

LA TIERRA

Quarterly Newsletter of the Southern Texas Archaeological Association

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T. C. Hill, Jr.
Newsletter Editor

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La Tierra is distributed quarterly to members of the Southern Texas Archaeological Association. For membership information, contact the Treasurer.

Manuscripts and other items for the newsletter should be submitted to T.C. Hill, Jr., Box 518, Crystal City, Texas 78839.

REMARKS FROM THE EDITOR

La Tierra? The Land? Sure, the land of Southern Texas...the land of the perpetual hunter and gatherer...this warm, exciting land of eternal plenty!

Our Newsletter's cover is designed to portray such a Land. Take a bunch of western semi-desert, add the blue-hazed cedary northern hills, dash in some central thorny brush, show a goodly stretch of Gulf shoreline which tends toward rampant dampness farther east...feed it with one of our numerous streams...heat the whole issue under a weird ole Sun God which stirs it to incubate, hatch, and grow like wildfire. Then imagine small groups of copper-skinned experts lazily practicing a satisfying lifestyle of hit-and-run "harvesting of the goodies", and the layout is just about complete.

If you find snakes and stickers and spooky thickets charming, La Tierra is right up your alley. You can creep through canebrakes, tumble into arroyos, bog about in estuary mud, sunburn and freeze yourself to your heart's content, and you'll have managed to merely probe the edges of her tremendous range.

Thick and rich...Southern Texas offers just about anything you feel like trying. Large cities with long histories, little side-road places hiding long-forgotten pasts...chances are you shot doves last fall over a favorite Indian campsite, or horsed that tremendous bass out of a fallen tree-top which once shaded a Spanish caravan, mission-bound.

Of course, this land is presently a far cry from "La Tierra" of the past...far too many people now, for one thing, making too much noise and too many changes to her profile. Yet you're never very far from certain tiny protected spots which abound with a bit of her former lush floral and faunal offerings...if you've lucked onto a couple of those spots, you've caught a fleeting glimpse of "the way it was".

You could say that the exact same sun which warmed the Old Ones still puts out for us...that the same streams sometimes flow again with a trace of their former brisk, springfed vigor...and that those tiny isolated wild remnants of the Land itself are proof positive that we've not been completely successful in destroying an ancient scene, no matter how hard we've tried!

Anyhow, Southern Texas has enough mysteries to keep a bunch of people busy for a long time. She's been looked at pretty well in widely scattered places, by good professional archeological teams, but the blank spaces which haven't been explored make up the greater bulk of her. Between the Rockport Coast and the Baffin Bay area, between the Rio Grande mouth, Falcon Reservoir, and the Pecos-Devil's River-Rio Grande rockshelters, small sites along the breaks of the Balcones and larger ones near Houston...between all this (and among all this) lies a huge, mostly unknown Land.

Many professionals have looked at the little bit of recovered evidence and decided on an Archaic lifestyle lasting many thousands of years, with probably a whole lot of "hardship" and "managing-to-survive". I can find no argument with the "hunting and gathering" formula, but sure don't care for that "hardship" bit, and find the phrase "managed to survive" to be absolutely unreal, since hundreds (thousands?) of creekside sites tell me another story entirely. La Tierra might easily have furnished a reasonable population, more often than not, with ample wild harvests.

There's pretty good evidence, out here in my country, that even the very latest "wild" people were supporting themselves very well indeed. Not just "surviving", but living rather "high", in their own way...nearly forty recovered faunal varieties, from a couple of very late sites, tell me they caught, killed, and ate just about any thing that didn't eat them first...and that's not including any floral goods, which still abound in the site areas!

No, I can't buy a long lifestyle of mere "survival", and I can't find any interested Tierra amateurs who can. We all pretty well agree on what the prehistorics did, but we now need to discover the "how" and "when" of it all.

So that's why a bunch of us got together and decided to gang-up on our Tierra. We plan to turn our land upside-down and shake her, under competent leadership. We'll aim for "communication" from all corners to see if we can't produce a more realistic picture of the past.

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The Southern Texas Archeological Association was formed in San Antonio, in early December, with an organizational meeting on December 2, 1973. Nearly forty people showed up to participate, and the job was accomplished in a few hours. A number of details still remain to be ironed out, but the association is now beginning to function, and that's what counts.

Officers were elected and committee heads appointed. These are listed below, and if you happen to notice a few familiar names, don't be too surprised. Included will be a UTSA anthropology prof, a Witte Museum archeologist, and several past and present Texas Archeological Society officers (a Director, a Bulletin Editor, a Newsletter Editor, and a few Regional Vice Presidents, that I can recall)!

The officers are: Chairman - Dr. T.R. Hester; Secretary - Anne Fox; Treasurer - M.F. Chadderdon.

The Coordinating Board is composed of: Hester, Fox, Chadderdon, C.K. Chandler, Harvey Smith, Jr., Bill Birmingham, Harvey Kohnitz, Dave Espy, T.C. Hill, Jr., Jim Mitchell, Gene Griffin and Dr. Eugene O'Brien.

At present there are several committees, headed by:

Membership and Publicity	- Jim Mitchell
Field Work and Training	- Dr. O'Brien, Dave Espy, Harvey Smith
Documentation	- M.F. Chadderdon
Publications	- Dr. Hester, Harvey Smith, T.C. Hill, Jr.
Constitution	- C.K. Chandler, Anne Fox
Program	- Gene Griffin, Bill Birmingham and Harvey Kohnitz

Persons wishing to participate in the work of one of the committees should contact the committee head or an STAA officer.

Regular membership meetings are to be held at quarterly intervals, with special meetings to be called by the Board when necessary. It was decided to hold the annual business meeting in March of each year, to avoid a number of conflicts.

Major Jim Mitchell temporarily (and admirably) chaired the first meeting, last December, at the Lackland Officers' Club. Dr. Hester talked of the present shape of Southern Texas archeology, of what is known and what is suspected and roughly what now lies ahead of us. Dr. Parker Nunley of Dallas presented a most interesting audio-visual filmstrip on Texas archeology, a film which was prepared for high school use and which is now available for such use. (I was particularly pleased to see Dr. Nunley show up...he, along with Dr. Hester, has spent a lot of time out here in this western section of La Tierra, and I consider them to be the best authorities available on this area.)

An annual journal is planned by the Publications Committee, but this newsletter, to be mailed out quarterly, will have to entertain us until that event comes to pass. This newsletter is planned to offer NEWS, and we hope to make an "event" of it, rather than something like, "The STAA met, had coffee and cookies, saw a ripping film on Outer Mongolia, voted to adjourn, and went on its way." Period. Nope, that won't do.

We need your contributions to keep the newsletter going. Artifacts, sites, activities, news, problems, sundry thoughts...remember, YOU are your own area's expert, and only YOU can spotlight the puzzling things you're fooling around with. A few paragraphs (or a few pages) will keep this newsletter afire with excitement.

You say you haven't joined the Association yet, and you want to now? Write to M.F. Chadderdon (4004 Glenrock, San Antonio 78240) and send her some money and your name/address. Memberships are: Supporting - \$20.00 per year; Contributing - \$10.00 per year; Active - \$5.00 per year; High School Student - \$3.00 per year. Be sure and tell her what other archeological societies you belong to, and your areas of interest. Would you be interested in serving on one or more of the committees? Many more folks are needed...pick out what you'd like to work at, contact your committee heads, and get in touch...they'll welcome you!

The STAA will aim at combining professional and amateur efforts within the region...this important contact has long been lacking. A crash program to document sites and large collections is planned, and MUCH effort will be required to do a decent job. Research activities and emergency surveys and salvages will be done, off and on, and all this aims toward a more complete understanding of our prehistoric inhabitants. After all, isn't this the entire purpose of such a program?

I hate to mention the word "work" (nobody, but NOBODY, detests that word more than I do!), but that word describes what now needs doing, here in La Tierra, if we're to knock any holes in our many problems. Change that word to "fun", and we'll all get out there and walk ourselves to death, shovel tons of dirt, and be perfectly miserable in just about the happiest way imaginable.

We have several hundred miles of Rio Grande to tend to, and just about all the Nueces, Frio, Medina, San Antonio, Atascosa, Guadalupe, Navidad, Lavada (oh, that's just a few!) Rivers, and their tributaries. A million miles of site-lined streams, waiting to be explored and reported. And our boundaries? I guess they're flexible...draw a line from about Del Rio across the lower Plateau to about Houston...consider everything below that line to be ours, plus a hunk of adjoining Mexico, and that'll do for a start.

Here is a small example of how really unknown our Tierra is: For several years, Dr. Hester has been questioning me about the absence of bison bones out here in my area. I made all sorts of excuses for it (the great weight of an occasionally slaughtered carcass, the probable distances from kill-sites to camp-sites, the likelihood of trimming meat from bones and carrying only soft materials back, etc. etc.), but all that was just vague guesswork. So what happened? During the past two years, I've tested two very late pottery sites and another site of unknown vintage, probably slightly older; bison bones showed up in all three! So they were here all the time, and who knows what else lies 3-4 inches deep (and on down to five feet deep in places) out here, along the many, many creeks which pass through on their journey toward the Nueces River.

We've found the remains of mammoths down here, and fragments of large fossilized bones from other extinct species, lying on an old clay bed but covered with silts which appear to be tolerably recent. It seems that we are in desperate need of close looks at our Tierra by interested geologists, as well as expensive radiocarbon datings of some of our fossilized discoveries. We could be dealing with the overlap of man and extinct mammals, and be just as unaware of it as we were of the recent bison bones.

