Late)	Sunflower
		D	Sunflower
4700 B.P.	4	H	Yazoo and Sunflower
4000 B.P			Yazoo and Mississippi
4000-3500 B.P.	5	1-20	Mississippi

These data have two implications for the study of Poverty Point period habitation. The most common archaeological application is chronological. Major attempts to correlate archaeological sites and river stages in the Yazoo Basin will be reviewed in the next section. It is equally important to determine channel stage association in reconstructing the local environmental setting for specific habitations. This is considered in the section on Poverty Point ecology.

CHRONOLOGY

If the developmental aspects of Gibson's model are to be evaluated, it will be necessary to achieve tight chronological control over the Yazoo Basin site sample. In the past, emphasis was placed on dating the Poverty Point period as a whole. Attention to fine scale, within period chronology has been limited. In light of the precocious nature of the Poverty Point complex, the intitial concern with placement within the overall scheme of Southeastern prehistory is understandable. The lack of clear-cut vertical stratigraphy within the Poverty Point components at both Jaketown and the Poverty Point site has also contributed to the problem. This lack of stratigraphy has forced a reliance on absolute dates, extinct river channel association, and assemblage level analysis in the formulation of tentative Poverty Point stages (Webb 1977; Gibson 1973).

Absolute dates for Poverty Point are derived from both radiocarbon tests and, more recently, thermoluminescence assays of fired clay materials. Major reports of radiocarbon results are the monographs on Jaketown (Ford, Phillips, and Haag 1955:154), the Poverty Point site (Ford and Webb 1956: Table 9), and Teoc Creek (Connaway, McGahey, and Webb 1977:106). Thermoluminescence determinations are reported by Weber (1970) and Huxtable, Aitken and Weber

(1972). Recent compilations of dates from both sources are Gibson (1973: Table 1) for the Poverty Point site itself and Weber and Webb (1970) for all Poverty Point sites. Summarizing these data, there are two points which are relevant to the present discussion. The period lasted nearly 1,000 years (from about 1500 to 600 B.C.) allowing ample time for internal development. Furthermore, one site, Teoc Creek, gives consistently early dates suggesting that the Teoc Creek material may represent an unmixed early Poverty Point assemblage. The radiometric dates for some areas of the Poverty Point site also provide the opportunity for defining horizontal variation which may be chronologically significant (Gibson 1973:74).

Shortly after its publication, the Fisk channel chronology was applied to the problem of archaeological dating in the initial report of the Lower Mississippi Valley Archaeological Survey (Phillips, Ford and Griffin 1951:295-306). All three of the major Poverty Point period site reports contain discussions of river channel association (Ford, Phillips, and Haag 1955:15-24; Ford and Webb 1956:19-21; Saucier 1977:93-105). The earlier correlations, depending on Fisk's analysis, were handicapped by compressed chronology in both archaeological and geological dating. As absolute dating became available, it became evident that some of the correlations between archaeological and geological events were not as positive as they first appeared. For example, the Poverty Point component at Jaketown was thought to have been contemporaneous with the active flow of the C1 channel in the vicinity (Ford, Phillips, and Haag 1955:18-24). Recently, the security of this association has been questioned (Phillips 1970:528). And rightly so, for, if Saucier's dates are correct, this stage preceeded the Poverty Point occupation at that site by at least 5,000 years.

There still remains the possibility of association between

Poverty Point sites and an active course of the Mississippi River in the Yazoo Basin. According to Saucier (1974:22), his No. 4 meander belt abandoned the Yazoo Meander Belt Ridge between 2,000 and 1,500 B.C. Lower levels in the Teoc Creek midden appear to have been deposited directly upon a natural levee of the Mississippi River during a period when the active channel flowed only a few miles to the west (Saucier 1977:97-99). Thus the radiocarbon dates from Teoc favor the later date for the abandonment of meander belt No. 4. This meander belt, equivalent to Fisk's Stage H (see Table 1), is the setting for 17 of the 34 Yazoo Basin sites under consideration in this paper.

In the implementation of his developmental model, Gibson (1973:76-87) provides a four part chronological breakdown of the Poverty Point period. His analysis relies primarily upon

Table 2. Poverty Point Traits as Defined by Webb (1977)

All Traits	Late Traits	Non-Utilitarian Traits
Poverty Point objects		
Tubular pipes	X	X
Clay figurines	X	X
Stone vessels		
Microflints		
Rough green hoes, celts		
Hematite, magnetic plummets		X
Jasper beads, ornaments	X	X
Consistent projectile points		
Consistent chipped tools		
Adzes		
2-hole gorgets		X
Pendants, polished stone		X
Boatstones		
Bar weights, tablets		
Other stone beads		X
Sandstone saws		
Galena		X
Quartz		X
Other plummets		X
Fiber-tempered pottery	X	
Mortars, mullers		
Pitted stones		
Groundstone celts		
True blades	X	

horizontal distributional patterns at the type site which are presumed to have chronological significance. Assemblage level differences in relative frequencies of raw material, projectile points, and other artifacts types are used to differentiate each phase.

Although Gibson (1973:74) cautions against uncritical application of his scheme outside the site cluster surrounding the Poverty Point site, his data do offer a base from which to examine chronological patterns in the Yazoo Basin. Five traits (Table 2) have been abstracted from Gibson's analysis as representing later phases at the Poverty Point site. If the

Table 3. Yazoo Basin Poverty Point Sites, Composite Variables and River Channel Associations (See Table 11 for explanation of abbreviations)

Site	Belt	Stage	Total	Time	Non-Util.	Util.	Status
JKTN	YAZOO	C1	20	3	6	14	.43
SKLK	YAZOO	C1	5	0	1	4	.25
NCHL	YAZOO	C1	4	0	1	3	.33
MCGY	YAZOO	A3	8	2	3	5	.60
MPHY	YAZOO	C1	7	0	1	6	.17
TCRK	YAZOO	H	17	2	5	12	.42
NEIL	YAZOO	H	11	1	1	10	.10
STBK	YAZOO	H	8	1	1	7	.14
FALL	YAZOO	H	13	0	6	7	.86
CLRD	SUNFL	H	4	0	0	4	.00
SMTH	YAZOO	H	8	0	2	6	.33
JACK	YAZOO	A3	4	0	0	4	.00
KNLK	SUNFL	D	5	0	2	3	.67
HEBE	BKSWP	C2	10	0	4	6	.67
ASCK	SUNFL	D	8	2	4	4	1.00
MCOY	YAZOO	C1	8	1	3	5	.60
CHTW	BKSWP	D	11	1	7	4	1.75
BLKE	BKSWP	C1	6	0	4	2	2.00
SVGE	MISS	H	8	0	1	7	.14
ABBY	YAZOO	H	3	0	0	3	.00
ISLA	SUNFL	D	6	0	4	2	2.00
MBEN	YAZOO	H	3	0	0	3	.00
WLLR	YAZOO	H	5	0	0	4	.25
SVRY	SUNFL	H	2	0	0	2	.00
NRMN	YAZOO	H	19	3	8	11	.73
TKTT	YAZOO	H	13	1	4	9	.44
JGRG	YAZOO	C1	4	1	0	4	.00
GRNR	YAZOO	H	5	0	0	5	.00
MDTH	YAZOO	H	4	0	0	4	.00
PAGE	SUNFL	D	6	0	2	4	.50
GOSS	SUNFL	D	3	0	0	3	.00
SWLK	MISS	H	6	0	1	5	.20
BRNR	YAZOO	H	7	0	4	3	1.33
PAXT	YAZOO	C1	9	1	4	5	.80

total number of late traits is considered to be an index of chronological position within the Poverty Point period, early sites should have a time index value of zero while late sites should approach five.

It is at first disconcerting to note (Table 3) that Teoc Creek, a site generally agreed to be early (Gibson 1973:39; Webb 1977:21; Connaway, McGahey and Webb 1977:116), yielded two of the five late Poverty Point traits. Closer reading of the site report (Connaway, McGahey, and Webb 1977:73, 88) shows the late traits to be predominantly surface finds with no clear association with the earlier deposits. This immediately points up one of the serious deficiencies of the Yazoo Basin data set, a heavy reliance on surface collections. With this limitation in mind, two chronological expectations of the Yazoo Basin site distribution will be examined: 1) regional centers will tend to be late and 2) sites associated with the State H meander scars may have been occupied before the Mississippi River shifted into its present meander belt and should therefore be early.

The two largest site collections in the Yazoo Basin came from Jaketown and Norman, at the ends of the north and south areas. The size and variety of the Poverty Point assemblages from these two sites prompted Webb (1977:8) to suggest that Jaketown was a "major regional center" with Norman as a possible late Poverty Point subcenter. He would add Savory to the latter category, presumably on the basis of a semi-circular arrangement of mounds which may relate to the Poverty Point occupation at that site (Phillips 1970:338-339). Jaketown and Norman each have the maximum number of late traits present in any site in the Yazoo Basin (Table 3) lending some measure of support to Gibson's developmental model. The Savory collection, on the other hand, contains no late Poverty Point artifact types. However, the Savory sample is quite small (Phillips 1970:339).

The Yazoo Basin sites may be broken into five groups on the basis of association with Fisk's lettered channel stages. Three of these groups are sufficiently large to allow some generalization, those associated with Stages C1, D, and H. It may be seen (Table 4) that the 17 sites associated with Stage H have the lowest average number of late Poverty Point traits of the four groups. This fits the expectation that earlier sites may have been associated with this channel while it was still active. However, as the standard deviations indicate (Table 4), these results must be considered tentative. There are also some late assemblage sites associated with Stage H meanders, the Norman site for example.

Table 4. Mean Time Index for Channel Associations

Channel	N	Mean	S.D.
C1	8	0.75	1.04
D	6	0.50	0.84
H	17	0.47	0.87

ECOLOGY

The fact that the Norman site is situated on the edge of a meander which was quite likely abandoned at the time of Poverty Point occupation at that site points to one of the primary problems in developing a settlement-subsistence model for the Poverty Point period in the Yazoo Basin. Unfortunately, it is not possible to place direct reliance on present-day physiographic settings. The Yazoo Basin in the period following the abandonment of the Yazoo Meander Belt at the end of Fisk's Stage H underwent drastic physiographic changes (see, for example, Saucier's [1977] reconstruction of the Teoc Creek vicinity). Two major factors are involved: the

natural evolution of abandoned meander scars and the relocation of local drainage.

Although the rate of change following channel abandonment is variable, depending on such factors as the nature of the cutoff and location of local drainage, it may be proposed as a working hypothesis that contemporaneous sites located on meanders which were abandoned at the same time will have been adapting to similar environments. Therefore, artifact assemblages from sites associated with a specific meander stage should be similar.

As an evaluation of the similarity of site assemblages from each meander stage group, within and between group comparisons were made using the nominal scale data presented by Webb (1977: Table 2) and an appropriate measure, the simple matching coefficient (Sneath and Sokal 1973:132). This metric expresses the number of agreements as a proportion of the total number of variables. Absolute agreement would give a value of 1.00. The matching coefficient between two sites which share 20 of 25 traits would be 0.80.

Once again the number of groups under consideration must be limited because of sample size. A FORTRAN IV program was written to compute the average simple matching coefficient for all within group paired comparisons and all group/nongroup comparisons.

Table 5. Mean Matching Coefficient for Channel Groups

		Within Group Comparisons		Non-Group Comparisons	
Channel	N	Mean	S.D.	Mean	S.D.
C1	8	0.61	0.17	0.65	0.15
D	6	0.72	0.08	0.68	0.13
H	17	0.67	0.16	0.66	0.15

If the site assemblages associated with specific river channels are homogeneous as a group, the within-group comparisons should show a greater mean matching coefficient than between-group comparisons. This relationship is only barely attained in two of the groups (D and H) and is actually reversed in the third (Table 5), suggesting that specific river stage association might be too narrow a perspective. It seems likely that environmental factors critical in site location would include ecological features from the general area as well as those in the immediate locale. Meander belt association provides a broader setting. Twenty-nine of the sites in the data set are associated with one or the other of the two meander belts in the Yazoo Basin. Mean matching coefficient values for these two groups (Table 6) show sites within the Sunflower Meander Belt to be the most homogeneous of the groups so far examined. On the other hand, Yazoo Meander Belt sites are among the most diverse.

Table 6. Mean Matching Coefficient for Meander Belt Groups

		Within Group Comparisons		Non-Group Comparisons	
Meander Belt	N	Mean	S.D.	Mean	S.D.
Sunflower	7	0.79	0.08	0.69	0.14
Yazoo	22	0.64	0.16	0.67	0.14

The relative homogeneity of the Sunflower Meander Belt sites may be the result of two factors which distinguish it from the Yazoo Meander Belt. In the first place, the two Fisk stages responsible for the formation of the Sunflower Meander Belt, C2 and D, are immediately sequential thereby reducing environmental variability resulting from differences in time of channel abandonment. Secondly, the major modern

drainage of the area, the Sunflower River, flows generally outside of the meander belt, eliminating the effect of local drainage. In contrast, the Yazoo Meander Belt contains the Coldwater, Tallahatchie, Yoncona, Yalobusha and Yazoo Rivers.

One final line of reasoning supports the argument that the environmental variables critical in site location extend beyond the immediate setting. Norman and Jaketown, the two largest Yazoo Basin Poverty Point sites with the most diverse assemblages, are located at the two intersections of the Sunflower and Yazoo Meander Belt Ridges (Fig. 1). The implication is that these locations are strategic in allowing convenient access to areas of maximum environmental variation within the study area.

While these data suggest in broad outline the type of approach which is likely to be fruitful in reconstructing the Poverty Point period ecology of the Yazoo Basin, the limitations of the above analysis are evident. Foremost among these is the structure of the data set. More sensitive statistics could be used if the variables were ratio level rather than nominal level. Moreover, a review of Table 2 will show that traits are divided among the variable categories in a way that makes it difficult to detect subsistence activity. Finally, it has been necessary to ignore chronology, a likely source of variation in a settlement model. Obviously, any attempt to reconstruct Poverty Point period human ecology will require more refined measures of chronology and prehistoric activity.

