1981 Programs In Review

Pam Wheat

A great variety of talented speakers presented talks to the Houston Archeological Society during 1981. Members experienced a high level of enrichment and enjoyment.

January 9 Walter Rybcka from the Galveston Historical Foundation talked on the restoration of the sailing ship, the Elissa. His tale encompassed the history of the ship itself (having Galveston as a port-of-call) and the story of the research efforts to locate and verify the details. Interest in business ventures in nineteenth century Galveston was sparked by the Society's involvement in research and excavation at Ashton Villa.

January 12 the Society was invited to a special screening of the movie Sphinx at the Rice University Media Center. Of interest to members were detailed scenes of Egyptian archeological sites and the integration of the issue of the antiquities black market into the plot.

Dan Crouch, archeologist with Texas Parks and Wildlife, spoke in February on "The Archeology of the Varner-Hogg Plantation (near West Columbia, Texas)". His testing on the grounds and under the house provided the Parks Department with a model to use for archeological assessment of park properties in the future.

March 13 Dr. Harry Shafer, T.A.M.U., presented a talk entitled "Recent Insights Into Lowland Maya Craft: Production and Exchange". His on-going field work to assess a site of lithic technology in Belize has been most productive.

The Houston Archeological Society co-sponsored an OPEN HOUSE at the site of the Ashton Villa excavations. This event was entitled "Galveston Underground" and was held Saturday, April 11. The co-host was Ashton Villa of the Galveston Historical Foundation. The featured speaker was Anne Fox, University of Texas at San Antonio archeologist, whose topic was "Historic Archaeology in San Antonio". A record crowd viewed open pits and heard
explanations of archeological techniques which had uncovered forgotten structures and artifacts.

"Archeologists Do It By Trowel And Era" was the title of the May 8th program. HAS members illustrated talks on recent salvage projects at Wharton and La Porte with slides.

In June many Society members attended the Texas Archeological Society's annual field school at Three Rivers, Texas. Nightly programs provided an update on archeological projects around the state. A slide round-up of field school activities was presented July 10 by numerous participants.

The August meeting of the H.A.S. was held at the Spring Branch Science Center where the traveling exhibit "Archeology in Texas" was on display. To complement the exhibit theme and review research pertinent to the topic, Dr. Harry Shafer, Texas A&M University, presented "Texas Indians: The Archeological Evidence".

Drs. Rod and Susan McIntosh, Rice University, informed members of their major research project near Jenna in West Africa at the October meeting. Reports of their work have been published in journals of national note, including "Archaeology" (AIA) to which numerous members subscribe.

In October Dr. E. Mott Davis, University of Texas at Austin, treated Society members to an informative narrative on "Pueblo Indians and Pueblo Archeologists... Slides and Thought from a Busman's Holiday in the Four Corners Area".

November 13 Dr. Donny Hamilton, T.A.M.U., spoke on his summer field work, "Excavations in Jamaica: An On-going Project". His descriptions of the survey and mapping of Port Royal intrigued members who considered donning wet-suits in order to participate in future work.

Interest was high for the December program, "NAN Ranch Ruins: Classic Mimbres and Mogolian Archeology" by Dr. Harry Shafer, TAMU. Several HAS members have served as crew members on the site. They provided refreshments decorated with designs taken from the pottery with which they were familiar.

Synopsis of HAS Field Activities for the Year 1981

Sheldon M. Kindall

During the calendar year 1981, HAS participated in five official field activities. These activities, identified here by recognizable titles, were:

- The Wharton Site
  The Wharton site is an archaic burial site located in the city of Wharton. As of this writing, 28 burials have been located and more are expected. Work began on this site early in 1981 and later reorganized under Margaret (Meg) Kluge of the Texas Archeological Survey. Excavations continued throughout most of 1981 and, after a pause during the Fall and Winter, resumed this Spring. The HAS has been a principal component of this effort throughout its existence.

- LaPorte (Muller) Site
  This site was a large (rangia clam) shell midden site imminently threatened by expansion of enterprises along the Galveston Bay shoreline. Test excavations directed by Alan Duke were executed in the Spring of 1981 by the HAS to define this very fine representative of a rapidly disappearing type of midden. In addition to late prehistoric ceramics, positive traces of an early Anglo homesite were found.
• **Hungerford**
  Leland Patterson led a one-day survey plus test excavations of one of Joe Hudgins's many sites near Hungerford. This particular site contained a Paleo-Indian component. An added attraction was a walk-through of the (almost adjacent) Post West Bernard site led by Joe Hudgins.