The "Archaic"? Oh well, that's something else again, out in my western area. If you figure it began thousands of years ago, and never did really end, then the maze will probably not be solvable. But however it happened, there is distinct evidence that those folks were not merely "surviving"...you don't tend to cling to a land forever if it cannot

support you, unless there's no place else to go. I'd have to vote for a long, satisfied series of huntings and gatherings, and would hope we'd eventually be able to prove such occurrences and place them in some sort of believable order.

The fuel shortage will likely cut into our outdoor activities somewhat, and 50¢ per gallon gasoline will hold us even closer to home. But there are a whole bunch of backyard activities which need tending to, in the meantime. And if we're very careful and observant, such backyard studies can give us a lot of insight into the mental processes of our Old Ones.

My own backyard operation has been a six-month-long frolic with the replication of bone-tempered pottery, using local clays and cooking it in every imaginable fashion. I've been trying to reproduce this local thin, crisp, dark-cored stuff and to discover the many problems with which the ancient potters had to contend. They had their problems... all the way from finding good, fine clay, to grinding bones, to building pot-shapes which were sturdy and lasting, to smoothing and polishing and drying those forms without cracking them, to eventually arrive at the moment of truth, that incredibly impersonal, destructive fire. Some day (in another six months?) we just may bore you to death with our findings...because it'll probably take that long to get their (and our) problems mostly solved, now that we're sort of beginning to understand them. Meantime, I've found this project to be about as exciting and mind-wracking as anything I've ever tried. The secret is to go at it completely cold, with no previous knowledge or experience...with only a sackful of small Indian sherds to go by.

There is a certain satisfaction to be gained from puzzling through such a problem, to finally learn that the solutions are mostly common-sense, and fairly simple. But the very great surprise comes with the growing admiration one feels for those primitive minds which took on the problems and solved them.

T. C. Hill, Jr.

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STAA FIELDWORK

On December 5th, members of the STAA fieldwork committee converged on a historic site in northern Bexar County to help with the excavation of a pair of 19th century lime kilns. The work was under the direction of Anne Fox (Witte Museum), who has been investigating these structures which are threatened by a housing project. The complex includes several kilns, a cistern, and the site of a log cabin. The project involves emptying the kilns of 20th century trash, excavating them for structural information and better knowledge of how and by whom they were used. Future work will include complete mapping of the site and location of all historical features in the immediate area.

STAA members have also been working, under the direction of Harvey Kohnitz, in a surviving portion of the Granberg site, also in northern San Antonio. Most of the site was destroyed in the construction of Loop 410. Particular attention is being paid to archaeological materials found in an alluvial gravel deposit at the base of the site.

Members interested in helping with these, or other STAA projects, in the San Antonio area, should contact Harvey P. Smith, Jr. or Dr. Eugene (Tom) O'Brien (San Antonio).

SOUTH TEXAS ARCHAEOLOGY

In recent months, several papers have been published relating to the archaeology of Southern Texas and adjacent areas. A partial list of these is provided below:

- Hester, T.R. and T.C. Hill, Jr. (1973). "Prehistoric Occupation at the Holdsworth and Stewart Sites on the Rio Grande Plain of Texas" (with Appendix I, Modern Fauna and Flora by J. Holdsworth and Appendix II, Faunal Remains by D. Gilbow). Bulletin, Texas Archeological Society 43 (for 1972):33-75.
- House, Kurt (1974). "A Paleo-Indian Fluted Point from Live Oak County". Texas Archeology 18(1):17-19.
- Mitchell, J.L. (1973). "A Banded Slate Gorget from South Texas". Ohio Archaeologist 23 (4):8-9.
- Silva, J. and T.R. Hester (1973). "Archaeological Materials from a Nonceramic Site in Eastern Durango, Mexico". Contributions of the University of California Archaeological Research Facility 18.

PUBLICATION FOR SALE

A limited number of copies of "Archaeological Papers Presented to J.W. House" (1972) are available for purchase. This 25-page volume contains the following papers:

- Davis, E. Mott "Local Archeological Societies in the World of the 1970's"
- Nunley, J. Parker "Anthropological Significance of Southwestern Texas Archeology"
- Hill, T.C., et al "Yucca Exploitation..."
- Fawcett, W.B. "Prehistoric Site Models Based on...the Leon Creek Archeological Survey, Bexar County, Texas"
- Hill, T.C. "Some Thoughts on Prehistoric Travel in South Texas"
- Hester, T.R. "Evidence for Prehistoric Trade on the Rio Grande Plain"

Cost is \$2.00 per copy; order from T. Hester, 610 Cobble, San Antonio, Texas 78216.

PRISMATIC BLADE DISTRIBUTION IN TEXAS

L. W. Patterson

The widespread distribution of prismatic blade technology in Texas has only recently become evident, and much remains to be published.* This brief paper presents information on the distribution of sites with known core-blade technology, and those from which occasional blades or blade cores have been reported. Figure 1 is a map of the distribution of blade sites by county, and Table 1 is a listing of this information. Published and unpublished data indicate that blade technology is found at various times from the Paleo-Indian period (Green 1963) into the historic era. In certain areas, prismatic blade technology may persist over long periods of time, but this has not been demonstrated for all localities at which blade and core materials occur.

H. J. Shafer and T. R. Hester (personal communication) have told me that blades are found on many late prehistoric sites, as in the Rockport complex on the central Texas coast, and in the Toyah phase in central Texas (in this phase, Perdiz points are often made on blades).

Details of blade technology, such as types of cores, ranges in blade size, and manufacture of artifacts from blades are highly variable and individual site reports must be consulted for specific information. T. R. Hester and H. J. Shafer (ms.) have prepared a report on the blade technology of the southern and central Texas coast, and L. W. Patterson (ms.) has described blades of the upper coast and adjacent regions. Figure 2 shows some sketches of prismatic blades and a few of the core types found in these areas.

The presence of a few prismatic flakes is not necessarily an indication of a prepared core and blade industry, as some prismatic blades can be formed fortuitously in other lithic technologies (Mewhinney 1956). In examining assemblages for prismatic blades, the "accidental" nature of some blade formation should not be overly emphasized, however. There are indications that prismatic blade technology is quite widespread in North America (Morse 1973:2; Hester and Heizer 1973).

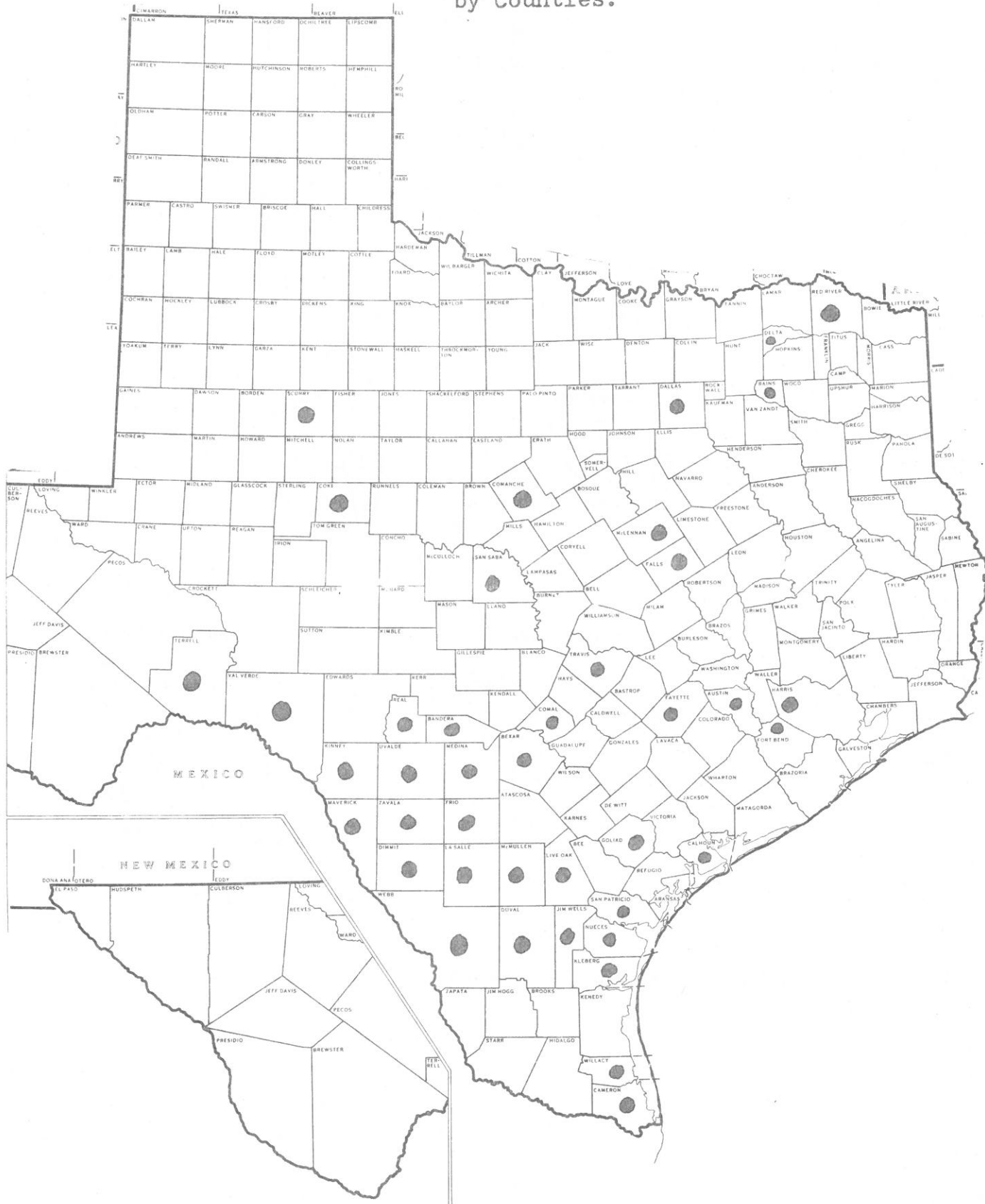
To demonstrate the presence of a blade industry, one needs to find blades, the cores from which the blades were detached, and determine the uses for which the blades were produced (i.e., use without modification, making of formal tools, etc.). It is hoped that more interest will develop in debitage analysis, and thus possibly lead to the recovery and reporting of blade material, especially prepared cores. It is essential that blade material be considered along with the full range of lithic technology at a given site.