CENTRAL PLACE REDISTRIBUTION

Two aspects of the economic implications of the chiefdom model are readily tested from a regional perspective. If there is centralized control of the distribution of exotic material, access to foreign goods should be dependent upon ranking

within the interaction basin and not distance from source. Secondly, since redistribution inforces exchange of ideas as well as things, there should be a relative technological uniformity within the basin.

Recently, the importance of the redistribution of local goods in ranked societies has been questioned on the basis of a reevaluation of ethnographic data (Earle 1977; Peebles and Kus 1977; Steponaitis 1979). These arguments do not, however, deny the importance of centralized control of intersocietal trade in exotic goods. Thus, the test for redistribution in this study, like most such tests, will concentrate on long distance exchange.

There have been several studies of the distribution of raw material which examine the effect that distance from source has on relative concentration. Most examples involve material which has been related to its geological source by means of trace element analysis (Renfrew, Dixon, and Cann 1968; Pires-Ferreira 1975; Johnson 1976a; Luedtke 1976). Renfrew (1975) developed a set of models which categorize the kinds of distributions which would be expected given different levels of social organization. These models have been tested using data from Mesoamerica (Winter and Pires-Ferreira 1976; Johnson 1976b) and North America (Luedtke 1976).

Three factors are critical to success in studying raw material distribution. First, the material must be identifiable, either by geochemical means or through visual inspection. Secondly, the material must have a restricted geological source. Finally, the data base must be regional. Of the various exotic materials found at Poverty Point sites in the Yazoo Basin, novaculite is easily identified and has a reasonably restricted source. Conn (1976) suggests that the region around Hot Springs, Arkansas, was the major quarry area for this material. In the thirteen surface collections available for

restudy, the proportion of novaculite in the debitage ranges from 42.3% to zero (Table 7). There is a general, negative relationship between distances from Hot Springs and percentage of novaculite, yielding a correlation of -0.54. That is, the further the site is from the source, the smaller the proportion of novaculite in the assemblage. The likelihood of obtaining this high a value if there were no relationship between the two variables is less than one in twenty. It appears, therefore, that, contrary to the expectations of the chiefdom model, distance is an important factor in the distribution of novaculite in the Yazoo Basin during the Poverty Point period. The relationship between site ranking and novaculite will be examined in the next section.

Table 7. Novaculite Debitage and Distance from Source

Site	% Novaculite	Distance (Miles)
CLVR	42.2	134.2
PAGE	17.9	143.6
GOSS	12.5	140.5
CHTW	3.8	140.6
SWLK	3.6	145.4
JGRG	2.4	154.7
HMSN	2.3	142.7
JKTN	1.8	168.6
TKTT	1.5	149.0
NRMN	0.5	149.0
PAXT	0.1	166.9
TCRK	0.0	178.2
GRNR	0.0	147.1

Central place redistribution should foster uniformity in technological attributes. Blades struck from prepared cores were among the early recognized Poverty Point period characteristics (Haag and Webb 1953). There are three known sites in the Yazoo Basin which yield prepared cores, Jaketown, Paxton Brake, and the Carson Mounds. Surface collections were obtained from each site and a preliminary

technological analysis has been made. The Carson material proved to fall outside the technological tradition represented by material from the other two sites showing strong resemblance to Early Mississippian blades from Cahokia (Mason and Perino 1962; Morse 1974) and Zebree (Morse 1975).

The remaining two blade assemblages came from Jaketown and Paxton Brake, two sites less than four miles from one another. The Jaketown industry has been as thoroughly described as any of the Poverty Point lithics (Haag 1951; Haag and Webb 1953; Ford, Phillips, and Haag 1955:137-150). The Paxton Brake cores are illustrated and briefly discussed by Phillips (1970:399) who is somewhat uncomfortable about including Paxton Brake in his Jaketown focus. This is based partially on the absence of clay balls and also upon morphological differences between the cores from the two sites.

The fall 1978 surface collection of Paxton Brake included no clay balls. However, it did recover a jasper bead fragment, a magnetite plummet, and some Poverty Point period projectile points as well as a large sample of cores, blades, and blade industry debitage. An initial technological analysis of the Paxton Brake and Jaketown blade assemblages led to two conclusions. In the first place, these industries are not adequately described. Major categories of debitage have not been recognized and the production trajectory for blade manufacture has been only superficially modeled. Secondly, there are major technological differences between the two assemblages. A complete presentation of these contrasts is beyond the scope of this paper. However, Table 8 is one of the more dramatic expressions of this difference. The observed values indicate the actual numbers of single and multiple faceted cores found at Jaketown and Paxton Brake. The expected values show the numbers which should occur if there were no relationship between provenience and platform

configuration. The chi-square statistic is one measure of the difference between these two sets of numbers. From this statistic, it can be determined that the likelihood of this skewed a distribution occuring by chance alone is less than one in a thousand. It may be seen that multiple facet platforms predominate at Paxton Brake while the reverse is true at Jaketown. Platform configuration is one aspect of a constellation of traits which distinguish the Paxton Brake material. Cores from this site are more likely to have more than one platform, more unsuccessful blade removals, and more evidence of platform rejuvenation. All of these attributes point to a more intense utilization of the raw material.

Table 8. Cores Crosstabulated by Site and Platform Configuration.

	Platform: Single Facet	Platform: Multiple Facets
JKTN	O = 22.00 E = 5.73	O = 7.00 E = 23.27
PAXT	O = 10.00 E = 26.27	O = 123.00 E = 106.73

Often technological differences reflect differences in raw material. This may be ruled out in this case, both assemblages are utilizing identical cherts. There may be a chronological explanation; however, present evidence indicates that the sites were probably occupied at the same time. If Jaketown and Paxton Brake were contemporaneous, the technological analysis of cores points up another exception to the expectations of the chiefdom model.

SITE HIERARCHY

In addition to centralized economic control, chiefdom level societies may be distinguished from band and tribal level societies on the basis of centralized social and religious control. This provides a convenient regional test of the chiefdom model, site hierarchy. That is, at the chiefdom level there should be a limited number of sites which may be distinguished from contemporaneous sites on the basis of their size and the diversity of their artifact assemblage. This diversity is partially the result of the regional centers having higher proportions of status goods and exotic materials. It may also be an expression of the likelihood that a broader range of activities was being carried out at these sites.

For the Yazoo Basin sample, the number of variables recorded present at each site provides a crude measure of assemblage diversity. It may also give some indication of site size. As might be expected, Jaketown and Norman have 20 and 19 traits respectively, the two largest number of variables recorded in the study area (Table 3). The third most diverse assemblage, Teoc Creek, points to one of the constant limitations of the data set, uneven recovery techniques. Teoc Creek has been excavated. If it were represented by a surface collection alone, as is Norman, the number of traits recorded would be far smaller.

In order to develop a rough index of status, the trait list was examined and 10 variables were selected which were most likely to have been non-utilitarian (Table 2). If site hierarchy in the Yazoo Basin can be explained by reference to chiefdom level social organization, then there should be a concentration of these status goods at the larger sites in the area. In an attempt to adjust for collection biases, the relative concentration of status goods has been expressed as a ratio of status traits to utilitarian traits. This index ranges from 0.0 to

2.0 while the total number of variables present at each site varies between 1 and 20 (Table 3). If both distributions are divided at their midpoints, it may be seen that they meet one expectation of the chiefdom model: the number of diverse assemblages and the number of high status assemblages are limited. However, a cross-tabulation of the two dichotomized variables (Table 9) shows the distribution to be almost exactly random. On the basis of the available data, the distribution of status related artifacts in the Yazoo Basin appears to be independent of site diversity and, perhaps, site size.

If a chiefdom level social organization was reached during the Poverty Point period in the Yazoo Basin, site hierarchy should also affect the distribution of exotic materials. Paramount sites should have greater access to foreign material (Renfrew 1975; Johnson 1976c). If, for the sake of a preliminary test of this proposition, it is accepted that assemblage diversity is an adequate measure of position within the site hierarchy, this variable may be cross-tabulated with percentage of novaculite (Table 10). Of the 11 sites for which both variables are recorded, none fall within the high

Table 9. Yazoo Basin Sites Crosstabulated by Status and Assemblage Diversity.

Diversity	Status < 1.0	Status ≥ 1.0
< 10.0	O = 22.00 E = 22.17	O = 4.00 E = 3.82
≥ 10.0	O = 7.00 E = 6.82	O = 1.00 E = 1.18

novaculite, high assemblage diversity cell of the paradigm. There is, in fact, a negative association between the two variables. Based on the present data, the proportion of novaculite at any one site in the study area is better explained as a function of distance from source as was demonstrated in the preceeding section.

Table 10. Yazoo Basin Sites Crosstabuated by Novaculite % and Assemblage Diversity

Diversity	Novaculite % < 8.0	Novaculite % ≥ 8.0
< 10.0	O = 4.00 E = 4.91	O = 2.00 E = 1.09
≥ 10.0	O = 5.00 E = 4.09	O = 0.00 E = 0.91

SUMMARY

By now it should be evident that there are several aspects of the Yazoo Basin Poverty Point complex which remain unresolved. Primary among these is the question of whether a chiefdom level of social organization had been attained.

The preliminary tests which were formulated in the presentation of the Yazoo Basin data demonstrate the importance of a regional perspective in evaluating a chiefdom model. They also show the strategic importance of the Yazoo Basin in such a regional test. In spite of the fact that there are more Poverty Point period site data available for the Yazoo Basin than any other physiographic zone, it is clear that the present data base is inadequate. Finally, there is some indication that the Poverty Point period occupation of the Yazoo Basin was not organized at a chiefdom level.

If the Yazoo Basin sample does not represent a chiefdom, how can the preeminent size and assemblage diversity of Jaketown and Norman be explained? The environmental setting of these two sites suggests one possible interpretation. Both are located at intersections of the Yazoo and Sunflower Meander Belts, points of maximum environmental diversity within the Yazoo Basin. Smaller sites are located in settings with a more restricted range of environmental variation. This pattern is compatible with a settlement system model that is often associated with Archaic and Woodland Period sites in North America, the base camp/special activity camp seasonal round. One of the earliest and best known applications is Winters' (1969) analysis of Archaic material from Illinois. Struever (1968) used the model in explaining settlement-subsistence changes during the Middle Woodland in the Illinois Valley. More recently, the base camp/special activity camp model has been refined (Faulkner 1973) and applied to settlement data from central Tennessee (Faulkner and McCollough 1974; Johnson 1977). The important point to be made here is that this model does not suppose a chiefdom level social organization.

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Table 11. Abbreviations used in Tables 3 and 7.

Abbreviations	Name	Site Number
JKTN	Jaketown	22-Hu-505
SKLK	Sky Lake	22-Hu-521
NCHL	Nichols	22-Lf-519
MCGY	McGary	22-Lf-540
MPHY	Murphey	22-Lf-518
TCRK	Teoc Creek	22-Cr-504
NEIL	Neill	22-Lf-500
STBK	Stainback	22-Lf-503
FALL	Falls	22-Lf-507
CLRD	Cole Crossroad	22-Lf-526
SMTH	W.E. Smith	22-Tl-508
JACK	Jacks	22-Tl-510
KNLK	Kinlock	22-Su-526
HEBE	Hebe	22-Wa-521
ASCK	Asack	22-Su-536
MCOY	McCoy	22-Hu-520
CHTW	Choctaw Poverty Point	22-Bo-550
BLKE	Blue Lake	22-Qu-531
SVGE	Savage	22-Bo-553
ABBY	Abby	22-Tl-512
ISLA	Isola	22-Hu-522
MBEN	Mabin	22-Yz-587
WLLR	Waller	22-Yz-585
SVRY	Savory	22-Yz-586
NRMN	Norman	22-Qu-518
TKTT	Tackett	22-Qu-567
JGRJ	Joe George	22-Qu-577
GRNR	Garner	22-Co-521
MDTH	Meredith	22-Co-543
PAGE	Page	22-Co-583
GOSS	Goss	22-Co-649
SWLK	Swan Lake	22-Co-647
BRNR	Barner	22-Co-542
PAXT	Paxton	22-Hu-540
CLVR	Cloverdale	22-Bo-573

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Intrasite Structure At The Claiborne Site

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ABSTRACT

Attempts to derive intrasite behavioral models, based on horizontal artifact patterns at the Poverty Point period, Claiborne site near the Pearl River mouth, are complicated by the nature of the data. It may be concluded that two similar occupations occurred at the northern and the southern ends of the semi-circle with the northern occupation representing a more intense or prolonged tenure, or possibly both.

INTRODUCTION

In 1972 concerns were expressed to me about the advanced state of destruction of the Claiborne site, a

unicomponent Poverty Point site located in south central Mississippi. The destruction was resulting from construction of a port and harbor facility and relic-seeking. At the encouragement of Jon L. Gibson and J. Richard Shenkel, I began research at Claiborne which has culminated in the present paper. The research plan was to salvage provenience data on artifacts in collections, locate the position of important features, and reconstruct the general internal structure of the site. As will become clear, the provenience data on artifacts are far from perfect. Most collectors had forgotten the exact locations on the majority of their collections, thus rendering much material useless for this study. However, where possible provenience was recorded on specific artifacts, and these data, together with information on features and soil characteristics gained through numerous field observations and interviews, form the basis of this paper.

The history of discovery and subsequent investigations at Claiborne is a tragic story. The site was discovered in 1967 by Charles Satchfield and the late Robert Lowry, both residents of Gulfport, Mississippi, when clearing operations for a port and harbor facility exposed a number of baked clay objects (Gagliano and Webb 1975:48). Since then the site has been the target of numerous investigations, a few by professionals, a few by trained amateurs, and most by relic seekers.

The first professional work at Claiborne was in 1967 by Sherwood Gagliano, then of Coastal Studies Institute, Louisiana State University. Gagliano, with the assistance of a geography class, mapped and excavated several test pits in the site (Gagliano and Webb 1975:48). During the summers of 1969 and 1970, Richard A. Marshall and students from Mississippi State University, excavated several test pits and trenches in the northern end of the site (Marshall 1970). In 1972 students from the University of New Orleans, under the direction of J. Richard Shenkel, excavated five test pits in the

southern section of the site (Bruseth n.d.). No in depth excavation reports have resulted from this activity.