• **Ashton Villa**
  An archeological investigation of Galveston's Ashton Villa was initiated in 1980. A second phase of this project began in the Spring of 1981. This project, directed by Texas Anderson, consisted of excavations both outside and beneath Ashton Villa, and was highlighted by the excavation of an artifact congested privy.

• **Seabrook Park**
  This project, also directed by Texas Anderson, started as a routine survey to fulfill the contractual needs of an environmental impact report prior to alteration of some land by the city of Seabrook for a bayside park. Much to everybody's surprise, the planned park area was found to contain a large prehistoric Indian site. No excavation was done. Documentation of the evidence of this site and accompanying evidence of early Anglo occupation were submitted to the city of Seabrook.

In addition to official HAS activities, there are usually an abundance of other activities in the Houston area. In most cases, the participants in these activities are members of HAS and one can usually volunteer his or her services by contacting the appropriate HAS member. Examples of such activities during the year 1981 were: survey of the San Jacinto Battleground (Peggy Lake), survey of the De Zavala homesite, excavations at the Dow-Cleaver site in Brazoria County, and survey in the Wallisville area.

# # #

**Abstracts of Talks Presented at February 1982 HAS Meeting**

Many members of the HAS have been involved in excavations at the Ashton Villa Project in Galveston. Recently five members of the HAS presented papers at the 1982 Annual Meeting of the Society for Historical Archeology in Philadelphia. Subsequent to that meeting, the papers were also presented to the HAS membership at the regular February meeting. The following is a list of the titles of these papers and a brief abstract of each.

The introductory talk by project director, Texas Anderson, entitled *The Walls and Walkways of Ashton Villa*, provided an overview of the project, some background of the Villa and its inhabitants, and interpretations of various features encountered in the excavations.

Ashton Villa was built in 1859 by James Moreau Brown and was owned by the Brown family until 1927, when it was sold to the El Mina Shriners. In September 1900 the Villa survived the devastating hurricane which took over 5000 lives and destroyed many of the fine homes in the city. During the next two decades, the city undertook a massive grade-raising in conjunction with the construction of a seawall, to protect the city from future storms. Ashton Villa was filled with both clean sand and sandy loam, burying the lower level of the house and the grounds.

Excavations in 1980 and 81 revealed the locations and forms of the 19th century walkways, driveway, and structures razed by the Shriners after 1927. The original structures, which included a stableyard wall with a
privy in one corner, were laid out on a formal, balanced grid, whereas structures added around the turn of the century created an asymmetrical plan. The chronological sequence of symmetrical to asymmetrical is also found in the floor plan and features of the main house.

Dick Gregg's talk Foodways of the Elite in the Late Nineteenth Century focused on the analysis of the faunal and floral remains recovered from the stableyard privy. Because the privy vault extended below the water table numerous kinds of remains were recovered which are not usually preserved in local sites. These included coffee beans, peach pits, watermelon seeds, grape seeds, and various kinds of nuts.

The faunal remains present a distinct picture of the taste of the Brown family. Sixty-five percent of the beef bones are from the loin section, where the highest-priced meat is found. Of the seventy-six steak bones recovered, over half were Porterhouse or T-bone and the rest were sirloin. In addition to the beef remains, bones of chicken, turkey, mutton, and pork were recovered, along with fish bones, crab claws and oyster shells. Whether these remains represent the typical elite diet in the late 19th century remains to be determined; it is obvious at least, that the Browns dined well.

The analysis of the glass artifacts was discussed in a paper, Reflections of Affluence in the Glass of Ashton Villa, delivered by Shirley Wetzel. The glass artifacts, including 78 whole or reconstructable bottles, as well as etched, flashed and plain window glass, lamp chimneys, tableware, and decorative pieces, date the contents of the privy vault to the last quarter of the 19th century.

Among the 18 wine bottles represented were two with the S & C manufacturer's mark which was used by Stebbins and Chamberlin, Coventry, Connecticut between 1825 and 1830. These may have contained vintage bordeaux. Also recovered, were 3 bottles embossed Udolpho Wolfe, Aromatic Schnapps.