* Editor's note: A site recently discovered on the Dry Frio River, Uvalde County, has yielded several blades and polyhedral blade cores. This site, and others like it needs attention and reporting. (TCH)

Table 1
Texas Counties with Blade Sites

County	References
Austin	Patterson, L.W., notes, site 41AU7; also site 41AU27
Bandera	Patterson, L.W., notes, Hicks site
Bexar	Hester and Shafer ms.
Cameron	Collins, Hester and Weir 1969
Calhoun	Briggs, A.K., pers. comm., site 41CL20
Coke	Shafer 1969
Comal	Suhm 1962
Commanche	Green 1963
Dallas	Sollberger, J.B. & Harris, R.K., pers. comm., Obshner site
Delta	Johnson 1962
Dimmit	Hester and Shafer ms.
Duval	Hester and Shafer ms.
Falls	Herbert, J.H., pers. comm., sites 41FA10, 11
Fayette	Patterson, L.W., notes, site 41FY51
Fort Bend	Patterson, L.W., notes, site 41FB18
Frio	Hester and Shafer ms.
Goliad	Hester and Parker 1970
Harris	Patterson ms.
Jim Wells	Patterson, L.W., notes, site 41JW4
Kinney	Patterson, L.W., notes, site 41KY14
Kleberg	Hester 1971b
LaSalle	Hester and Shafer ms.
Live Oak	Hester and Shafer ms.
Maverick	Patterson, L.W., notes to TARL
McLennan	Chandler, C.K., pers. comm., site 41ML46
McMullen	Hester and Shafer ms.
Medina	Patterson, L.W., notes, site 41ME3
Nueces	Hester and Shafer ms.
Rains	Sollberger, J.B. & Harris, R.K., pers. comm., site RA-3-6
Real	Patterson, L.W., notes, site 41RE7
Red River	Skinner, et al 1969
San Patricio	Chandler, C.K., pers. comm., sites 41SP68, 76, 77, 81 Hester and Corbin ms.
San Saba	Green 1971, 1972
Scurry	Portis and Bills 1968
Terrell	Green, L.M., pers. comm., site 41TE97
Travis	41TV129 (TARL); Kelley 1961
Uvalde	Epstein 1960, Hester 1970, 1971a
Val Verde	Dibble, D.S., pers. comm., site 41VV99
Willacy	Hester, T.R., pers. comm., La Sal Vieja
Webb	Hester and Shafer ms.
Zavala	Hester and Shafer ms.

Figure 1. Blade Distribution by Counties.



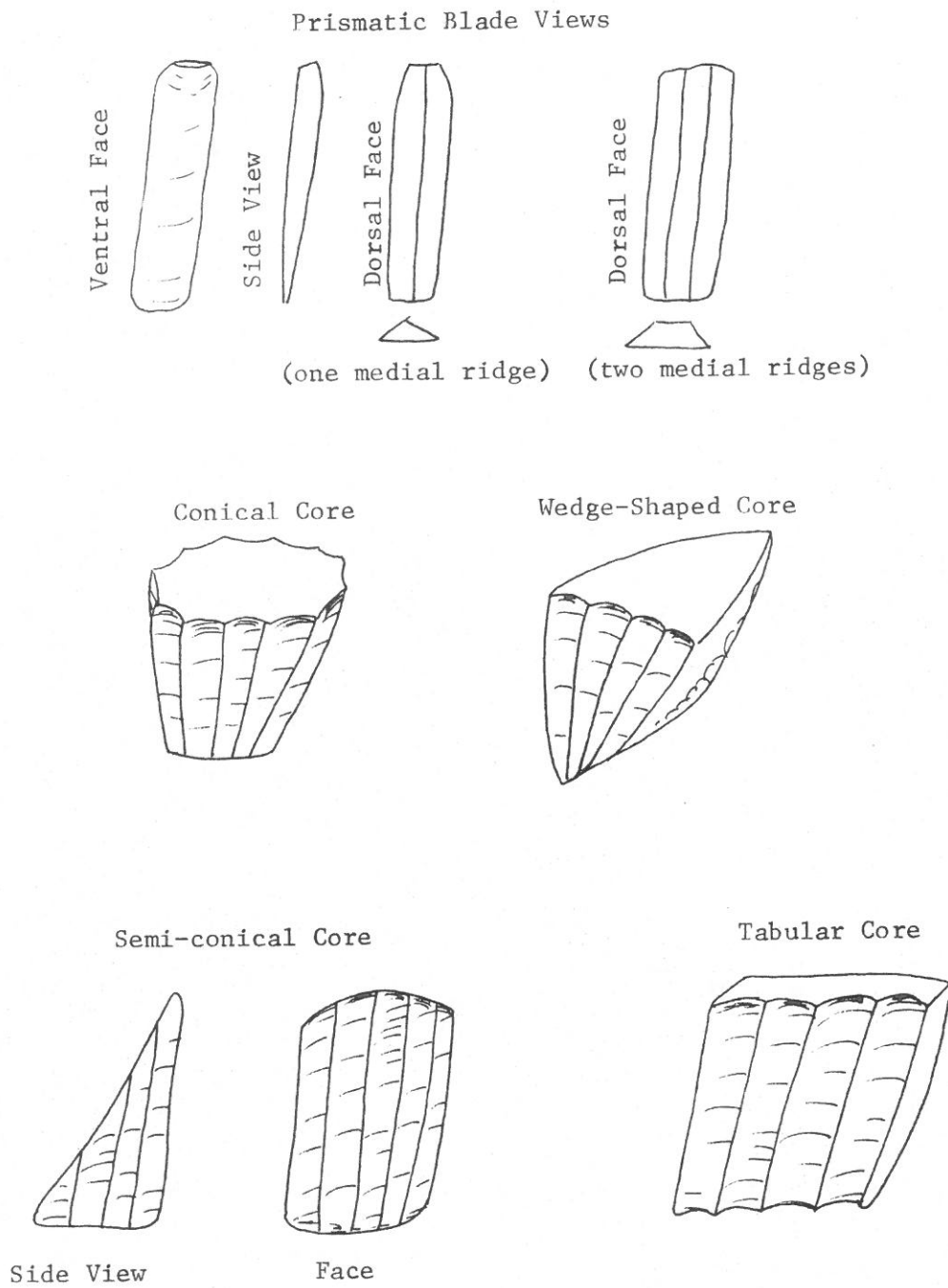


Figure 2. Typical Blade Technology

An attempt will be made to keep an updated version of this information at the Texas Archeological Research Laboratory. This paper is intended to be an aid and stimulus to further studies, and as such has not presented any details on the various blade technologies occurring in Texas.

Acknowledgments: I wish to thank Dr. T. R. Hester (University of Texas at San Antonio) and Dr. H. J. Shafer (Texas A&M University) for their comments although final responsibility remains with the writer.

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DOUBLE HAFTED OR DOUBLE POINTED?

Harvey P. Smith, Jr.

Introduction

Prehistoric aboriginal remains of occupation in South Texas are abundant along the numerous creeks and streams south of San Antonio. Most of these remains are in the form of lineal occupation zones along the alluvial flood plains of these water courses, rather than small, individual sites. These floodplain sites predominate in the area, although hill-top sites and intermediate level sites are also known. The floodplain sites are actually occupation zones that developed in a linear relation to the creeks, as sources of water. An extensive variety of lithic material is exposed due to sheet erosion and gullying.

Prehistoric occupation of the type described exists on the San Miguel Creek, extending from east central Frio County, through Atascosa County, to northern McMullen County. The site area investigated and reported here is located on the Keystone Ranch in southeast Frio County, and was previously reported by Dr. T. N. Campbell of the University of Texas with site designations of 71 A4-1 through A4-3. The lithic artifactual assemblage found by surface collecting has been previously reported (Hester 1968) and include both Late Paleo-Indian and typical Archaic material. An extensive variety of tools, as well as projectile points, occur at these sites. A significantly large number of steep bitted tools -- i.e. "Clear Fork gouges" and "Guadalupe gouges" -- are found and possibly indicate extensive woodworking activities. Additional inferences may be drawn from the tool collections now being studied (Smith ms.).

An Unusual Find

During the course of these recent surface surveys along the upper north-western end of San Miguel Creek in Frio County, a rare stone artifact was found in situ (Figure 1). This chert specimen appears to be a reworked projectile point with a carefully formed bifurcated tip that is slightly flared. Each tip or corner is flaked to create a distinct point.

The original point may have had the leaf shape and concave base of the Kinney type. The lower edges are lightly smoothed. The artifact has the following dimensions: length, 5.8 cm.; base width, 1.8 cm.; maximum width, 2.7 cm.; distal width, 2.0 cm.; "double point" width, 1.0 cm.