Between professional studies, amateur archaeologists and relic seekers have been active at the site. Important information has been retreived by amateur archaeologists, and many of these data are incorporated into this report. Unfortunately, indiscriminate digging by relic seekers has resulted in the loss of innumerable data from Claiborne. This coupled with the so far futile efforts of the federally sponsored program to turn Claiborne and surrounding areas into a port and harbor facility, has reduced the site to a myriad of worthless backdirt piles.

Most of the presently published information on Claiborne has resulted from the dedicated work of Clarence Webb and Sherwood Gagliano. They together authored the only thorough discussion on the site (Gagliano and Webb 1970). Their article discussed transition from the Archaic to Poverty Point periods as seen from the Claiborne and adjacent Archaic period Cedarland Plantation sites. Unfortunately, many of the artifacts used for their paper were from collections mixed from both sites, and some of the important differences between the two sites were overlooked.

SITE DESCRIPTION

The Claiborne site is located near the mouth of the Pearl River in Hancock County, Southcentral Mississippi. The site is composed of brackish water clam (*Rangia cuneata*) and oyster (*Crossostrea sp.*) shell and sand midden arranged in a semicircular pattern, with the ends of the semicircle pointing westward (Fig. 1). The outer dimension of the semicircle is 250m at the widest point, and the width of the midden varies from 30m in the southeastern section to 65m in the northeastern section.

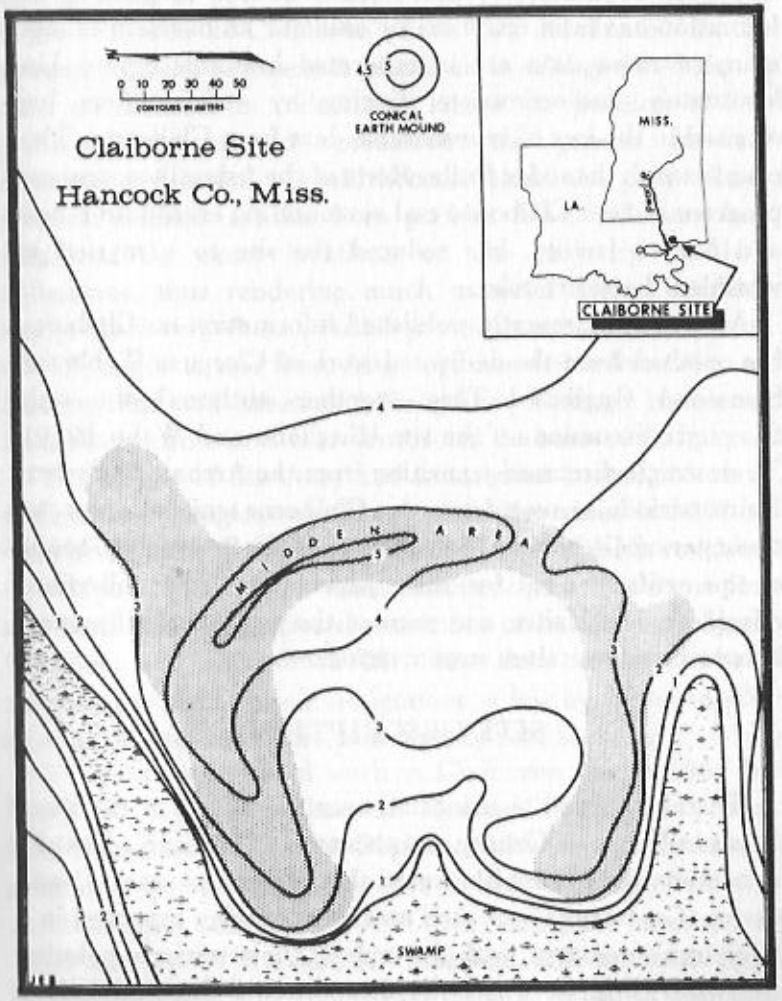

FIGURE 1.

A small, conical sand mound, now destroyed by bulldozing, was located 170m east of the semicircle. The mound was 23m in diameter and about 1.5m in height. No controlled excavations were placed in the mound prior to its destruction, and careful searching after bulldozing failed to disclose more than a few shell fragments (Gagliano and Webb 1970:49).

Geologically, Claiborne is situated on an abandoned, sandy barrier island which imperceptibly grades into the Prairie Terrace on the east (Gagliano, personal communication). The Prairie Terrace is an uplifted and seaward tilting deltaic plain formed during the Pleistocene period (Fisk and McFarlan 1955:289-290). A sharp, sandy escarpment along the western edge of the site has been defined by the barrier island deposits abutting the Recent alluvial plain of the Pearl River. The escarpment reaches a maximum height of 5.0m in the eastern section of the site and has been cut by gullies on the northern and southern sides of the site. Although the exact formation time of the gullies is not known, site stratigraphy indicates that they were well developed prior to occupation.

From available information Claiborne appears to be a single component of the Poverty Point cultural complex. Nearly all artifact classes and types found at the Poverty Point site are represented at Claiborne (Gagliano and Webb 1970:57). This includes examples of primary, secondary, and tertiary traits considered diagnostic of Poverty Point complex sites by Webb (1968:303-306).

A number of absolute dates are available for Claiborne. Radiocarbon dates, all from the northern side of the site are 3100 ± 110B.P.:1150 B.C. (I-3705; Gagliano and Webb 1970:69), 3199 ± 130 B.P.: 1249 B.C. (G-561; Gagliano and Webb 1970:69, 3470 ± 160 B.P.: 1520 B.C. (Tx-1404; Webb, personal communication), and 3990 ± 80 B.P.:2040

B.C. (Tx-1403; Webb personal communication). Five thermoluminescent determinations have also been obtained from Poverty Point objects (Huxtable, Aitken, and Weber 1972); these range from 2186±670 B.C. to A.D. 295±290 with an average of 650±240 B.C.. The thermoluminescent and radiocarbon dates do not correspond well, and likely the thermoluminescent dates are not reflecting the true age of the site. The thermoluminescent levels of the samples were borderline for rejection (Huxtable, Aitken, and Weber 1972:272), and this probably explains their wide variance. Based on the four radiocarbon determinations, Claiborne is currently interpreted as dating from 2000 B.C. to 1100 B.C. (Bruseth n.d.).

DATA COLLECTION TECHNIQUES

To accomplish the objective of reconstructing the intrasite structure at Claiborne, focus was directed towards five sources of information: published data, artifact collections, artifacts remaining on the surface of the site, features noted by investigators, and soil characteristics. A base map of the site was made as a first step in achieving this goal. This map was then divided into ten divisions from a central point in the middle of the semi-circular midden. This scheme was used instead of a quadrat system because of the physical and artifactual similarities between Claiborne and the Poverty Point site. Both sites have similar semicircular shapes with major occupation occurring along the ends of the semicircle and similar artifact assemblages. Collection and analysis of materials from the Poverty Point site has shown several significantly nonrandom patterns by comparing the cultural five-sector divisions at the site. Because of these similarities, a ten sector scheme was employed at Claiborne to allow maximal comparability to the Poverty Point site while

maintaining finer provenience control. Comparisons to the Poverty Point site are not undertaken in the present paper but are anticipated for future study.

A total of 17 private collections, five major and 12 minor, were examined. Two of the most important, those of the late Mr. Robert Lowry (Gulfport, Mississippi) and the late Mr. Owen Heitzman (Bay St. Louis, Mississippi), were not included since provenience data, not having been recorded, was unobtainable. Of the 14 examined, only three collections had specimens labeled with horizontal provenience. This provenience consisted of a division of the Claiborne midden into three parts: north, south, and middle. For the remainder of the collections, reliance had to be placed upon the memories of the owners, a situation which created some unavoidable problems. All collections were examined between 1972 and 1974, up to seven years after the discovery of the site, and several of these totaled over 10,000 artifacts. Thus it was impossible for collectors to remember the precise location of many objects. However, the rarer items, particularly those demonstrating skill, large labor input, or esthetical appeal, often were remembered. These included projectile points, ground stone objects (particularly plummets and gorgets), celts, beads and pendants, copper objects, quartz crystals, modified bone, clay figurines, and a few unusual Poverty Point objects.

Whenever possible the provenience on an artifact was obtained by sector. In addition several metric and nonmetric attributes were collected and the artifact was photographed. As a safeguard on artifact proveniences, two procedures were used to minimize error. First, questionable artifacts were excluded, and second, select artifacts were double checked at different times. These procedures have reduced recall error to minimum.

Several artifact classes were unavailable for study in

collections because their provenience was unobtainable. These artifacts were generally the most abundant; they included Poverty Point objects, fragmentary chipped stone items, and raw materials. Also unavailable for study were microflints and lithic debris. These two classes were apparently not as attractive as other artifacts and were given less consideration by collectors.

Because these items are useful for explaining cultural behavior, attempts were made to secure representative samples through surface collection. Claiborne was gridded into 10 sectors and each sector was carefully collected twice over two months. This procedure was only partially successful. A large sample of faunal remains was obtained and several hundred Poverty Point objects were collected. However, the majority of the Poverty Point objects were fragmentary and could not be typed. Therefore these objects can be used only to compare relative frequencies of Poverty Point objects within the site. Differential erosion created additional problems. The northern and southern sides of the site had been extensively damaged by potholing and bulldozing. Large samples were obtained in backdirt and spoil from these areas. In contrast, the eastern section of the site had not been as disturbed which resulted in artificially lower artifact densities. Despite these discrepancies in the surface collection data, some useful information was obtained.

Precise locations were also obtained on several major features at the site, complementing the artifact provenience data. Information was available on categories such as hearths, bone and shell concentrations, and artifact caches. Data on these features were obtained through interviews with collectors and field observations. These methods, in addition to published data, were also employed to gain general information about soil color and composition throughout the midden deposit.

INTRASITE STRUCTURE

The data collected from surface collection, field observations, interviews, and examination of collections are presented below. In many respects the data are incomplete and reflect only a generalized picture of the internal structure of the site. Analysis and publication of the professional fieldwork at the site may in time help clarify the following descriptions.

Midden Characteristics

The semicircular ring midden, although slightly elevated throughout much of its distribution, is principally distinguished through its dark colored sand and high artifact content. The sand surrounding the ring is yellow to light tan in color (Fig. 2). The midden sand varies in color from light brown to black, with considerable variation between the two extremes. The black colored midden is located primarily in the northern and southern sides; this corresponds to the areas of maximum artifact density. Indeed, the black sand midden deposits have been the target of most of the collecting destruction because of their rich artifactual content.

Downslope on the northern and southern sides, the black midden contains abundant faunal remains, including several species of mammals, birds, reptiles, fish, and *Rangia* and oyster shell (Smith 1974; Osten, personal communication). Along the northern side, the deposits are fairly evenly dispersed with the shell generally more frequent in the deeper levels. On the southern side two distinct clusters of faunal deposits are found, one close to the end of the semicircle and

another further back near a midden projection across the slough (Fig. 2).

From the northern and southern sides towards the center of the site, the black sand grades into a tan sandy midden. This midden forms a narrow strip, up to 15 meters in width, paralleling the black sand. In the eastern and southeastern portions of the ring, the tan sand becomes the dominant midden.

The area inside the midden ring is a yellow to tan sand which is generally void of artifacts. Numerous potholes have been dug into this portion of the site, but only a few artifacts have been recovered. In 1970 a waterline was put through this area to a small building located along the bluff in the west central part of the site. This afforded an opportunity for Monti Walden, a resident of Slidell, Louisiana, to examine a cross-section through the eastern and central portions of the site. Mr. Walden carefully walked the trench shortly after its excavation and observed that the deposit consisted primarily of a yellow sand which was void of artifacts. A few small lenses of darker soil were observed however, which were apparently small occupational layers. Similar layers have been noted along the western edge where recent erosion has cut gullies back into the site. The only artifacts that have eroded out of these western lenses are several types of well-formed Poverty Point objects.

Behind the site sterile yellow sand is found exclusively. The area between the mound and the midden has occasionally been surface collected by various amateurs who report finding a few projectile points.

Four profiles of the midden at various locations are shown in Figure 2. The profiles are based on field observations of potholes and bulldozer cuts, notes and photographs taken by collectors, and excavation records made by both amateurs and professionals.

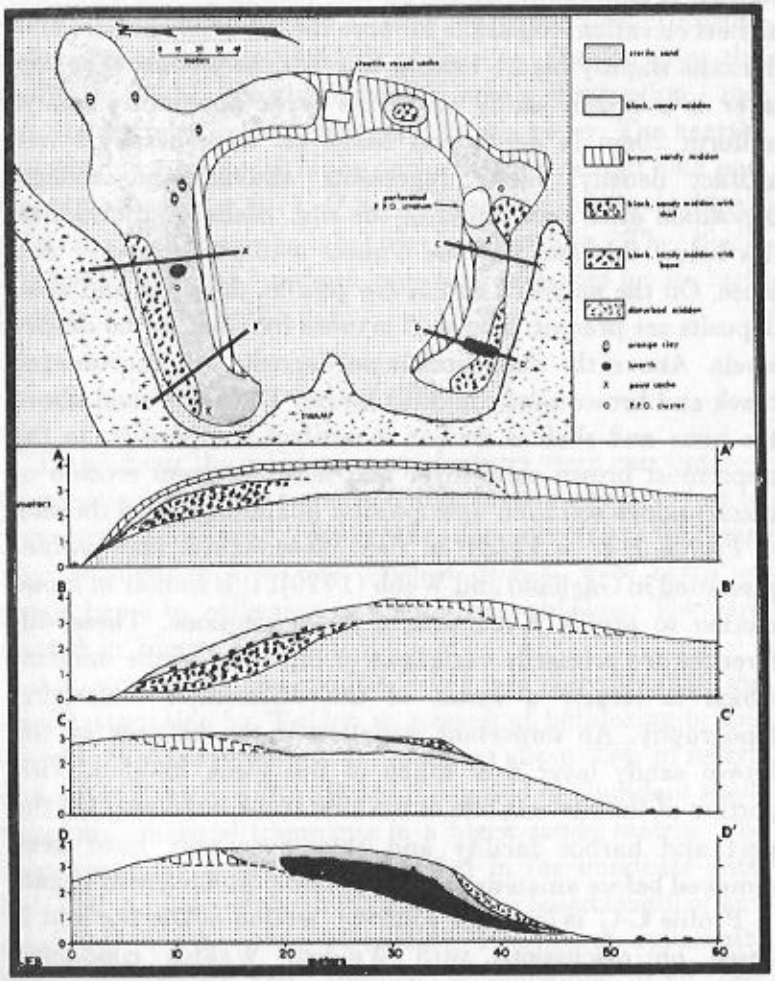

FIGURE 2.