Toiletry bottles included 1 ceramic and 2 glass perfume bottles and 7 bottles of Pond Lily Wash, a facial astringent manufactured by the (not The) Wright Brothers. Of the 24 medicine bottles, 21 were prescription bottles. Not included in these were 4 Chesebrough Vaseline bottles and 5 bottles of Phenol Boboeuf, which was widely used as an antiseptic during the second half of the 19th century. The fact that there were relatively few culinary bottles and few utilitarian ceramics suggests that kitchen remains may have been deposited elsewhere and probably collected by the regular trash collector.

The paper, Industrial Development in Galveston: Profile of a Southern Port City 1850-1880, presented by Roger Moore provided the economic milieu in which the Brown family lived. Using census data for the years 1850, 1860, 1870, and 1880 Moore analyzed the ethnic, age, and sexual make-up of the work force in Galveston.

Moore's paper emphasizes the importance of archival research in executing archeology at historic sites. Census data illustrated the economic importance of the various commercial ventures James Brown was involved in, emphasizing that concern with public services did not necessarily reflect an altruistic nature on the part of 19th century entrepreneurs.

Pam Wheat's paper, Archeology in the Public Eye, outlined the various means by which the project sought to educate and inform the public about the Ashton Villa project and to generate support for archeology in the Houston/Galveston area.

By keeping the press and TV and radio apprised of the archeological activities at the Villa, attendance at the House museum was increased as much as 100% on holiday week-ends and attendance at the monthly HAS meet-
ngs increased from an average of 30 per meeting to an average of 70 per meeting over a six months period.

In addition to providing the media with regular press releases, Wheat and the project director provided regular speakers, not only at local social and civic club meetings, but also on-site while excavations were being conducted.

# # # #

The Goebel Site (41AU1)

An Archaic - New American Site In Austin Co., Texas

(Continued from HAS Newsletter Number 71)

A. R. Duke

Provenience of Artifacts

Pits excavated in 6 inch levels, to sterile soil, ranged from 66 to 120 inches deep. Artifacts were found in all levels. The following information provides the general provenience of the various artifact categories. Artifact types will be discussed in detail later.

Ceramics

Potsherds (plain, incised, red filmed, punctated) were found from the surface down to 36 inches. Sherds were scarce and were not found in all 6 inch levels down to 36 inches. Excavated pits averaged only 9 sherds per pit while other cultural debris was found in abundance. Fired clay balls were found down to 48 inches. Wattle appeared as deep as the 78 to 84 inch level and at the 36-42 inch level carried fibre imprints.

Lithics

Flint waste flakes were found in abundance down to 108 inches. Between 108 and 120 inches, the number of flakes averaged less than half the number in the upper levels - perhaps reflecting the number of individuals "in residence" on the site at that time - 2570 B.C.

Quartzite waste flakes appeared in small numbers down thru the 72-78 inch level.

A Flint flake cache (see HAS Newsletter No. 5, June, 1961) was found at 19 inches. A total of 65 flakes, all suitable for working into points, were compressed into a 4 inch square space and ranged in size from 2.5 to 1.25 inches in length and all were less than 0.5 inches thick. One finished Pandora point was found with the flakes.

Arrowpoints found in the excavations, in very limited quantities, included Perdiz, Scallorn, Alba and unidentified fragments. One arrowpoint was found as deep as 36 inches but the majority were found in the first 18 inches. Obviously, a close relationship between arrowpoints and pottery existed. Only dart points were found below 36 inches.

Dart points present on the site included Kent, Marcos, Carrollton, Darl, Federnales, Castroville, Marshall, Lange, Pamillas, Pandora, Bulverde, Travis, Yarbrough, Wells and Scottsbluff (?). A few dart points appeared in the 0-6 inch levels along with the arrowpoints and others were found as deep as 114 inches.

Raw sandstone in many shapes and sizes and in large quantities was found in all levels.

Sandstone abraders (grooved thru use) apparently were widely used to shape bone tools and were found down to 102 inches. Grit sizes varied from very fine to coarse.
Hematite pieces, used for pigment, were found down to 102 inches. Hematite in granular, powdered, and chunk form was associated with burials in other Austin Co. sites (41AU36, 41AU38).

Scrapers were in short supply and were not found below 48 inches. The absence of such a common tool for such an extended period of occupation, when other common tools were present, raises an interesting question and suggests the use of other tools to perform the scraper function. Perhaps shells were used as scrapers during the earlier periods. A flint saw was found at 78 inches.

Knives were found from 48 to 72 inches only. One of these blades, at 66 inches, was a corner tang knife.