The tool was partly exposed in the side wall of a typical erosion gully that cuts into the alluvial flood plain of San Miguel Creek. The position was approximately 18" below the natural surface. A more-or-less continuous occupation zone occurs on both sides of the San Miguel for several miles in this area -- i.e., the southeast corner of Frio County (Hester 1968:148).

The predominately Archaic artifact assemblage includes a small number of Paleo-Indian points occurring at random. Several indications of reworking

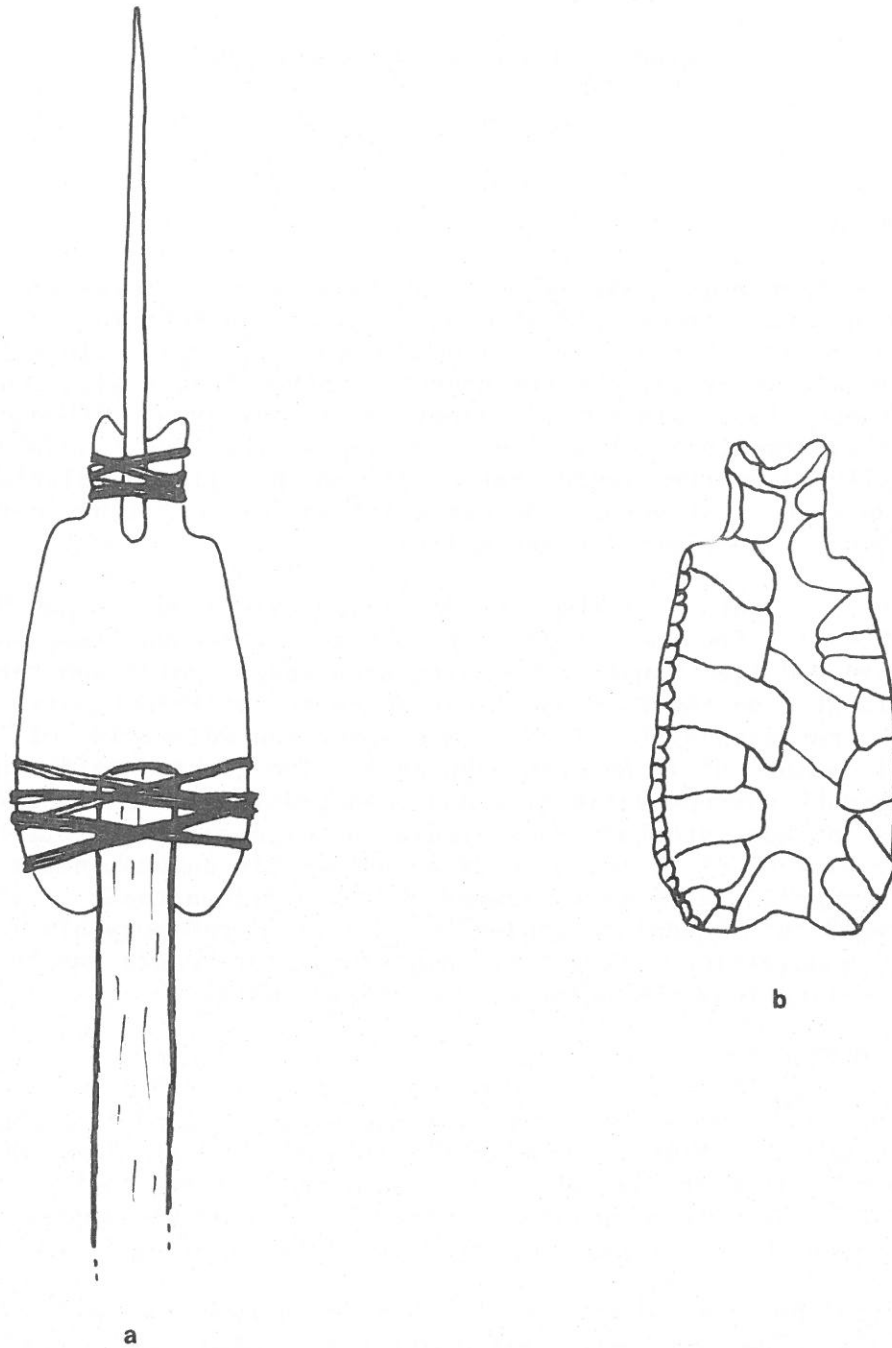


Figure 1. a, hypothetical use of flint artifact; b, flint artifact from San Miguel Creek, Frio County, Texas (illustrated actual size).

have been noted in surface collections and reported by others. Most of these reworked pieces are drills with a single point. The artifact reported here has very finely worked distal tips that would hardly stand the strain of drilling. It is proposed - as illustrated in Figure 1, that it was intended as a transition between a long, slim wooden point and a larger wooden shaft. Similar transition is quite common with the typical wooden "foreshaft" used between the reed shafts and small chert points of the Trans-Pecos area (Martin 1933).

There are several consideration in favor of such use:

- (a) San Miguel Creek would be sufficiently large in prehistoric times to support fish, which could have been hunted by bow-and-arrow or by spear. The long wooden point would have been suitable for impaling fish. Martin has reported the use of such wooden points in the Trans-Pecos.
- (b) A stone artifact would have added weight and balance to the distal end of the projectile.
- (c) Transition from a larger shaft to the small wooden point could be accomplished effectively.
- (d) A transition is suggested, since the bifurcated point would be ineffective in piercing directly.
- (e) The flared double-tipped distal end appears to be intended for the use of bindings, which would be required to haft a smaller wooden point.
- (f) Possible existence of a poison-dart technique might be indicated by the proposed use of this artifact (Smith 1968).
- (g) The pronounced concave base and the evidence of basal thinning indicate hafting.

In conclusion it would appear that hafting was intended for both ends of this artifact. Therefore, use as a transitional device would appear to be indicated.

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A POSSIBLE LATE WISCONSIN FAUNAL ASSEMBLAGE ON THE
TEXAS EASTERN GULF COAST

Paul R. McGuff and
Ernest L. Lundelius Jr.

During April and May 1973, as a member of the Texas Archeological Survey staff, McGuff conducted an evaluative survey of the prehistoric and historic archeological resources within portions of the Clear Creek watershed. The study area was south of present-day Houston, Texas. The research was under contract from the U.S. Army Corps of Engineers.

The search for archeological sites within the Clear Creek project area involved an intensive and extended investigation of the land surface. During such a survey, trained archeological crews record as much information as is practical on environmental situations and processes. The collection of these data is the outcome of the growing realization among archeologists that man's cultural systems are natural, and that the face of those cultural systems is the result of the effects of natural things as well as of man's influence.

The information recorded in this paper is not specifically archeological. It does, however, offer the possibility of aiding in archeological interpretation.

It is possible that Early Prehistoric peoples were living on the Gulf Coast during the late Wisconsin but it is generally assumed, because of the much lower sea level at that time, that most evidence of cultural activity was covered as the sea rose to its present level. Coincidentally (and very fortunately if there is ever further archeological investigation on Clear Creek) a number of sites have been located on Clear Creek in the area of the paleontological locality, which represent what appears to be the oldest evidence of an archeological culture yet recognized on the Texas Coast. For that reason a faunal locality in the area and the information it might hold on the environment affecting the people in Early Prehistoric times is very important.

If the useful data the paleontological locality discussed in this report may have for the interpretation of a prehistoric cultural system were not considered, it would still be important. The paleontological locality represents a unique resource that, like the archeological resources, may soon vanish. We, the authors, would feel an obligation to record the facts significant to the geologic history of the area.

We hope that publication of these data, which may be of geological importance, will emphasize the need of taking a broad view of the environment while conducting archeological surveys. We believe such a viewpoint will result in a more reliable assessment of the archeological record as well as contributing to other fields.

Introduction

A number of fossils have been located that suggest a late Wisconsin age. Other Pleistocene paleontological localities of Sangamonian or early Wisconsin are common on the coast (Lundelius 1972, Slaughter and McClure 1965, Stoval and McAnnety 1950), but late Wisconsin assemblages are uncommon. A locality reported by E. H. Sellards (1940) in Bee County probably is late Wisconsin in age. The site on Clear Creek assumes importance since, if it is a late Wisconsin fauna, it has the potential of contributing significantly to the understanding of a little known period.

Background Geology

Clear Creek is a stream which has incised the Beaumont Coastwise Terrace. The Beaumont formation is an emergent deltaic plain (Bernard and Le Blanc 1965) that rose above the sea subsequent to the Wisconsin glaciation. The emergence increased the gradient to base level and caused Clear Creek to incise the plain. Following the last glaciation, approximately 18,000 years ago, sea level began to rise and sea water entered lower Clear Lake. Present sea level was reached approximately 4,000 years ago (Lankford 1971). This has slowed erosion and the lower portions of the Creek are adjusting by infilling.

Setting

Clear Creek from Galveston Bay to its headwaters may be divided into four parts: (1) an infilling valley, (2) a tidally affected stream, (3) an incised meander and (4) a rapidly headward eroding stream.

The nearly impermeable clays into which Clear Creek has been incised and the slight slope of the Beaumont formation allow enough runoff to travel at sufficient speed for the continued erosion of upper Clear Creek. The creek is more stable beginning at the section of incised meander.