Profile A-A' shows a cross-section through the midden on the northern side based on test excavations conducted by Jerry Pankow, of Slidell, Louisiana, and Walden. The midden is approximately one and a half meters thick at the highest elevation, constricts towards the center of the site, and thickens slightly before lensing towards the slough. The top layer is a brown sandy soil. This layer apparently was a uniform 20cm in depth and based on its generally lower artifact density, likely represents alluvial and aeolian deposition after occupation of the site. Black sandy midden lies below this and has the highest artifact density of any lense. On the northern end of the profile, the bone and shell deposits are present. The shell is more frequent in the deeper levels. Above the shell and bone deposits are encountered black and brown sandy midden layers. The black sand above the bone and shell is similar in artifact composition to the uppermost brown sand layer and may represent erosion of black midden soil from upslope after abandonment of the site.

Profile B-B' is based on field observations and profiles presented in Gagliano and Webb (1970). It is similar in cross-section to profile A-A', with a few exceptions. These differences are primarily variations in thickness of the midden, which is largely a result of the differential underlying topography. An important variation is the absence of the brown sandy layer over much of the black midden. This portion of the site was one of the first to be bulldozed for the port and harbor facility and this layer may have been removed before amateur and professional involvement began.

Profile C-C' is from the southern section of the site and is based on discussions with Walden. Walden conducted numerous excavations in this locality and drew a sketch which is the basis of the profile. Only two cultural zones are identified, each lenticular and varying in thickness from 20 to 80 centimeters. The lenses gently grade into one another and the

tan sand deposit contains fewer artifacts than the black sand midden. The disturbed lense over the black midden along the edge is the result of clearing activites prior to Walden's involvement with the site.

Profile D-D' is through a large hearth uncovered during bulldozing of the southern side of the site. Walden drew the profile in 1969, shortly after the area's destruction, and kindly gave permission to include it in this paper. The hearth, described in more detail in the next section, was 25m long and was almost a meter thick. Overlying the hearth was the black sandy midden described in previous profiles. The black midden in this area has been noted by collectors for its high frequency of projectile points.

Features

Throughout the midden, many features were encountered by investigators; most were paid little attention and are lost to reconstruction efforts. A few of the more significant features, such as major hearths and artifact caches, were noted or remembered by collectors or have been published. They are plotted in Figure 2a.

A major hearth (see profile D-D') was discovered in the southeastern side by Walden as a result of bulldozing in this vicinity. Walden describes the hearth as about 25m in length and 3.0 to 5.0m in width; it was composed of abundant shell, bone, and charcoal fragments in a black sandy matrix. The hearth was not level but, as revealed in the bulldozer cuts, followed the slope of the south side. The exposed length of any single cut was less than 10 meters. The hearth apparently began downslope and, through accumulation from use, moved upslope to the top of the southern side.

A probable hearth was exposed in the northern part of the site by potholding activities. The hearth was about 4.0m in

diameter, composed of black sand, and contained numerous burned *Rangia* shell fragments. No other characteristics were provided and its designation as a hearth is tentative.

In the northeastern section of the site, five similar features were observed during field study. The features were oval in shape, bright orange in color, and composed of sandy clay. The surrounding midden was composed of black to dark brown sand with numerous complete and fragmentary Poverty Point objects scattered throughout. All other artifact classes were rare in this portion of the site. The features, probably resulting from intense burning on a previous ground surface, averaged 2.0m in length by 1.5m in width and extended to 30cm below the surface. At this point the orange color graded into black sandy midden. All five features were exposed by the blade of a bulldozer and likely extended higher into the midden.

Clusters of Poverty Point objects have been unearthed at numerous localities in the site but tend to have been more frequent in the black sandy midden along the tops of the northern and southern sides. A group of 86 Poverty Point objects was located in the northern end of the site (Nuemaier 1974:8). The cluster started about 15cm below the present ground surface and continued down another 30cm. The entire accumulation was approximately a meter in diameter. A larger group of Poverty Point objects was found by Charles Satchfield in the southeastern section of the midden (Nuemaier 1974:8). The top of the cluster began 90cm below the ground surface and measured 75cm by 80cm. It was 20cm thick. A total of 304, mainly biconical, Poverty Point objects was collected. Associated with the Poverty Point objects were 10 fiber tempered sherds, two Jaketown perforators, the distal end of a projectile point, lithic debris, three pebbles, two oyster shells, and a piece of pumice. No pit outlines were discernible in either cluster.

Caches of projectile points have been uncovered on at least three occasions. Three large points varying from 11 to 12.5cm in length were found by Walden in the Southeastern section of the semicircle (Gagliano and Webb 1970:61). The points—two Motleys and one Marcos—were found below the midden deposits in sterile sand. Worksmanship of the points was excellent and all were made of exotic flint. Another cache of two large Florida Stemmed Archaic subtype Levy points (Bullen 1975) was uncovered in the northern side of the site. Both points were similar in shape and made of similar cream-colored fossiliferous chert. The third cache contained 46 projectile fragments which were reassembled into seven complete and partially complete Marcos type projectile points. Associated with the projectile point fragments were 20 fragments of bone pins and 102 fragments of bone tubes or beads. This material was found in the black sandy midden along the western end of the northern side in an area 45 to 60cm in diameter and 45cm in depth.

A cache of 12 steatite vessels was discovered by Mr. Norvell Roberts, now a resident of Westchester, Ohio, but then of Picayune, Mississippi, in otherwise sterile sand in the eastern section of the semicircle (Roberts, Satchfield, and Lowry 1968; Gagliano and Webb 1970:59; Webb, Ford, and Gagliano 1971:101-4). Five of the vessels were whole or totally reconstructible and the remainder were only partially reconstructible. Most exhibited fire associated soot stains on the exterior and interior. The relative horizontal and vertical positions of the vessels is shown in Figure 3a and 3b, based on information kindly supplied by Roberts. Vessel 3 was found upright, vessel 8 sideways, and the remainder inverted. Shortly before discovery, the midden above the cache had been bulldozed away. Approximately 30cm to the northwest, Roberts found two basal fragments on the surface which fit vessel 12 and indicates that many of the missing portions of

the other vessels were bulldozed away. However, vessel 11 showed considerable weathering along breaks and probably was broken before being placed in the cache. Based on Figure 3a, which shows the relative vertical positions of vessels over 50 percent complete, it can be seen that vessels 1, 2, 3, 4, 6, 7, 9, and 10, were placed on a common surface. Apparently a pit, 2.5m square, was dug for the deposition of these 10 vessels. Vessels 5 and 8 may have been buried at some other time. Six other artifacts were found in association with the steatite vessels. Roberts found two heavily oxidized copper sheet bracelets, one rolled and one folded, a copper pendant, and an oval-shaped piece of galena. These items were found at a depth common to the lowest portion of the majority of vessels which suggest they were placed on the bottom of the pit also. In addition, Satchfield found a jasper bead in the area; exact provenience is unkown.

In a road near the location of the recently destroyed conical mound, a disturbed cache of 89 steatite sherds, collectively weighing 2.96kg, was found by the author in 1972. The sherds represented several vessels, some apparently quite large, and a few possessed soot stained interiors and exteriors, similar to the sooting observed on the vessels in the Robert's cache. It is doubtful that these sherds are from the Robert's cache as they were found 150m away.

In the southeastern section of the midden, a small black sandy deposit, surrounded by brown sandy soil, was located. Few artifacts were found in the black sand feature. However, the deposit contained numerous faunal remains with the exception of shell. No evidence of burning could be found, eliminating the possibility of the area being a hearth. Although the feature was heavily disturbed by potholding, it appeared to have been greater than 1.0m in depth and was about 4.0m in diameter.

A final feature of interest was located by Walden in the

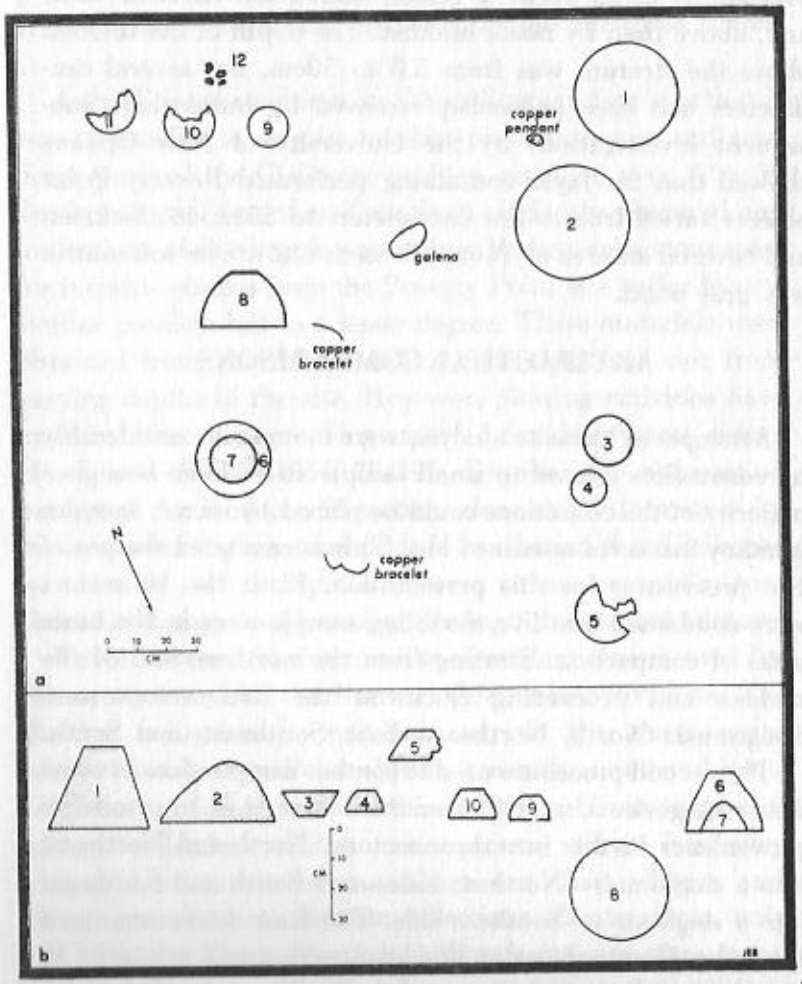

FIGURE 3.

southeastern section of the site. The feature consisted of a stratum containing virtually nothing but perforated Poverty Point objects and abundant charcoal flecks. This stratum was overlain by up to 50cm of basket-loaded soil (Bruseth n.d.) and, above that, by black midden. The depth of the midden above the stratum was from 5.0 to 50cm, but several centimeters had been previously removed by bulldozing. Subsequent investigations by the University of New Orleans showed that the layer containing perforated Poverty Point objects varied from a few centimeters to 50cm in thickness and covered an area of 160m (Bruseth n.d.). The soil matrix was gray sand.

ARTIFACTUAL COMPARISONS

Attempts at intrasite analysis were hampered considerably by constraints related to small sample sizes. Even though a majority of the collections could be placed by sector, samples in many instances remained low. This necessitated the use of two procedures for this presentation. First, the 10 sectors were condensed into five, doubling sample sizes in the basic units of comparison. Starting from the northern end of the midden and proceeding clockwise the five sectors were designated: North, Northeast, East, Southeast, and South.

The second procedure used to combat sample sizes in some data categories that still remained low was to condense provenience further into three sectors: North and Northeast into a single unit—Northern side—and South and Southeast into a single unit—Southern side. The East sector remained the same. Comparisons at this level were made primarily to elucidate north half versus south half differences. This three sector combination had the added benefit of allowing the large Walden collection to be used in intrasite comparisons. This collection was labelled by a similar three division

scheme, but unfortunately Walden was unable to remember more specific provenience on most artifacts which left his collection otherwise largely unusable. In the following presentation, each class is first broken down into frequencies from the five sectors, then further collapsed into three sectors.

An additional weakness in the artifactual data was that it was impossible to acquire vertical provenience on artifacts. Some parts of the Claiborne midden extended over 2.0m in depth and grouping of artifacts from all depths obscured any indications of diachronic patterning. Recent collections used for intrasite studies from the Poverty Point site suffer from a similar problem but to a lesser degree. These materials were obtained from controlled surface collections and not from varying depths in the site. However, plowing activities have modified the site, removing up to 1.5m from some ridges (Ford and Webb 1956:28-29). Despite the obfuscating nature of the land modifications, clear and informative intrasite patterning was observed. It was hoped that Claiborne was similar and that patterns were either temporally consistent or strong enough to show through the vertical mixture.

Table I shows the frequencies of artifact classes used for this study based on the five and three sector divisions. The Walden collection is included only in the three sector tabulations. Poverty Point objects, ceramics, unaltered bone, Jaketown perforators, and lithic debris are from the sector surface collections. As a consequence, direct frequency comparisons cannot be made between these classes and classes examined in amateur collections. For example, only 1017 Poverty Point objects, including fragments, were found from the surface collection, whereas Webb's and Gagliano's inventory of specimens from private collections in 1969 totalled over 12,000 objects (Gagliano and Webb 1970:51). Thus the surface collected objects are a much smaller sample.

TABLE I

ARTIFACT COMPARISONS BY CLASS BETWEEN SECTORS
(ALL COLLECTIONS COMBINED)

Artifact Class	N	NE	E	SE	S	Northern Sectors #	Northern Sectors %	Southern Sectors #	Southern Sectors %	Total
Clay										
Poverty Point ob.*	392	319	51	77	178	711	69.9	255	25.1	1017
ceramics*	1	2		3	11	5	17.6	14	82.4	17
figurines	7	1		1	1	8	88.9	1	11.1	9
Bone										
unaltered bone*	1108	29	20	7	276	1137	79.0	283	19.7	1440
altered bone			1			110	90.0	10	8.3	121
Polished & Ground Stone										
plummets	32	15	6	7	55	77.5	16	22.5	71
gorgets	22	2	3	1	10	33	66.0	14	28.0	50
celts	5		1	2	1	3		3		6
beads, small pend.	10	1	1		1	11	84.5	1	7.7	13
pipes	13		1		1	3	33.3	5	55.5	9
copper objects	4				2	4		2		6
galena objects	3	3	1		1	6	85.7	1	14.3	7
quartz crystals					2	0		2		2
ferruginous sand-stone objects	3			1		3		1		4
misc. artifs.	1					2		2		4
Chipped Stone & By-Products	139	66	9	24	32	286	66.9	132	31.0	426
points	5			6	7	5	27.8	13	72.2	18
Jaketown Perf.*	5									
lithic debris*	95	52	9	35	46	147	62.0	81	34.9	237

* samples obtained from sector surface collections

The major comparison that can be made from Table I is between sectors within each class.

Particularly important class comparisons are between the Northern side and Southern side. Overall, the Northern side is considerably denser in most artifact classes than the Southern side. Approximately 70 percent of most classes of material are found in the Northern side while about 25 percent are observed in the Southern side. The remaining five percent are found in the East sector.

Classes not closely conforming to a 70:25 ratio include ceramics, clay figurines, modified bone, beads and small pendants, pipes, and Jaketown perforators. Figurines, modified bone, beads and small pendants approximate the 70:25 ratio. The differences may be due to small sample sizes, in the case of figurines and beads and small pendants, or by differential erosion, in the case of modified bone. Modified bone occurs primarily in the bone and shell deposits flanking the Northern and Southern sides and may be low in the Southern side due to bulldozing in 1969. This disturbance tended to seal off the bone and shell deposits and make them inaccessible to collectors. Clay figurines occur predominantly in the North sector, with only two found in other areas. The dominance of this artifact class in the North sector is interpreted as indicative of cultural behavior rather than sampling error. Beads and small pendants are especially dominant in the Northern side, particularly the North sector. One bead is from the East sector and was associated with the steatite vessel cache. Zoomorphic beads and pendants, a subset of the larger class, are exclusively from the North sector.

Ceramics, Jaketown perforators, and pipes, although low in frequency, are sufficiently different from the 70:25 ratio to suggest an usage restricted to certain localities. Ceramics are dominant in the South sector. Pipes, made of clay and stone,

are more frequent in the Southern side. Jaketown perforators are dominant in both sectors of the Southern side. However, this apparent uniformity is misleading in that the 13 perforators actually came from a single, spatially restricted area that was divided by two of the 10 original sector boundaries. None were found in the remainder of the Southern side and the sector collapsing process created the apparent uniformity. An independent source also verifies the high occurrence of Jaketown perforators in the same part of the Southern side. This is a sketch of the Claiborne site made by Don Reed, then of Slidell, Louisiana, showing the locations of all artifacts he collected. Seventy-five percent of the 55 perforators Mr. Reed found came from the southeastern portion of the site.

Other objects generally rare at Claiborne include celts copper and galena objects, and quartz crystals. Celts are evenly distributed between the Northern and Southern sides. Cooper and galena objects show clustering in the Northern side. Only two quartz crystals were observed for this study and both were found in the Southern side.

Ferruginous sandstone objects—ground into small ovoid shapes (probable atlatl weights), and miscellaneous atlatl weights (tablets and bannerstones) are in too small frequencies relative to the total number found to be informative as to intrasite patterning.

Other artifact classes, all of which have relatively large numbers, conform closely with the 70:25 ratio. This group includes Poverty Point objects, unaltered bone, plummets, gorgets, projectile points and lithic debris.

At the Poverty Point site projectile point types have been found to be useful intrasite social and temporal indicators (Webb, Ford, and Gagliano 1971; Webb 1970b; Gibson 1973). Therefore, the projectile points from this study were classified by type according to Suhm, Krieger, and Jelks (1954), Ford and Webb (1956), and Webb, Ford, and

Gagliano (1971). The results appear in Table II. Pontchartrain and Gary points are the most common, accounting for 47.8 percent of all typed points. Several point types split the remaining percentages. Again both the five and the three sector divisions were employed to take advantage of the Walden collection. Only two other collections were used: Jerry Carver's and the author's, because both were large and provenience information was available for all specimens.

Percentages for the Northern and Southern sides of the site are calculated separately based on all whole or classifiable fragmentary projectile points. This permits the percentages of various types to be examined without regard to variances based on their location relative to side. Few differences are noted. Pontchartrain, Macon, and Morrow Mountain points are relatively less common in the Northern side than the Southern, and Motley, Delhi, and Marcos, all similar in form and often made of northern gray flint, are relatively more frequent in the Northern side. Types Levy and Carrollton, although small in sample size, are found exclusively from the Southern side. Beyond this, few differences are seen and the few that are may be due to small samples. Interestingly, fragmentary points are more common in the Northern side than the Southern side. However, this may be due to collector bias since the Walden collection was heavily weighted towards the Southern side.

Table III breaks down projectile points by material type. All points, fragmentary and whole, were used in computing the table. An interesting result is that the proportion of imported lithics on the Southern and Northern sides is exactly the same—30 percent. However, within each side differences are apparent. Orthoquartzite is the dominant material in the Southern side, while cream-colored chert and northern gray flint are dominant in the Northern side. Arkansas novaculite is more frequent in the Northern side, and opalized shell,

TABLE II

PROJECTILE POINT TYPES

(COMBINED BRUSETH, CARVER, AND WALDEN COLLECTIONS)

Type	N	ME	E	SE	S	Northern Sectors #	Northern Sectors %	Southern Sectors #	Southern Sectors %	Total #	Total %
Pontchartrain	30	12	3	5	5	56	23.8	35	28.5	94	25.7
Gary	18	11	4	2	5	51	21.7	26	21.1	81	22.1
Macon	5	3		3	2	15	6.4	10	8.1	25	6.8
Kent	7	5		1	1	15	6.4	8	6.5	23	6.3
Motley	6	3		1	1	12	5.1	5	4.1	17	4.6
Delhi	6	4			1	10	4.5	1	.8	11	3.0
Morrow Mountain	1			2	5	4	1.7	5	4.1	9	2.5
Palatlla	2	1				5	2.1	3	2.4	8	2.2
Shumla	2					4	1.7	2	1.6	6	1.6
Ellis	1	1				3	1.3	3	2.4	5	1.4
Carrollton	4	1				5	2.1	0		5	1.4
Levy *	4					4	1.7	0		4	1.1
Side-notched	2			1		2	.9	1	.8	3	.8
Marcos	3					4	1.7	1	.8	5	1.4
Lozenge-shaped	1					1	.4	2	1.6	3	.8
Wells	1					2	.9	2	1.6	3	.8
Asymmetrical		2				2	.9	0		2	.5
Hale						2	.9	1	.8	3	.8
Webb						1	.4	0		1	.3
Epps	1					1	.4	0		1	.3
San Patrice-like						0		1	.8	1	.3
Elam	1					1	.4	0		1	.3
Marshall	1					1	.4	0		1	.3
Almagre		1				1	.4	0		1	.3
Untyped (whole)	17	11	1	5	9	34	14.5	17	13.8	52	14.2
Total	113	55	8	20	29	235	100.0	123	100.0	358	100.0
Untypable fragments	27	11	2	4	3	54	20.0	14	10.0	70	20.0
TOTAL	140	66	10	24	32	289		137		426	

* Full name for this type is Florida Stemmed Archaic, subtype Levy (Bullen 1968)

peculiar to the Claiborne site, is more frequent in the Southern side. White Catahoula sandstone occurs exclusively in the Southern side.

CONCLUSIONS ON INTRASITE STRUCTURE: AN INTERPRETATION

Assuming that the data on intrasite structure, summarized above, are reflective of the site artifact and feature populations and that the lack of vertical provenience has not overly confused intrasite patterns, the following interpretation is posited. I have refrained from formulating a model or series of models of various cultural subsystems, i.e., political, social, religious, etc., to be tested by the Claiborne data. Many of the variables affecting the nature of the data are uncontrollable and have seriously limited their interpretive capabilities. These variables have injected error randomly in some instances. For example, if I were to assume gorgets, tablets, and ferrugionous sandstone objects are atlatl weights and attempt to use this proposed functional aggregate to help test a model of post-marital residence patterns, problems would arise because of a lack of provenience data on a large enough sample of ferruginous sandstone objects. Several dozen ferruginous sandstone objects were observed during the examination of collections but only two objects could be given provenience. This is attributed to a lack of interest by collectors in these objects, clearly a variable difficult to control for.

Another reason I have avoided the aforementioned approach builds upon the first. Given the spotty nature of the data, appropriate manipulations likely could be made to support nearly any model of cultural behavior.

Therefore, only a subjective interpretation of the cultural meaning of the intrasite structure is provided. Unfortunately,

TABLE III

PROJECTILE POINT RAW MATERIALS

(COMBINED BRUSETH, CARVER, AND WALDEN COLLECTIONS)

Type	N	NE	E	SE	S	Northern Sectors #	Northern Sectors %	Southern Sectors #	Southern Sectors %	Total #	Total %
Imported Cherts and Flints											
Northern Grey	4	6			1	13	17.3	10	28.6	23	20.9
Cream-color	10	3	1	1	1	19	25.3	5	14.3	24	21.8
Orthoquartzite	8	6		1		18	24.0	7	20.0	25	22.8
Opalized Shell	3	1		1		4	5.3	3	8.6	7	6.4
Novaculite	2	3			1	6	8.0	2	5.7	8	7.3
Tan Color	2					2	2.7	1	2.9	3	2.7
Catahoula Sandst.						0	-	2	5.7	2	1.8
Misc.	7	3		1	1	2	17.3	5	14.3	18	16.4
Total Imported	36	22	1	5	8	75	100.0	35	100.0	110	100.0
Cherts											
Local Cherts	104	44	9	19	24	214	70.0	102	70.0	326	70.0
Total	139	68	9	24	32	289		137		436	

this interpretation can never be adequately tested as Claiborne has reached the state of destruction where little can be gained from additional fieldwork. Publication of previously conducted fieldwork may help. However, this work has been spatially localized and will not permit overall testing of the interpretation. Possibly the artifacts used in this study can be reexamined to form independent lines of confirmation or rejection. However, until such as effort is undertaken, the interpretation will remain simply speculation.

Possibly the most reliable evidence from the intrasite artifact studies is the overall artifact density pattern. Most classes, particularly those with large sample sizes, show the artifact density on the north to be from two to three times greater than the south. Artifacts representing basic subsistence and manufacturing activities follow this differential. These items include Poverty Point objects—presumably used for earth oven baking, unaltered bone—representing butchering and general food preparation, plummets and gorgets—inferred components of a hunting aggregate, projectile points—probably representing both hunting and other faunal procurement and processing, and lithic debris—waste from stone tool manufacture. In addition, several other classes which probably represent nonutilitarian or semiutilitarian items, such as beads and small pendants, figurines, copper objects, and pipes, are represented on both sides of the site. Some clustering is seen in these items, but whether this is due to synchronic cultural behavior or stylistic variability over time cannot be determined. The evidence points to two similar occupations on the Northern and Southern sides, with the Northern side representing two to three times the South in duration or intensity. Based on the profiles and plan of the midden deposit, the Northern side is both deeper and wider than the Southern side. This indicates

that both occupation duration and intensity were responsible factors.

Other evidence supporting two similar occupations on each side of the site is the internal structure of each side. Both have black sandy midden devoid of faunal remains along the higher elevations. The two major hearths were found in these areas as well as the majority of the Poverty Point object clusters. These areas are interpreted as residential localities where structures were likely built and household maintenance tasks were conducted. Why also the three projectile point caches should occur in these areas is unknown. Many collectors have noted that within these areas, artifact concentrations existed: one close to the end of each side and one about 40m from the end. Each cluster was roughly circular and about 30 in diameter. These areas may correspond to household units. For unexplainable reasons, comparison of artifact frequencies between sectors failed to detect this pattern.

Furthermore, both sides have faunal remains deposits flanking the slopes. A special intrasite study was undertaken to investigate the artifact class profile of the faunal deposits in relation to the black and brown sandy deposits on top. This was accomplished by comparing artifacts collected by the author from the top of the Northern side to five other collections taken from the slope of the side (i.e., Chavin, Glory, Hartdegen, Savoie and Travirca collections). The results, displayed in Table IV, show some classes are common to each area while a few classes are not. Again sample sizes are a problem but a few distinct differences appear to represent more than sampling error. The most obvious difference is in unaltered bone, which is abundant downslope and scarce to non-existent on top. Projectile points are more frequent on top. Ferruginous ironstone objects are not represented in the collection from the black sandy midden

while three were found among the faunal deposits. Worked bone, most often in the form of awls, pins, points, and perforated items, occurs more abundantly downslope and is rare on top. Clay figurines curiously occur only among the faunal deposits. Beads and small pendants are found exclusively in the black midden on top. Other classes are either too similar in frequency to be considered dominant in one area or the other or are too low in frequency to be considered reliable samples.

Certain classes were broken down into complete and broken subclasses to determine if discard was partially responsible for the formation of the two areas. The results demonstrated that discard was not a primary factor, although broken elements of two classes were more often found downslope: projectile points and plummets.

This evidence combined with the wide variety of faunal remains from the downslope deposits suggests an activity area where a variety of tasks, some restricted to the area, were performed. Tasks performed downslope rather than on top of the midden were meat and shellfish preparation; the higher incidence of fragmentary projectile points may be related to these activities. The reason for worked bone to occur predominantly among the downslope deposits is puzzling since the soil matrix is similar in both areas. It is doubtful that differential preservation is responsible because these items are present on top of the side. Bone tools, particularly awls and pins, may be parts of tool kits associated with net-weaving activities. Net impressions have been found on a number of Poverty Point objects and indicate that weaving was a part of the inhabitants' technology. Moreover, many of the bone implements display a high degree of polish which would result from weaving activities. It is quite possible the sloughs along the Northern and Southern sides were filled with water during site occupation and may have been connected with a channel

TABLE IV

COMPARISON OF CERTAIN ARTIFACT CLASSES COLLECTED FROM THE TOP OF THE NORTHERN SIDE TO CLASSES COLLECTED DOWNSLOPE

Artifact Class	Collections	
	TOP (Bruseth)	DOWNSLOPE (Chauvin, Glory, Hartdegen, Savoie, and Travirca)
Proj. Points	113	64
Plummets	7	4
Gorgets	7	6
Ferruginous Sandstone Objects	0	3
Beads, Pendants	3	0
Pipes	1	3
Celts	2	0
Figurines	0	3
Modified Bone	1	76
Total	133	159
Abrading/nutting Stone	Present	Present
Poverty Point Objects	Abundant	Abundant
Clay Sherds	Present	Present
Decorated and Perforated Poverty Point Objects	Present	Present
Unaltered bone	Scarce	Abundant

of the Pearl River. This would have made the banks along the sloughs ideal localities for processing of game, fish, and shellfish brought in by canoe as well as manufacturing and refurbishing chores associated with procurement and processing of these foods (Gagliano and Webb 1970:51).