This stability below the section of rapid headward erosion is the result of at least three factors. The boundary between the headward eroding stream and the incised meander is itself one of the factors limiting erosion below that point. The length of stream bed within the meander belt and the relatively small amount of downslope movement compared to the straight section upstream slows flood waters. A second factor is the upstream boundary of the fluvial woodland and prairie grassland. On Clear Creek this boundary occurs where the sections of rapid headward erosion and incised meander meet. The position of the woodland boundary may be explained by the age of stream features in the areas where the woodland occurs. Where it does not occur, the stream is less mature. Minor expansion of the fluvial woodland may have taken place slowly upstream, but, there has been no retreat in recent times (Frank Wheeler, personal communication). The boundary between the woodland and the prairie has remained close to its present position during the entire Recent period. The final factor affecting erosional processes on the creek is sea level. During the Wisconsin glaciation sea level may have dropped as much as 450 feet from its present level. Periods of lower sea level have been periods where erosion is a dominant process.

The first two factors discussed had local effects on the erosional environment; the lowering of sea level affected a much larger area. The drop in sea level during the Wisconsin has resulted in a lack, along the Texas coast, of known terrestrial deposits from that period. The double boundary of the woodland and prairie and of the headward eroding stream and incised meander may have produced a locally depositional environment at a time when erosion was the rule elsewhere along the coast.

The U.S. Army Corps of Engineers as part of a study of the Clear Creek floodplain (1972) has mapped the possible extent of flooding on the creek. The map produced by the Corps of Engineers indicates that in a projected 100 year flood the floodplain just above the boundaries of the woodland and incised meander would be over 2½ miles wide. Below the double boundary, the floodplain narrows considerably to the smallest width projected within the watershed. During the archeological survey several historic sites from the early 1900's period were observed within the wide floodplain upstream of the incised meander, fluvial woodland boundary. These historic sites were covered by a thin layer of alluvium. Given the evidence from flood engineering and archeological work it can be said that the boundaries of the incised meander and fluvial woodland have caused an hydrolic constriction which slows flood waters sufficiently to create a locally depositional environment at least since the early 1900's. If factors in the past were similar, as geologic and soils evidence seem to indicate, then it would be reasonable to hypothesize that the locally depositional environment on Clear Creek was a part of the creek's character during the late Pleistocene as well as at the present.

The fossils reported here were collected from a locality just upstream of the woodland, and incised meander boundaries in the area that at least presently is within a locally depositional environment. Relationships in the past cannot be understood with certainty without further investigation.

In this preliminary study the stratigraphic column at the site will not be reported because associations are unclear, introducing the possibility of misinterpretation.

The Fossils

The located indicators of a Pleistocene fauna include a number of horse teeth and the tooth of a mammoth. Unfortunately there have as yet been no reports of fossil microfauna at the locality.

The horse teeth, representing at least two individuals, are primarily lower molars, however there are pieces of one or two upper molars included. Lundelius, after careful examination of the fossils, has noticed what he feels are significant differences between the Clear Creek horse and other horses from the Texas Gulf Coast. While these differences are not at present statistically viable they do pose some interesting questions.

These questions include:

- (1) Do the horse teeth from the Clear Creek locality represent an extension of the range of the high plains horse? (The horse teeth from Clear Creek resemble those of a horse known to have inhabited the high plains.)
- (2) Do the horse teeth on Clear Creek simply evidence an extreme in the variation of tooth shape for the species known to be indigenous to the coastal region?
- (3) Do the teeth represent an unknown species?
- (4) Are the teeth unusual because they are from the little known late Wisconsin? If not, what is the age of the fossils?

The mammoth, represented by one tooth, does not appear unusual when compared to other examples of mammoth from the area.

Conclusions

Fossils of an undetermined but possibly late Wisconsin age have been located in an unusual setting where at present a locally depositional environment exists. It appears that this environment may have been a part of the creek's character in the past; even during periods in which other areas were undergoing rapid and intensive erosion. The research possibilities of such a unique environmental situation are many and perhaps include the chance to study faunas and interpret the environment of periods of which evidence has rarely been found.

Unusual aspects of setting and the morphology (particularly of the horse teeth) of the Clear Creek fossils do suggest that they date from the late Wisconsin. Further work is necessary, however, if substantive evidence is to be provided.

In order to accumulate better documentation we will conduct investigations to determine the actual position, stratigraphic and chronologic placement of the fossil-producing strata. This will be done by coring a transect across the Clear Creek floodplain and by making a more detailed investigation and recording of the stratigraphic profile of the paleontological site and of the geologic history in the immediate area.

Any comments on this paper will be gratefully received by either one of the authors.

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PETROGRAPHIC NOTES ON TWO STONE ARTIFACTS
FROM SOUTHERN TEXAS

Thomas R. Hester and John E. Funnell

I. Description of the specimens

The two stone artifacts illustrated in Figure 1 are from the collection of Mr. A. J. Hoover (San Antonio, Texas). One specimen (Figure 1,a) is a small square-poll celt fashioned of a green stone. It was collected from the surface of an archaeological site in the Johney Creek drainage in eastern LaSalle County (see Figure 1). This specimen was ground and polished to final form, and the bit edge remains sharp (edge angle, 65°). Length of the piece is 57 mm., maximum width is 43 mm., maximum thickness, 20 mm., and weight, 92 grams. A tubular bead of gray-green stone (jadeite) was reported from Cameron County by Collins, Hester and Weir (1969: 137). MacNeish (1947:7) has noted a "small celt-like object", also of jadeite, from the same area.

The second artifact (Figure 1,b) resembles the "Waco" sinker form found in Archaic contexts in central Texas. This notched stone artifact was collected from the right-of-way of the Trans-Continental pipeline in northern Frio County (Figure 1). In the discovery area were scattered flint flakes and a weathered fragment of a conch whorl ornament. The illustrated face of the artifact (Figure 1,b) is well-smoothed; however, the opposite face is rough, perhaps severely oxidized. Length of the specimen is 62 mm., maximum width is 38 mm., maximum thickness, 25 mm., and it weighs 85 grams. A similar artifact was collected from a surface site in southwestern Dimmit County (Dorothy M. Brown collection, Catarina, Texas).

When I first examined these two artifacts, I noted that they were of unusual forms and materials of manufacture, and thus felt they were intrusive into the region. The green stone celt was of particular interest, since it appeared to be made of jadeite or a similar material as are many celts in the Mesoamerican area. Recent trace element studies have shown that artifacts of Mexican obsidian reached the south Texas area in prehistoric times (Hester et al, in press). The other artifact ("sinker") was of a form found in adjacent central Texas, and it appeared to be made of a stone exotic to southern Texas.

Mr. Hoover kindly permitted me to borrow these specimens. Subsequently, Mr. John E. Funnell of the Southwest Research Institute (San Antonio) undertook geologic examination of the specimens, and his comments appear below. Since we did not wish to damage these borrowed artifacts, Mr. Funnell was unable to take petrographic thin sections of them.

II. Petrographic Observations

The celt was made from a metamorphic silicate rock that had igneous origin. Overall, it is harder than a knife blade (hardness $5\frac{1}{2}$ to 6, Moh's scale); estimated rock hardness is 6 to $6\frac{1}{2}$. Positive identification of the rock's

constituent minerals was not made since it would be necessary to chip the object to obtain material for petrographic study, X-ray diffraction, etc. However, visual and microscopic examination revealed that it is comprised primarily of three components:

1. A light green to greenish-white and greenish-gray, uniform, very hard, amorphous appearing groundmass - about 43% by volume.
2. Very hard, rounded masses (normally 1 to 2 mm. in size, but up to 3 mm.) of fragmental-like white to cream-colored blocky grains in a light apple-green to yellowish-green to greenish-yellow matrix rather uniformly distributed throughout the groundmass - about 35% by volume.
3. Dark brown to greenish-brown and brownish-green, softer, lath-like but "stubby" crystals (fully shaped-euhedral-to almost fully developed-subhedral) fairly well distributed throughout the rock - about 22% by volume. These crystals are typically 1 mm. in width but commonly up to 1 and 2 mm. in length. The largest of those crystals noted is about 2 mm. wide and about 6 mm. long.

It appears that components 1 and 2 in the rock are the same mineral-possibly epidote, olivine, or even nephrite or jadeite. More than cursory examination will be needed to positively identify it. Petrographic study by microscope, utilizing small amounts of minute fragments (almost dust) would probably yield the answer. Component 3 appears to be pyroxene or clinopyroxene. Petrographic microscope examination of fine scrapings of this mineral would probably also yield positive identification. In the interest of not defacing the object by chipping or scraping, portions needed for petrographic work were not obtained.

One could conjecture that the possible source of the rock from which the celt was made was the area of igneous intrusions where "plugs" of basalt can be seen in the area around Uvalde (Uvalde County). This would be upstream from LaSalle County, in areas drained by the Nueces and Frio Rivers which have brought much rock detritus down from the localities of the igneous rock outcrops.

The material forming the "sinker" object is sandstone comprised largely of grains of quartz, and also including grains of opalized silica, jasper, and very likely some silicates in a brown to near-black ferric oxide (sesquioxide)/hydroxide matrix (cementing material). Two pebbles, one of soft, brown iron hydroxide measuring about 5 mm. and the other of tan quartz about 4 mm., appear as larger grains. The matrix ranges from vitreous to earthy in luster and texture, and in hardness from softer than 1 (Moh's scale of scratch hardness) to perhaps as high as 5. Mineral substances in the matrix are indicated to include ocher, limonite, goethite, hematite, and others, based on limited examination of properties such as scratch hardness, color streak, and luster. The matrix is estimated to comprise about 40 to 50% of the specimen volume, judging from surface indications. The quartz and other silica/silicate grains range from acutely angular to well-rounded (some nearly spherical) in shape. The majority, estimated 75% or more, of the visible grains are in the approximate size range of 30 to 60 mesh (about 0.60 to 0.25 mm.).