Webb (1970) has presented an outline of historical development at the Poverty Point site and noted probable temporal changes in projectile point styles over time. At the risk of applying an untested model, an approximate idea of the degree of contemporaniety of the two sides can be gained by comparison of point types. Point types thought to have held maximum popularity early in the type site's development and present at Claiborne in frequencies large enough for minimal comparison (arbitrarily set at six) are Pontchartrain, Gary, Kent, and Ellis. These points are represented from both sides of the site. The type most significantly different between sides is Pontchartrain, which is relatively more frequent on the Southern side. Other types are too close for reliable interpretation. A type not found at the Poverty Point site (Gagliano and Webb 1970:59) but present at Claiborne is Morrow Mountain. This type is though to occupy a temporal position in the Southeast from 5000 to 3000 B.C. (Willey 1966:258-59) and possibly as late as after 2000 B.C. (South 1970:9). This would make it a potential early time marker for Claiborne. The notably higher relative incidence of this type together with the greater frequency of Pontchartrain points in the Southern side may indicate earliest occupation at the site in this locality. Additionally, point types frequently made on northern gray flint are thought to have gained popularity in time at the type site and reached a zenith during the last half of occupation, i.e., ca. 1000 to 600 B.C. (Gibson 1973:76; Webb 1957b:32-33). At Claiborne, points made of this material, most commonly types Motley, Marcos, and Delhi, occur twice as frequently in the north relative to the

total numbers for each side. Assuming social factors are not solely responsible for this distribution (cf. Gibson 1973:156; Gibson 1974:23-24), this balances with the greater incidence of certain earlier types on the Southern side and suggests a terminal occupation at Claiborne along the Northern side.

The eastern portion of the midden, between the Northern and Southern sides, was apparently used for a number of activities not commonly undertaken on the sides. The steatite vessel cache discovered by Mr. Roberts is interpreted, as Webb (1975a:11) suggests, as burial-related. Likewise the cache of steatite sherds found near the location of the conical mound may be part of a similar deposit. The perforated Poverty Point object layer represents a manufacturing locality in the southeastern portion of the midden, and the numerous burned sandy-clay features similarly may be associated with Poverty Point object manufacture. The high incidence of Jaketown perforators near the eastern end of the Southern side likely represents an activity area where whatever function these items served was performed. The isolated black sandy midden deposit with faunal remains is an enigma. Obviously activities associated with faunal processing were conducted but how this relates to other activities in the area is unknown.

The interior of the site was seldom used, but on occasion activities which produced small, dark colored lenses were undertaken. Based on the Poverty Point objects eroding out of similar lenses along the bluff in front of the site, earth oven baking may have taken place in the interior.

Due to a lack of thorough investigations of the conical mound east of the midden, its function is conjectural. The positioning of the mound is reminiscent of the type site, and it may have functioned in a socio-religious fashion. It is interesting that the cache of steatite vessels and associated copper and galena objects were found at the point where a due

westerly line-of-sight crosses the midden from the mound towards the center of the semicircle.

Claiborne, in summary, appears to have been a well structured village. Although a complete sample of fauna has not received intensive study and flotation and pollen studies are only now being undertaken, the site probably was inhabited year-round. Supportive procurement camps have been postulated and tentatively identified in the upland behind the site, in the Pearl River floodplain in front of the site, and in the Mississippi River Delta south of the site (Bruseth n.d.). Radiocarbon dates indicate initial occupation of Claiborne around 2000 B.C., perhaps at first along the Southern side but later throughout the entire semicircle. No initial occupational deposits have been isolated, in fact the site is vertically quite consistent when post occupational erosion and alluvial and aeolian deposition are considered. An exception to this is the shell concentration in the deeper levels of the faunal deposits. Although this indicates a change in subsistence emphasis, the deposits still represent discard of faunal remains. Therefore, Claiborne appears to have remained through most, if not all, of its occupation an organized village which changed little in basic layout. Around 1100 B.C., based on present dating, occupation apparently terminated. Last habitation is thought to have been along the Northern side.

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Speculations On The Origin And Development Of Poverty Point Culture

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ABSTRACT

The origin and development of Poverty Point culture is operationally distinguished from the origin and development of the Poverty Point site and chiefdom on the Macon Ridge in northeastern Louisiana. The Poverty Point chiefdom can be hypothesized as a gateway community which functioned as the principal market place for a commercial interaction sphere which linked widely separated population aggregates. Population groups along the northern trade routes [rivers] exported various raw materials to the gateway; aggregates south of the gateway received raw materials, partially

fabricated commodities, and probably socio-technic items. Fluctuations in commercial inflow and outflow at the gateway may have contributed to the demise of commercial interaction and thusly to the transformation of Poverty Point culture.

INTRODUCTION

From its initial portrayal as a major archaeological mystery, Poverty Point has come to be recognized as a long-lived and culturally sophisticated way of life participated in by several Native American groups of the first and second pre-Christian millennia. The giant Poverty Point site and its surrounding nexus of small villages has been represented as North America's first chiefdom (Gibson 1973, 1974a). The site was the focal point of a vast trade network which exceeded in geographic extent and in kinds and quantities of commodities all preceding and most succeeding commercial systems.

Several ideas about Poverty Point origins have been proposed. Before radiocarbon ages showed that Poverty Point originated several centuries before Hopewell, Ford and Webb (1956:129) speculated that Poverty Point culture developed as a consequence of Hopewellian militaristic subjugation of a Late Archaic group in the Lower Mississippi Valley. Later as Mesoamerican similarities were realized (Willey 1957), Webb (1968:318-319) and Ford (1969:180-182, 191) proposed that Poverty Point resulted from the assimilation of agriculture and theocratic influences from Olmec centers in Vera Cruz. And still later, Gibson (1973, 1974a, 1974b) suggested that it developed independently as a result of the interplay between economic exchange and regional militarism in certain specialized lowland environments on the edges of the Mississippi alluvial valley.

Information accumulating during the 1970s has begun to cause some serious doubts about the credibility of both the Mesoamerican diffusion and warefare-exchange origins theories. While we are still a long way from understanding intricate details of Poverty Point culture and its development, a reconsideration of Poverty Point origins is demanded if Poverty Point research is to respond to many of the newer questions being asked and different objectives being sought. It should be emphasized that much of what follows is purely speculative. While growing out of the available data base, many of the ideas and arguments tended below lack the support of hard data. But by the same token, they cannot be proved wrong. In most cases, data relevant to scientific formulation and testing of these speculations have simply not been retrieved by archaeologists, and if this verbalization does no more than cause such data to be collected and open the doors to creative recognition of new problems, it will have served its primary purpose.

THE ARCHAEOLOGICAL FOUNDATION FOR SPECULATIONS ABOUT POVERTY POINT ORIGINS AND DEVELOPMENT

The time span covered by manifestations archaeologically identified as Poverty Point culture has been defined by an inadequate series of radiocarbon and thermoluminescence determinations to the period between 1500 - 600 B.C. (cf. Ford and Webb 1956: Table 9; Gibson 1973: Table 1; Webb 1977: Table 1). This radiometric series is completely useless for determining site to site, or region to region, contemporaneity and serves only to give a rather imprecise impression of the temporal extent of the Poverty Point *period.* Because dependable chronological control does not exist, the present discussion is based on the *assumption* that at least one

component in each of the geographic regions embraced by Poverty Point culture was functioning simultaneously.

The Poverty Point site and nearby villages did not emerge in splendid isolation. At distances ranging from 100-400km from Poverty Point are several other groups of sites that show varying degrees of conformance to a list of characteristics used to archaeologically define Poverty Point culture (Webb 1968: Table 2). The Yazoo Basin in western Mississippi, east and slightly north of the Poverty Point site, exhibits two site clusters, one aligned with the Sunflower meander belt, the other with the Yazoo-Tallahatchie drainage system. To the north and west of Poverty Point lie two more groups of sites in the Ouachita River Valley, one concentrated north of the Saline River in southeastern Arkansas, the other in the neighborhood of Monroe, Louisiana. South of the Poverty Point site are site clusters in the Catahoula-Larto lakes area of east central Louisiana, in the Petit Prairie meander belt south of Marksville, in the Coteau Ridge-Vermilion River area near Lafayette, in the western part of the Lafourche subdelta of central coastal Louisiana, and in the St. Bernard subdelta in the present day vicinity of Lake Pontchartrain in southeastern Louisiana.

While survey work has been uncoordinated, uneven, and largely unsystematic, two things stand out in reviewing the present distribution of Poverty Point sites. Sites seem to cluster in certain localities, and the localities are geographically separated from each other by substantial distances. The recent rash of cultural resources surveys has not succeeded in closing the gaps among clusters which would have been expected if the pattern of isolated clusters had strictly been a product of concentrated survey. Most new work has only added more sites within each geographic cluster.

Many of the Poverty Point localities are characterized by

segmented environments which include moderate to well elevated, better drained prisms of older alluvium and lower, more poorly drained, recent surfaces subject to overflow. These environmental contrasts are more pronounced in some localities than in others, but differences in elevation between the levels of alluvium are everywhere greater than 2.0 - 3.0m and in the Poverty Point locality itself along the Macon Ridge-Tensas Basin divide the relief is on the order of 10m. In the Lower Mississippi Valley where even minor differences in relief produce quite distinctive ecological systems, these pronounced areas of relief have resulted in marked environmental zonation.

In searching for regularities among the various Poverty Point localities, what appeared to be a recurrent pattern of site distribution was noted. This was interpreted as a dual linear arrangement of sites; one line following a bluff line separating better drained areas of alluvium from frequently inundated lowlands, the other paralleling the first but orientated along a nearby water course in the wetlands (Gibson 1973, 1974a, 1974b). This pattern was identified only in those localities within or touching the Mississippi alluvial valley proper, e.g., Macon Ridge, Lower Ouachita, Catahoula-Larto, Coteau Ridge-Vermilion, and St. Bernard localities (Fig. 1). It was suspected in the Petit Prairie locality but present knowledge of site locations has so far revealed only a line of terrace edge components. Two localities in the Valley proper, however, appear to lack the dual pattern. Despite a record of intensive survey and the apparent presence of environmental zonation, Webb (personal communication, 1971, *et passim*) and Johnson (1980) have expressed doubts that linear settlement dualism obtained in the Yazoo-Tallahatchie and Sunflower localities of the Yazoo Basin. The pattern also seems to be absent in the coastal Lafourche subdelta, where swamps and marshes replace the

marked upland-lowland divides of the other localities. Inland tributary valleys do not exhibit the dual pattern; in fact, of all the major streams which enter the Lower Mississippi Valley, only the Upper Ouachita-Saline River mouth locality seems to have a substantial number of Poverty Point sites at all. The apparent lack of Poverty Point sites along the connective upland streams is not purely due to the lack of survey. The Red River Valley has been surveyed several times with completely negative results (Gulf South Research Institute 1974). Big Creek, a major interior drainage of the Macon Ridge (the landform bearing the major cluster of Poverty Point sites), has been intensively surveyed and not a single Poverty Point site was discovered despite the presence of numerous Archaic and Tchefuncte sites (Gibson 1977). Thus, it may be concluded that Poverty Point settlement was restricted to the alluvial floodplain of the Lower Mississippi River and its confining elevated walls and to some major Mississippi tributary valleys with very broad floodplains.

In settlement studies, when one defines a distributional pattern he is normally referring the geometric arrangement of *contemporary* sites over the landscape. It must be emphasized that the dual linear pattern of Poverty Point localities is strictly hypothetical. As previously indicated, internal chronological control of the Poverty Point period is inadequate for judging site contemporaneity in any Poverty Point locality. There is no surety that one or more upland edge sites were occupied at the same time as any of the paralleling lowland components. It is possible that the dual linear pattern simply reflects contemporary, or sequential, settlements founded along shifting water courses, and thus the reconstruction would only be an aggregate picture of several temporal phases rather than a reflection of any given short term cross-section. While the lack of necessary chronological control does not inhibit speculation, it does present a major

hurdle to objective confirmation or disconfirmation of some of the ideas presented below.

There are several other foundational elements that are basic to the present perception of Poverty Point culture. Each of the Poverty Point localities, including (with the apparent exception of the Lafourche subdelta) those which seem to lack the dual settlement pattern, exhibits an hierarchy of sites. This clearcut rank order of Poverty Point sites is predicated on the mutual relationships of site size, presence-absence and enormity of public earthwork construction, relative quantity and variety of foreign trade materials present, and artifactual (or assemblage) complexity (Brasher 1973; Webb 1970a; Gibson 1973, 1974a). While site rank differentiation varies from locality to locality, it is possible to identify a single paramount site in practically every locality as well as second order and, sometimes, third order components. And considering all localities, one site, Poverty Point itself, stands above all others. There can be little doubt about the supremacy of this town throughout the entire sphere of Poverty Point interaction.

One final note concludes the foundation background. Aside from some area-wide similarites in artifact classes (Webb 1968: Table 2, 1977), the dominant commonality among all Poverty Point localities is the presence of a consistent array of extra-regional lithic imports. A multitude of sources within a radius of 1100km from the Poverty Point site seems to have been exploited and the materials distributed throughout the Poverty Point commerce sphere (Ford and Webb 1956:125-127; Webb 1977:15; Brasher 1973; Gibson 1973:144-154). The largest, most varied corpus of imported rocks and minerals occurs at the Poverty Point site. This circumstance has led to pronouncements about the central, dominant role of the Poverty Point site in the

collection and movement of these materials throughout the Lower Mississippi Valley.

Yet this enormous commercial system which crystallized during the occupational span at Poverty Point had been preceded in the same area by a Late Archaic trade network which trafficked in some of the same materials (Gibson 1968; Webb 1970b:31-32; Smith 1976:6-10). The earlier trade does not appear to have been as intensive or as extensive as Poverty Point commerce during its zenith. There are also hints of source area shifts with the intensification of trade (Smith 1973:6-10). And there are subtle indications of increasing emphasis on certain kinds of materials at the expense of others during the life of Late Archaic and Poverty Point trade (Gibson 1973:390). It has been previously speculated that some of these novel commercial reorientations may have hastened, if not caused, the Post-Florescent decline of trade and eventually the transformation of Poverty Point culture itself (Gibson 1973:389-392; 1974b:26-32). However, the important thing to recall from these observations is the fact that widespread trade and commerce *did not begin* with the emergence of Poverty Point culture. It simply culminated during the Poverty Point period. Its roots are clearly present in the trade systems of the preceding Archaic stage.

CHANGING PERCEPTIONS AND NEW PREMISES

Since the original hypothesis of local independent origins was presented in 1973, there have been advances and refinements in both theoretical and substantive areas which bear on the problem of Poverty Point cultural origins. The initial proclamation that Poverty Point and its affiliated cluster of sites constituted a chiefdom was based on demonstrated archaeological congruences with ethnographic chiefdom characteristics (Gibson 1973). These correlates

included demographic and settlement pattern particulars, economic redistribution, social ranking, and an economic structure that incorporated ecological and craft specialization and "surplus" production. While there has been considerable rethinking of the chiefdom concept (cf. Service 1975; Earle 1977) and of archaeological correlates (cf. Pebbles and Kus 1977; Steponaitis 1978), the Poverty Point chiefdom argument has not diminished in persuasive power, only in scope. Although never intended to embrace the entire geographic sphere of Poverty Point culture, it is evident from subsequent reaction to the proposal that the chiefdom concept was being extended to all Poverty Point localities as well as to the entire span of Poverty Point existence. The Poverty Point chiefdom model was never intended to apply to any archaeological conditions except those which obtained in and around the Poverty Point site on the Macon Ridge during some part of the Florescent and Post-Florescent phases of its development (ca. 1000 - 600 B.C.). Johnson (1980) has, for example, legitimately questioned whether chiefdoms ever existed in the Yazoo Basin, and his continuing research on the problem should provide us with a sound basis for deciding.

Another major issue was glossed over in the initial reconstruction of socio-political organization (Gibson 1973). Because information relevant to similar reconstructions in other Poverty Point localities was inadequate, there was no uniform way to compare the localities in terms of socio-political forms or degrees of complexity. For example, Jaketown and its site nexus in the Yazoo Basin could not be confirmed (or disconfirmed) as a chiefdom on the basis of information available in the late 1960's - early 1970's. Even if it could have been, the set of criteria (Gibson 1973, 1974a) used for chiefdom demonstration was too gross and insensitive to have permitted discrimination of the relative complexity of Poverty Point *vis-a-vis* Jaketown. While totally

objective comparisons are still not possible, it is time to attach considerable importance to the special and unusual qualities of the Poverty Point chiefdom on the Macon Ridge. Site hierarchies are beginning to be recognized in practically every Poverty Point locality. Why should there not also be a hierarchy of localities? Irrespective of the nature of the socio-political forms in each locality, whether complex chiefdoms or simple ones or whether chiefdoms, tribes, and/or segmentary lineages, the likelihood that the localities can be scaled or ranked according to various measures of cultural complexity is quite conceivable. And I firmly believe, no matter what canons for ranking might be proposed, that the Poverty Point chiefdom would have been at the pinnacle of the resultant socio-political order. Its position would be analogous to what Gibson (1978:43) has termed a "super-chiefdom" or to Steponaitis' (1978) "two- or three-tiered chiefdom." These are complex forms of kinship organization in which governance extends through two or more levels of political structure before reaching the masses.

In addition to the suspected paramount role of the Poverty Point chiefdom in the operational mechanics of everything we recognize as Poverty Point culture is the question of the organizational structure which linked the various Poverty Point territories and permitted the suspected flow or transmission of power, goods, services, and whatever else throughout all the contemporary districts. Such organizations, or structures, are not an inevitability of chiefdom emergence, even of complex ones. In other words, such systems are not inherent in the nature of chiefdoms though they may require the presence of chiefdom organizations to develop and function as well as to operate efficiently over long distances and periods of time. The existence of this extra-territorial system is recognized archaeologically by the occurrence of exotic rocks and minerals

throughout the various Poverty Point districts. We may refer to this embracive organizational system as a trade, or commerce, network, following previous suggestions (Ford and Webb 1956). In my opinion, what is being currently called Poverty Point culture archaeologically is little more than part of this commerce network itself, a situation quite similar to the pre-Caldwell (1964) concept of Hopewellian culture (before it was characterized as an "interaction sphere"). Nonetheless, it is this rather encompassing system that holds the keys to understanding Poverty Point origins, or rather that provides the basic point of departure for the present alternative perceptions of Poverty Point emergence.

It should be apparent from the tenor of previous discussion that a methodological separation of cultural organizations and structures must be effected before speculation about origins can proceed. This has been a major shortcoming in previous explanatory efforts (cf. Gibson 1973, 1974a, 1974b). In other words, the emergence of chiefdom organization in the Poverty Point locality must be considered independently of the emergence of the commercial system that linked the various population enclaves. While there is probably some connection, this relationship must be demonstrated, not presumed. It is highly probable that the relationship will be best understood in the context of the interrelations of these systems over time. But for the time being, we should maintain a distinction between chiefdom origins and interregional commerce origins. The basic premise here is that chiefdoms can, and have, developed in the absence of interregional commerce and widespread commerce has transpired in nonchiefdom contexts.

POVERTY POINT INTERACTION AS A GATEWAY PROCESS

It is contended here that Poverty Point culture, or rather

the Poverty Point interaction network, arose through increasing monopolies on inter-locality trade by certain advantageously located population isolates who were already predisposed to long distance commerce and who possessed the socio-political apparatus necessary to internalize these new economic shifts.

In this view, the question of whether socio-political forms of the chiefdom type existed in each Poverty Point locality is not really germane. In fact, the widespread existence of such organizations may be doubted before and during the height of commercial exchanges. Since the institutionalization and degree of complexity of chiefdoms is related to the number of economic and religio-political activities controlled by the community superstructure, it would appear that the emergence of strong chiefdoms at critical points along the trade arteries could have altered the development on the Macon Ridge. This suggestion poses a profitable area for future investigation of the problem of Poverty Point decline. If arterial chiefdoms did develop during late Poverty Point times and if they caused dramatic shifts in commercial ties, the cumulative effect on the Poverty Point chiefdom could have been very consequential. However, these problems are beyond the scope of this consideration. This inquiry is directed toward the origin and development of the Poverty Point interaction network, not its transformation.

While the Macon Ridge locality and the large Poverty Point site are focal to this consideration, they cannot be fully appreciated without reference to the affiliated catchment area. By catchment area I do not simply mean the immediately surrounding hinterland which provided day-to-day subsistence resources but rather the entire economic zone in which raw materials, goods, and services were circulated. It is conceivable that a sophisticated socio-political structure could have developed in the Macon Ridge locality without extra-

locality connections, i.e., in the absence of interregional trade. However, it may be doubted that such a pristinely emergent organization would have taken on the qualities and degree of complexity that it did without them. But let me hasten to add what seems a bit of circular reasoning. The Macon Ridge locality does appear to have supported a socio-political organization during the 1200 - 1000 B.C. time span which was amenable to and capable of supporting long distance commerce.

It should be kept in mind, however, that what we are calling Poverty Point trade is simply the culmination of a previous, widespread, Late Archaic commercial interaction network which included the Macon Ridge locality as well as most of the other areas which figured so prominently in the later commerce belt. This previous trade does not seem to have been nearly as intensive nor as complexly organized as that of Poverty Point times and in all likelihood transpired within a more generalized, possibly egalitarian, transactional context. Futhermore, the commodities of exchange were raw materials that were largely transformed into useful, secular equipment and only rarely into status-symbolic items. What role this kind of trade may have had in Late Archaic or Nascent Poverty Point socio-political development in the Macon Ridge locality has not independently considered but there can be little doubt that it contributed, perhaps casually, to the institutionalization of socio-political structures which handled such transactions. If previous ideas about the mutual effects of local exchange and warfare on the creation of complex society in the Macon Ridge locality (Gibson 1973, 1974a) have any merit, then the increasing involvement in long distance commerce and the development of the essential regulatory mechanisms could have only hastened chiefdom crystallization, or it could have added another level to the

political hierarchy which transformed a simple chiefdom into a complex one.

The shape of the suspected Poverty Point catchment area is particularly instructive. The Poverty Point site does not seem to be centrally positioned within its supposed catchment area and, thus, does not fit Christaller's (1966) model of central places. It does, however, appear to correspond to expectations under the model of a gateway community (Hirth 1978). Gateway communities exhibit the following characteristics (Hirth 1978:37-38): a) located on one side of elongated, fan-shaped hinterlands; b) located along natural communication corridors and at critical points of contact between areas of varying productivity, sociopolitical and technological complexity, demand and supply of scarce resources, and population densities; c) incorporate linear or dendritic market networks which may cross political boundaries and link relatively autonomous centers; d) form in areas of dispersed population, difficult or underdeveloped transportation, and external economic orientation; e) occur at geographic locations which minimize transportation "costs;" and f) link several collection points to smaller centers and ultimately to a single gathering place; in other words, the dendritic market system exhibits an hierarchy of places. Without empirical demonstration it will simply be asserted that the Poverty Point site and its trade network would conform to all of these characteristics if translated into archaeological hypotheses and tested. Brief arguments supporting this assertion are presented below.

The Poverty Point catchment area is shaped like a gigantic hour glass. The neck is centered at the Poverty Point site. The northern funnel radiates outward generally following the Ouachita River Valley to the northwest and the Yazoo-Tallahatchie river system to the northeast. To the south, the v-shaped catchment is more or less confined by the western

escarpment of the Mississippi alluvial valley to the Gulf near Vermilion Bay and to the loessal bluff-Prairie Terrace edge paralleling the Mississippi River, the northern shore of Lake Pontchartrain, and the Pearl River estuary to Mississippi Sound (Fig. 1).

Each of the localities involved in Poverty Point interaction was positioned along or near an interconnected series of rivers and streams. The Mississippi River furnished then as now the dominant master water artery, but the Arkansas-Ouachita and Red rivers also seem to have figured importantly in getting trade materials into and out of the Poverty Point locality. While these rivers and their primary tributaries have shifted their courses many times during the last 4000 years, the most recent geomorphic reconstructions of their channels during the 1500 - 600 B.C. time period tantalizingly support the correlation of Poverty Point localities with this unitary drainage system (Saucier 1967, 1968, 1974, 1977; Saucier and Fleetwood 1979; Lenzer 1978a, 1978b; Gagliano, Weinstein, Rader, Small, and McCloskey 1978). This is not to say that Poverty Point sites were always located on the banks of these streams while active. In fact, just the contrary seems to be indicated. Yet, even if on abandoned segments, Poverty Point sites were usually near enough to these active channels to have preserved a unitary communication-transportation network via secondary water connections or short overland portages. Parenthetically, it should be mentioned that not every Poverty Point site should be expected to bear this association. Some of the small, raw material collecting sites and perhaps even some of the smaller markets might not have occurred along interconnected drainages. Their locations would have been more directly influenced by the locations of exploited raw materials and though transportation logistics would still have been important in getting the materials to markets of wider circulation, some degree of

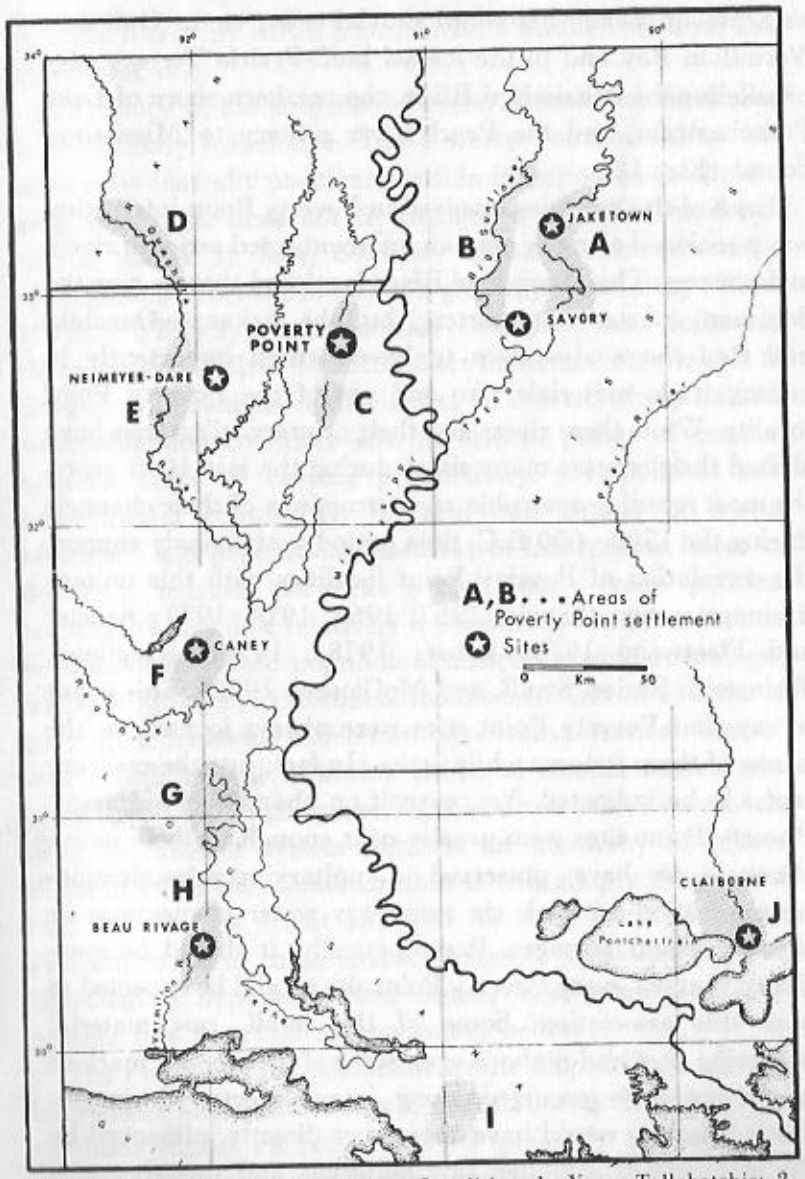

FIG. 1 Distribution of Poverty Point Localities. 1. Yazoo-Tallahatchie; 2. Sunflower; 3. Saline-Ouachita; 4. Macon Ridge; 5. Ouachita-Monroe; 6. Catahoula-Larto; 7. Petit Prairie; 8. Coteau Ridge; 9. Lafourche; 10. St. Bernard.

difficulty could have tolerated if the demand was great enough and if the materials were of an easily portable size. Needless to say, even if overland trails were important, it is expected that they would have ultimately tied into the water transportation routes which presumably serviced all points of Poverty Point interaction.