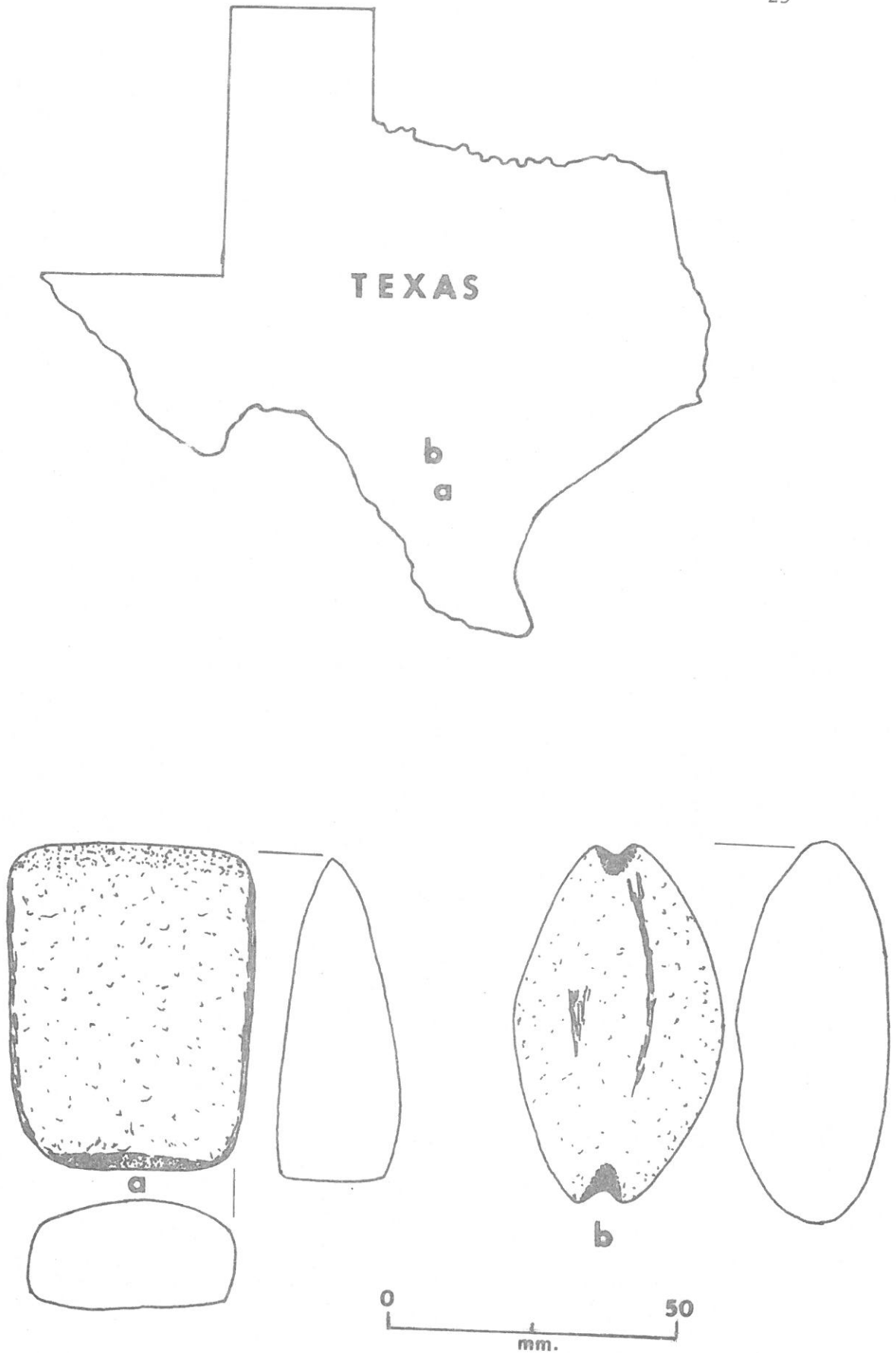


Figure 1. a, green stone celt (longitudinal and transverse sections are shown); notched stone ("sinker"); longitudinal section shown. Map shows location of sites at which artifacts were collected.

The rock has a somewhat layered structure, the dipping axis of which is considerably inclined to an imaginary plane through the longest and widest dimensions of the object. There are numerous crevices and evidence of small cavities or vugs in the rock. Many of the visible crevices and cavities contain a white mineral substance that has the appearance of a clay, perhaps a kaolinitic one.

Rock having the appearance and general mineralogic composition of that which makes up the object is known to occur in surface exposures of most Cenozoic strata in Texas, including those of Eocene through Pleistocene age, but more predominantly in those older than Pliocene. In particular, occurrences of the materials are known in the Midway, Wilcox, Claiborne, and Jackson geologic groups. The Claiborne Group is found throughout Frio County, the county in which this artifact was found.

As mentioned in Part I of this paper, one side of the object is much rougher than the other. This side appears to have undergone little shaping and no finishing. Alternatively, this side may be badly oxidized, as it is composed largely of orange-brown and brown to deep red hydroxides/oxides of iron. This composition may be due to the environment in which the artifact rested until it was found, or to the manner in which it was formed in nature.

Summary

Two unusual stone artifacts from southern Texas were subjected to petrographic study. Both specimens appeared to be made of materials foreign to the South Texas region. It was determined that the celt was manufactured of a stone which had igneous origins. Because petrographic thin sections could not be taken, definite identification of this stone was impossible. A local source for the material could have been an area of igneous intrusions in Uvalde County, Texas. The possibility remains that the specimen is jadeite or some related stone found in Mesoamerica. This possibility is strengthened by the fact that the celt form is not part of the southern Texas artifact inventory, and it is most likely that the piece had origins elsewhere. The "sinker", on the other hand, appeared to be of "exotic" stone, but petrographic examination showed that it was actually made of locally-available sandstone.

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A PRELIMINARY ANALYSIS OF PREHISTORIC UTILIZATION OF
UPLAND AREAS ADJACENT TO LEON CREEK, SOUTH CENTRAL TEXAS

William B. Fawcett, Jr.

Introduction

Previous studies of upland archeological sites in South Central Texas have been of a small site-specific nature. As a result the variability of the archeological assemblages and the Archaic cultures themselves has been greatly simplified. This study offers a new approach to the study of upland sites along the edge of the Edwards Plateau, that will allow for the reconstruction of settlement patterns, lithic tool kits, subsistence, and seasonality.

Theory and Methodology

The following are a series of assumptions and hypotheses that were being examined through the analysis of the archeological resources of the study area (Figure 1).

Assumptions.

1. Specific tool types will correlate directly with the distribution of biotic resources in terms of seasonality and actual plant distribution.
2. Archaic hunters and gatherers depended more on plant resources than animal resources, thus plant resource distribution determined settlement, lithic assemblage, and seasonality.
3. All variability in prehistoric Archaic cultures can be explained in terms of ecological factors.

Hypotheses.

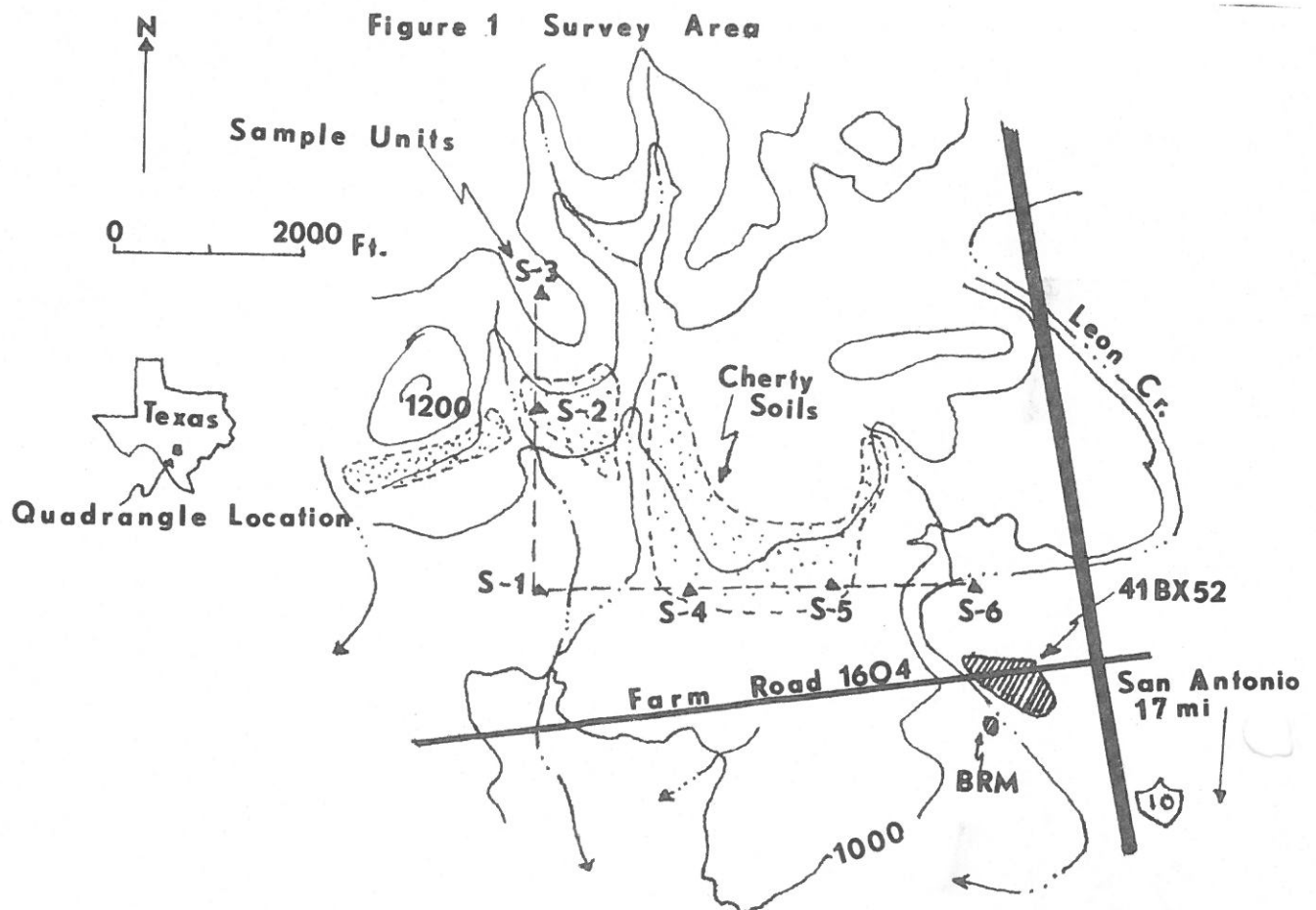
1. Archaic period cultural groups located their settlements within the uplands so as to maximally exploit specific plant species or clusters of species.
2. The variability in prehistoric assemblages is directly correlated with the variability in vegetation in terms of species. The plant community with the most species of approximately equal numbers is the most variable. The assemblage with the most tool types of approximately equal numbers is the most variable.

In this study of upland sites along the southern edge of the Edwards Plateau a number of problems were encountered. Sites within this area are extensive and not readily definable except in terms of the presence or absence of cherty soils. Artifacts were manufactured locally from the chert cobbles, used and then discarded within the same locality. This makes the separation of occupations and activities very difficult. Also

Table 1
Vegetation Sample*

Plants	S-1	S-2	S-3	S-4	S-5	S-6
Juniper	33.0	44.9	50.0	41.1	13.3	6.9
Prickly Pear	31.3	10.8	12.5	12.4	43.3	0.0
Persimmon	14.8	15.8	1.6	22.5	5.0	35.3
Yucca	8.7	0.6	5.0	3.1	23.3	7.8
Agarita	6.1	0.0	2.5	10.1	8.3	8.8
Sotal	0.9	0.6	14.2	0.0	0.0	0.0
Live Oak	0.9	19.6	8.3	9.3	6.7	27.5
Cat Claw	3.5	0.0	0.0	0.0	0.0	0.0
Mt. Laurel	0.0	6.9	7.5	0.8	0.0	0.0
Hackberry	0.0	0.0	0.0	0.0	0.0	2.0
Moss	x					
Mistletoe	x					
Blue stem grass					x	x
Green Leaf Briar						x
TOTAL NUMBER	115	158	120	129	60	102

* Percentages of vegetation species within each 100 ft. diameter sample unit. An "x" indicates presence of a specific plant, but percentage could not be calculated.



these sites have been deflated, thus piling up artifacts from many activities and occupations within a small area. Projectile points, the key to chronology in Central Texas, are very scarce at these upland sites, thus suggesting that most of the activities were of a non-hunting nature. The lack of chronological control creates further problems in the separation of prehistoric occupations.

A preliminary examination of the study area (Figure 1) showed that it conformed to the pattern presented above. Instead of calling these extensive scatters of cherty soils and artifacts "sites", I decided to utilize a method of systematic sampling that would allow me to examine the relationship of artifacts to their environments. To accomplish this goal I set out an L-shaped configuration on a U.S.G.S. 7.5' map and also on the ground over the study area (Figure 1). Points were then laid out on the L at approximately equal intervals. These points were then located in the field. Around each point a 100 foot diameter circle was drawn, and then all of the vegetation within this area was observed and counted. Next a total collection of all chert cobbles and artifacts was made. No great variability in animal resources was observed within the study area. The archeological collections were then sorted in the lab using a descriptive typology. Percentages of each tool type for each sample unit were calculated (Table 1, 2, and 3).

Discussion of the Data and Hypotheses

The smallness of the sample (about 1%) restricts the degree of certainty that can be placed on any of the results or tests of the hypotheses. With such a small sample I doubt that the full range of variability within the archeological resources within the study area can be expected to be represented. Even with this small sample the relationships between the archeological sample and biotic sample appear to be very complex, so complex that they probably could not be fully examined without the aid of a computer. Thus I plan to computerize this data at the University of New Mexico, with hopes that various statistical tests will aid me in developing the complex types of models needed to explain upland resource utilization. In this paper I will discuss what I have observed through a visual scan of the data.

By plotting contours based on percentages for each of the plants represented in Table 1, I was able to see that most of the plants are equally available anywhere on the upland area. Only mountain laurel, sotol, and hackberry occurred in more variable concentrated and dispersed areas.

By calculating the deviation of the plant and lithic percentage data from the mean, and by considering the number of plant species and tool types at each sample unit, I was able to order the sample units in terms of archeological and biotic variability. The archeological sample units were ordered as follows: S-4, S-5, S-2, and S-3. The biotic sample units were ordered as follows: S-1, S-3, S-2, S-4, S-6, and S-5. This analysis would tend to argue that both of the hypotheses are incorrect. The revised hypothesis should be: The more variable the biotic resources, the less variable the artifact assemblage. This hypotheses and the data suggest that prehistoric late Archaic hunters and gatherers were oriented not

Table 2
Artifact Data*

Artifact Type	S-2	S-3	S-4	S-5
Dart Point		<u>100.0</u>		
Retouched flake--end			2.0	23.1
--one side	12.5		13.1	5.1
--two side	12.5		6.1	5.1
--end & side			4.0	2.5
--multiple				2.5
--Total	<u>25.0</u>		<u>30.0</u>	<u>17.9</u>
Scraper				
--end	12.5		1.0	2.5
--side	6.2		4.0	
--multiple			1.0	2.5
--Total	<u>18.7</u>		<u>6.1</u>	<u>5.1</u>
Notch			<u>3.0</u>	
Graver			<u>1.0</u>	
Biface	<u>6.2</u>		<u>3.0</u>	
TOTAL TOOLS	50.0		43.0	23.1
TOTAL DEBRIS	50.0		57.5	76.9
Cores			7.1	12.8
Primary flakes & chips	25.0		8.1	15.4
Secondary flakes & chips	18.7		26.2	20.5
Interior flakes & chips	6.2		9.1	7.7
Overshot flakes			2.0	
Shatter			5.0	15.4
TOTAL ARTIFACTS	16	1	99	39

* Artifact data are in percent, except for the final total of artifacts.

Table 3
Unmodified Chert Cobbles

Size of cobble	S-2	S-3	S-4	S-5
Large (greater than 3")	2	25	11	10
Small (less than 3" in diameter)	—	<u>2</u>	<u>48</u>	<u>26</u>
TOTAL	2	27	59	36

towards exploiting maximal variable biotic zones or communities, but rather areas of moderate biotic variability. In more variable biotic areas simple tool kits were used in order to exploit a very limited number of species; such appears to be the case with S-3 which was probably a hunting camp or point discard site.

Analysis of the lithic debris and its relation to lithic tools suggests that a processual artifact manufacture technology was operating. At S-5 a high percentage of debris in relation to tools suggests that this may have been a preliminary chipping center where cores were prepared. S-2 and S-4 appear to be finishing sites, where bifaces, points, and a whole range of lithic tools were made for useage. S-3 is a hunting camp where one point was found that dates from the late Archaic. It should be noted that this site is marginal to the actual cherty soils upon which most of the chipping station sites occur.

Summary

The basic problem that was examined within this report, why are prehistoric sites located where they are, cannot be answered by such a simple study as this. A number of hypotheses were presented and tested. This study will allow for the development of more complex research designs based on existing information which can be tested by the collection of larger and better samples. The Archaic period in South Central Texas is chronologically fairly well known, but very little is known about subsistence, seasonality, settlement, or resource selection.

41 AT 18: AN ARCHAEOLOGICAL SITE IN ATASCOSA COUNTY, TEXAS

Jimmy L. Mitchell

Site 41AT18 is an unnamed site in southern Atascosa County, Texas, located about one mile upstream from where the San Miguel Creek crosses the county line with McMullen County. The site lies on the north side of the creek and is just across the creek and a quarter of a mile east of 41AT7. The location is on both sides of a county road where the road parallels the creek briefly before turning south and crossing the creek.

This general area has produced a variety of Paleo-Indian artifacts (Hester 1968) and a considerable amount of Archaic material has been reported from adjacent counties (Hester, White, and White 1969). A recent report of an Archaic banded slate gorget (Mitchell 1973) is from a location in McMullen County approximately one mile downstream from 41AT18.

The site is bisected by an unpaved county road which was rerouted two or three years ago. It is this new section of road, graded a number of times and subjected to the heavy rains of 1972 and 1973, which has produced the bulk of the artifacts reported here. The site extends onto the adjacent private land which is fenced to the north but open on the south as far as the creek. All land off the roadway is privately-owned and trespassing is strongly discouraged.

The site was shown to me by a very active local collector, Mr. A. J. Hoover (now of San Antonio). Most of the material shown in this report is from his collection.

Artifacts

Paleo-Indian. One Angostura-like base was recovered from the site (Figure 1,A). This basal fragment is approximately 1.5 cm. long and has a base width of 1.7 cm. It is .5 cm. thick and has a thinning flake on one side which almost appears to be fluting. It is made of Edwards flint, shows no basal smoothing, and has very fine retouching along the edges.