It has been previously demonstrated that relative site locations, based on kinds and quantities of imported raw materials, did not conform well at all to expectations under Christaller's central place model (Brasher 1973). Using gravity models and interaction coefficients and centrality indices, Brasher (1973) has shown (in spite of nonuniform data) that various Poverty Point sites functioned in an exceedingly complex way in the importation-exportation of specific kinds of raw materials. While the Poverty Point site does seem to have been the ultimate market to which various commodities were shipped, its relationship to the secondary markets in each of the feeder trade lines does not seem to have been as direct and as domineering as once suspected. For example, Brasher (1973:54) has shown that the Deep Bayou (and perhaps Neameyer-dare) sites in the Ouachita Valley had stronger central place tendencies than Poverty Point with regard to a particular group of rocks, e.g., Big Fork Chert, magnetic greenstone, hematite, novaculite, Ozark fossiliferous chert, some sandstones, and quartz; rocks whose ultimate source seems to have been the Ozark and Ouachita mountains. Teoc Creek and Jaketown, in the Yazoo Basin of western Mississippi, seem to have been more important than Poverty Point in the distribution of sandstone, steatite, slate, and possibly Northern gray flint; materials no doubt derived from locations nearer those sites than to Poverty Point (Brasher 1973:54). These examples as well as numerous others from Brasher's study permit us to infer that Poverty Point trade was indeed of a linear, dendritic type that was

managed through an hierarchical system of gathering points and markets of varying complexity. This is exactly the kind of arrangement expected in a gateway system. In such a system, the secondary markets should be expected to assume some central place characteristics (i.e., to exhibit relative autonomy) and to have been relatively free of domination, or control, of a distant market. This would imply that the localities which figured in the raw material acquisition network should not cast as outposts of the empire or as seats of political implementation for "national" laws made at a single paramount locality.

In addition to satisfying these expectations under the gateway concept, the Poverty Point interaction network seems to fulfill others also. The demand for scarce resources, basic to long-distance trade, is implicit in the alluvial valley of the Mississippi River where usable rocks and minerals are limited to chert pebbles, sandstones, and ironstones in the geologically older terraces and hills. The existence of a pre-Poverty Point trade network is ample justification for presuming that the limited lithic materials in the Lower Valley were deemed insufficient even to meet the demands of Archaic peoples, who were not nearly as complexly organized as those of Poverty Point culture. While lacking rigid comparative data, population enclaves of Poverty Point times do seem to have exhibited variable densities, and they were certainly dispersed to the point where clusters can be recognized and intervening populations, if any, were scattered in a nonaggregated fashion.

In short, Poverty Point appears to satisfy all gateway conditions. At least for this speculative presentation, the expectations can be presumed to have been met by the archaeological information. What has been presumed here, however, should be subjected to rigorous hypothesizing and testing to validate or invalidate the gateway assumption. At

this very superficial level of this consideration, validation of the various model particulars is not especially important.

HISTORICAL RECONSTRUCTION

With long-distance trade already a familiar aspect of the lives of Late Archaic inhabitants in the Lower Mississippi Valley, one of the participating groups began to take on an intensified role in the commerce system. This group was centered at the Poverty Point site on the eastern Macon Ridge flank in northeastern Louisiana. Why such intensification should have taken place is difficult to say, but following Rathje's (1971) lead, we may expect this heightened involvement to have been a logical outgrowth of a swelling demand for status-reifying goods; goods which would have served to further differentiate that segment of society most intimately involved in collection and dispersement of essential lithic resources from the general consuming public. With the scarcity of hard rocks a fact of life in the alluvial valley, it is logical to presume that social elevation and political power would have accrued to the managerial level of any socio-political apparatus which succeeded in meeting the demand for scarce but necessary resources. Because an egalitarian social setting and a generalized exchange system are not always adequate for maintaining a constant and consistent flow of consumable products, especially those whose sources lie beyond the immediate subsistence-providing hinterland, a ranked social structure and chiefly redistribution became essential to insuring commercial reliability. The seeds of social ranking and redistribution were probably already implanted on the Macon Ridge; a suspected consequence of its segmented environment and probable intraterritorial subsistence exchanges (cf. Gibson 1973). With the enabling socio-political structure already presumably in existence, it

would not have been a large jump to the institutionalization of foreign commerce such as seems to have happened around 1200 B.C.

But why the Poverty Point site, why not somewhere else? Poverty Point seems to have already had a fairly large population nucleus by 1500 B.C. Its population was already active in Late Archaic trade. And Poverty Point may have already achieved chiefdom status decades or perhaps centuries before long-distance commerce became the dominating way of life after 1200 B.C. Although we have no proof, similar situations may have existed elsewhere. Thus, the looming question again, why did Poverty Point happen at Poverty Point?

All lines of evidence point to location itself as the primary reason for the prominence of the Poverty Point site (not, however, for Poverty Point interaction). Poverty Point lay at the base of the raw material collection funnel and at the head of the southern commodity distribution funnel. Its location seems to have provided the one spot where the northern trade routes (Ouachita, Arkansas, Mississippi rivers) came closest to converging. While geological evidence will not allow us to say with absolute certainty that all the trade routes were joined as or by interconnecting waterways, the nearest spot in relation to all of them was at the Poverty Point site. Even this judgment would not be overturned, in terms of the principle of least effort, or "cost-effectiveness," if it were to be shown that the Poverty Point location was more "favorably" positioned with respect to the Mississippi River route than to the Arkansas or Ouachita routes. Location in cultural terms is not merely a place definable by latitude and longitude or by environmental variables. It is a boundible area of geographic space that reflects the tactics and strategies that people use to implement a given economy. Thus, even if short overland portages were required to move trade materials from the

Arkansas or Ouachita routes to Poverty Point, its prime locational situation would not have been compromised because the principal materials being transported were less bulky and more easily hand portable than some of the materials which arrived via the Mississippi route.

The role of the Poverty Point site was not confined to stockpiling foreign trade materials nor to simply redistributing exotic rocks and minerals within its surrounding community. Poverty Point seems to have been the major emanating point for lithic dispersement into central and southern Louisiana. This southerly area does not seem to have functioned in the acquisition system, other than perhaps in the movement of friable white Catahoula sandstones from central Louisiana. No, the regions south of the Poverty Point site seem to have been consumers of Poverty Point trade commodities, not providers. One example should suffice to support this conclusion.

The Beau Rivage site, on the Coteau Ridge overlooking the Mississippi floodplain (Vermilion River Basin), was a participant in Poverty Point commerce (Gibson 1976:68-75). Hematite, galena, steatite, slate, sandstone, gray northern flint, Ozark fossiliferous chert, novaculite, and other foreign materials were recognized among the artifactual materials, and these long-distance trade materials comprised over 36 percent of the chipped stone assemblage (Gibson 1979). This group of foreign rocks, it will be noticed, includes materials which were presumably transported along all the major northern trade arteries, not simply one or another. This factor alone is sufficient reason to infer the existence of a principal receiving-dispersing depot, i.e., the Poverty Point site. It seems quite unlikely that Beau Rivage itself, located over 350km from Poverty Point, could have independently established and maintained for any great length of time trade contacts with the source areas for these materials, especially

in view of the gravity models developed by Brasher (1973) which purport to show the importance of the Poverty Point site as a major receiving point. In fact, for Beau Rivage to have obtained these foreign resources directly from their source areas, they would have had to be shipped directly past Poverty Point and introduced into the southern drainage network for the extremely long trip to Beau Rivage. This possibility certainly seems to be counter to commercial efficiency and labor "costs." Another important factor in favor of direct trade relations with the Poverty Point site lies in the fact that the industrial residue from chipped stone manufacture includes only advanced stage products (mainly, tertiary and biface thinning flakes). This finding intimates that exotic rocks arrived at Beau Rivage as prefabricated blanks or preforms and not merely as quarried blocks, slabs, or large cobbles (Gibson 1979). The most logical seat for the initial preparation of trade materials would have been at Poverty Point where the entire aggregate of exotics could have been reduced to more easily manageable, portable commodities for shipment into southern Louisiana. Thus, the relationship of Poverty Point to its southern consuming populace seems to have been not simply one of raw material provision; it also included primary industrial transformation, or reduction, of those resources.

Several higher order inferences can be drawn from this characterization. Some of the similarities, as well as differences, among chipped stone assemblages in the southerly Poverty Point localities, might well have been "set" in the sizes and shapes of the prepared blanks and preforms which were exported from Poverty Point. Local variations, due to style or industrial traditions, would thusly have been at least partly controlled by the nature of the imported preforms. In this sense, it is more than a simple curiosity that Beau Rivage projectile points, for example, which show some type

(classificatory unit) congruences with points from Poverty Point are nearly always shorter and thicker than their Poverty Point counterparts, when made of imported materials.

If the funnel-shaped area south of Poverty Point was indeed a principal consuming, rather than producing, commercial zone, it seems likely that its isolated population enclaves would have been affected by fluctuations in commerce in a fashion directly related to their degree of participation in and dependence on the trade network. A simple measure of this dependence could be registered by the proportion of exotic lithics compared with those locally available. Thus, in those localities, such as Beau Rivage, any limitation, change, or cessation in commodity inflow might have required local cultural adjustments, perhaps extreme ones, to compensate for these shifts. Thus, while Poverty Point may not have controlled its entire interaction sphere in a strictly political sense (cf. Gibson 1974b), its role as a gateway community could have had emphatic and far-reaching impacts throughout its commercial network. When viewed from the vantage of southern Poverty Point localities, any trade complications at the gateway might have produced consequences analogous to changes in political governance. This supposition has several implicit meanings for the cultural origin, development, and transformation of the localized cultures in the lowermost Mississippi Valley which were nodes in Poverty Point commerce.

By the same token, once a workable trade network had been established with Poverty Point as the gateway community, any changes in the kinds and amounts of materials moving into the gateway from the northern trade routes would have had immediate effects on Poverty Point itself, not to mention the compounded effects on its southern consumers. In order to maintain constancy in materials importation and perhaps to insure restoration of trade con-

sistency in face of real or potential fluctuations, the Poverty Point community seems to have grown in size, in degree of social differentiation, and in all probability in military, or regulatory, capabilities.

Radiocarbon ages suggest that by 1000 B.C. Poverty Point had not only emerged as a simple chiefdom but had taken on a high degree of complexity as a multiple-tiered chiefdom. Its large, presumably resident, population has been estimated at 4000 - 5000 people (Gibson 1973). Its social hierarchy appears to have become increasingly polarized. The religious and secular leadership, whose prominence accrued from its control of commerce, increased in numbers and correspondingly, it would appear, in its regulatory control over all aspects of trade, both at the home base and probably to a degree in the northern market centers. This growing social differentiation can be seen in the ever-increasing importation of very special kinds of raw materials over others and in the utilization of these restricted materials to make status-symbolizing and "religious" (ideotechnic) articles. Production of these special artifacts seems to have been at the expense of purely utilitarian equipment.

While it is certainly debatable whether the array of post-1000 B.C. trade materials was created by trade shifts between source areas, secondary markets, and Poverty Point or whether it represented an internal shift in emphases, the probability remains that trade materials during the Florescent phase at Poverty Point were being increasingly transformed into status-symbols for the upper social eschelon. The much wider range of trade materials during the earlier, Nascent (radiocarbon ages, 1500 - 1200 B.C.) and Developmental (radiocarbon range, 1200 - 1000 B.C.) phases were targeted for broader, more generalized, public consumption. And it is of no small interest that an apparently large percentage of the special, later trade materials (gray northern flints and

streaked slate) were consumed by a social grade which can only be interpretated as a high-ranking warrior group (Gibson 1973, 1974a, 1974b), hinting of the growing importance of warriors and of war itself.

CONCLUSIONS

If one separates the genesis and development of the Poverty Point site and chiefdom from the emergence of Poverty Point culture as a widespread interregional commercial network, or interaction sphere, it is possible to offer some new thoughts on one of North America's first sophisticated cultural complexes. While these thoughts are entirely speculative, they have grown out of an ever-expanding data base, new analyses (cf. Brasher 1973), and novel concepts (Hirth 1978).

It is herein postulated that one large population aggregate on the Macon Ridge in northeastern Louisiana began to capitalize on its strategically important geographic location by functioning in an increasingly growing fashion as an economic market place for an hourglass shaped commercial zone. The Poverty Point site became a gateway community. It acted as a depot for foreign lithic resources being imported from northern source areas and as a dispersing point for a southern consuming populace. Internalization of marketing operations eventually produced fairly rigid cultural institutions at the gateway community—the Poverty Point site; institutions which served to produce not only ranks of social distances but regulatory mechanisms capable of exerting some controls and sanctions throughout the interaction network. Some of the population aggregates joined in this interaction may have also become chiefdoms as they began to exercise marketing and economic prowess accruing to their own situational logistics along primary trade routes.

However, their growth may have been directly tied to the Macon Ridge developments and, thus, might have constituted secondary, not pristine, crystallizations.

Change, presently only anticipated, in raw material inflow or outflow through the gateway community could have been very upsetting to the functioning of the interaction system. These changes must be detected and explained through future research if we are to gain much headway in understanding the real essence of Poverty Point culture, its development, its maintenance, and its transformation.

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