Archaic. The site has produced a number of Archaic artifacts. These include Desmuke (Figure 1,B) and Abasolo (Figure 1,C,D) points which are typical of the Archaic in this part of the state (Suhm, Krieger and Jelks 1954:400,416). Also represented is the Pedernales type (Figure 1,E) which is common in central Texas (*Ibid.*:468). Other point types include a possible Gary point (Figure 1,F) which is unusual for this area (Suhm, Krieger and Jelks 1954:430); a possible Edgewood point (Figure 1,G) which is a late Archaic type (Suhm, Krieger and Jelks 1954:418); and, several pieces which are difficult to type (Figure 1,H-K).

Neo-American. Later points include possible Fresno points (Figure 1,L,M) which are found in most parts of the state except those counties close to the Louisiana border (Suhm, Krieger and Jelks 1954:498) and one point (Figure 1,N) which may be the bulbous stemmed form of the Alba type (Bell 1958:8).

Scrapers. Both triangular and rounded base scrapers were found at the site. Some of the triangular form may well be specimens of the "Clear Fork tool" (Hester, Gilbow, and Albee 1973:91) and thus would not properly be called a scraper.

Stemmed Knife. One stemmed biface found by Mr. Hoover had only one shoulder and a rather blunted tip. This form probably represents a knife which was stemmed for hafting.

Pottery. Two exceptional pieces of pottery were recovered from this site by Mr. Hoover. These are shown in Figure 2 and are a small pottery vessel and a pottery "spoon". To my knowledge, both of these specimens are unique in this part of the state. Very little pottery has been recovered from the Atascosa and McMullen Counties area. One recent report which summarizes the pottery of the Southern Texas region (Hester and Hill 1971:195-203) reports a few sherds from southwestern Atascosa County, mostly along Lagunillas Creek. However, the present specimens are probably the most complete pieces of pottery found in the two-county area.

The pottery spoon or ladle (Figure 2,A,A') is 5.8 cm. long, 3.8 cm. wide and has a maximum height of 2.3 cm. It weighs approximately 20 grams. It is a most exceptional specimen which could have been made for a number of different uses. The name given here is not meant necessarily to be explanatory but simply descriptive.

The pottery vessel measures approximately 6.5 cm. in height and weighs about 131 grams. It is a "pinch pot" (hand-modeled) rather than being made by the coil method as is most Texas pottery. This is obvious from the uneven thickness of the walls of the vessel. There were originally two handles on one side of the vessel which were apparently made by appliqueing a daub of clay and then perforating this applique with some type of instrument. The impressions of this applique remain on the vessel although the handles themselves are missing (Figure 2,B,B'). Curiously, these are both on one side of the vessel with no evidence of similar applique on the other side. These are not typical of the handles on most Texas Indian pieces of pottery. Possibly, it may be that they were done in such a way that the vessel could be strung so that the bulk of it would hang away from a person carrying it on a belt. It is quite possible that both this vessel and the spoon were meant to be carried on a person rather than being a part of normal household equipment.

Both of these pottery pieces are of a rather hard paste with a fairly fine bone temper. They are a light brown in color and have a fairly smooth finish. They probably fall within the bone-tempered plain ware described by Hester and Hill (1971) for this region. Certainly, they are further evidence of pottery in this region of Southern Texas which was, until recently, thought to have been devoid of pottery.

Conclusions

Prehistoric occupation of this site appears to include late Paleo-Indians as evidenced by the one Angostura-like basal fragment, by Archaic Indians as indicated by a number of different projectile point types, and by

Neo-American (or possibly Historic) Indians as indicated by two possible late projectile types and by the unusual pottery found on the site. Thus, this site has been occupied, at least sporadically, for possibly 6000-8000 years. The possible Paleo-Indian occupation, which is not surprising due to the other Paleo-Indian materials reported for this area, needs to be examined further. Since all of the materials found to date have been weathered out, it is possible that there are still earlier materials which have not yet been exposed on the surface. Since the site is being destroyed by road grading and erosion, it should receive high priority for professional excavation. A systematic testing of at least portions of the site could help to provide a better understanding of prehistoric occupations in this part of the state. The possibility of more pottery in undisturbed portions of the site is also challenging since this could help to further dispel the myth of "cultural vacuum" which has plagued this understudied region for several hundred years.

Acknowledgements

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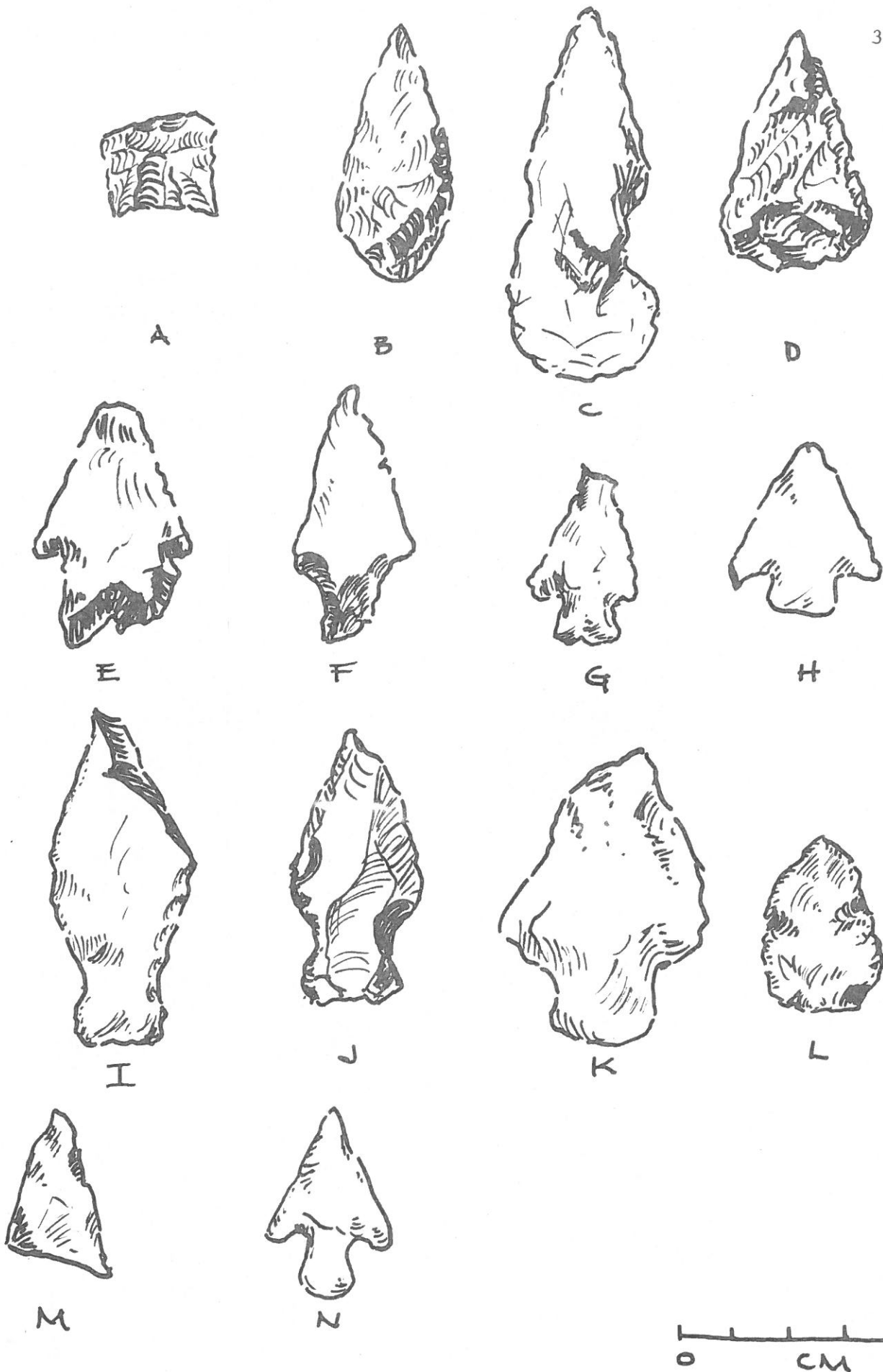
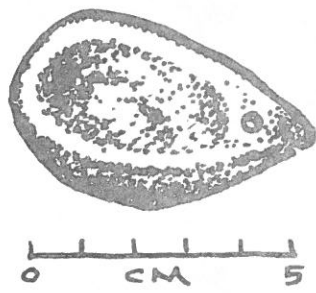
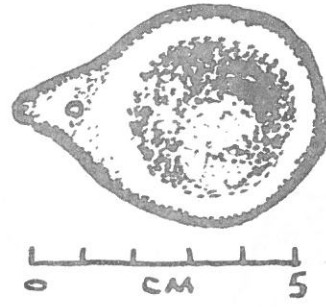


Figure 1. Lithic Artifacts from 41 AT 18



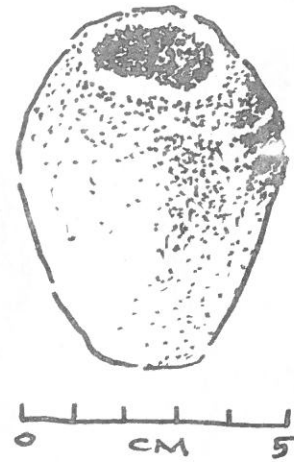
A



A'



B



B'

Figure 2. Ceramic Artifacts from 41 AT 18