Bannerstones were among the tools possessed by the later occupants of the site and a identifiable fragment of a soapstone bannerstone was found at 34 inches.

Flint perforators were found as deep as 72 inches.

Hammerstones of chert and quartzite were located down to 84 inches.

Water worn pebbles appeared from ground level to the interface with the sterile clay layer at the bottom of the pits. These pebbles were unaltered.

**Bone Artifacts**

Heavy concentrations of animal and fish bone fragments, including bison, deer (bones and antlers), turtle, and gar, were found from ground level down to the sterile layer. Concentrations decreased in the lower 10-12 inches.

Bone projectile points, in some cases containing asphalt for hafting, were located from 6 to 78 inches. Though the bone points could have deteriorated in the older levels, other bone was in good condition so it might be assumed that earlier inhabitants probably did not use this type of point.

Fish hooks were found in the 6-12 inch layer. These were made from deer toe bone (a partly completed hook was found to verify the finished hook's origin). These hooks represent a food source and technique associated with more recent residents of the site since they were not found below 12 inches.

Antler flaking tools were found as shallow as 15 inches and as deep as 120 inches but were absent between 42 and 114 inches.

Bone awls (spatula and splinter) were located in all levels to 84 inches. Some of these awls were incised.

Bone needles were present down to 66 inches.

Bone beads (tubular, incised) appeared in small numbers as deep as 114 inches.

**Shell Artifacts**

Mussel shells in large numbers appeared in all levels. Some of these shells were perforated or were altered to serve as scrapers.

Fossilized oyster shells were present in very small quantities from 24 inches down to 108 inches. The use, if any, of these fossils is undetermined. One large perforated clam shell was found at 44 inches.

Lightning whelk shell was found in the midden in the form of cut pieces and perforated pendants. Pendants were associated with burials. In the nearby burial mound, numerous whelk shell pendants and columella beads were found. Similar whelk shell artifacts were found at 41AU36, 37 and 38 on Allen's Creek.
Miscellaneous

Fire hearths were found at every level down to 108 inches. It was at this level that a sample of charcoal (including acorns) gave a radio-carbon date of 4530 ± 80 years. At this point it seems appropriate to note that artifacts continued to appear well below 108 inches (down to 120 inches) and that in one pit, even though artifacts were still appearing at 120 inches, the sterile layer was not reached because of the rain damage from Hurricane Carla.

The Goebel site, therefore, appears to be much older than the date provided by the radiocarbon analysis at 108 inches.

Creek Bank Material

A large quantity of cultural material was found eroding from the banks of Mill Creek at 41AUL. This collection increased after each heavy rain and included just about every type of artifact recovered from the excavations. In fact, many of the better specimens were uncovered by erosion and high water.

Several burials were found eroding from the creek bank. These burials were badly disturbed by erosion of the bank and by tree roots. Flint waste flakes, animal bone, shell refuse, dart points and a large fist axe were found in the vicinity of the burials but due to the soil disturbance, could not be considered positively as associated with the burials. It was determined that the burials were located at 49 and 70 inches respectively. The skull from an infant burial was also recovered from the bank.

Discussion

Based on the distribution of artifacts in the excavations, it appears that, as expected, occupation of the site was light prior to about 2500 B.C. Occupation levels after this date appear to be relatively constant reflecting perhaps only minor changes in availability of food and actual population.

(To be continued)

References

Duke, A.R. Unusual Artifacts from Site 41AUL, Austin Co., Texas Houston Archeological Society Newsletter No. 5, 1961
Ring, Raymond Miscellaneous informal reports and artifacts on file at Texas Archeological Research Laboratory.
This site was located by Caskey in 1960. It is on the bank opposite 41 HR 282. Soils are similar. Artifacts were found along about 200 feet of the eroding bank.

**BIOLOGICAL MATERIAL:**
A few fragments of two varieties of fresh water mussels were found. Their condition precluded identification and determination of possible use. They may have been deposited on the site during channel work.

Several bones of a large bovid were found in association with small lithic flakes, sherds and iron ore nodules. These are assumed to be bison. Some of the bones were articulated and all weathered badly as they were exposed. Vertebrae, ribs and limb bones were represented.

**CERAMICS:**
The collection includes 20 sherds of pottery vessels weighing 35 grams. All are plain body sherds. Three San Jacinto Plain sherds are 6 mm. thick. Thirteen Goose Creek Plain sherds vary from 5 to 8 mm. with the average 5.9 mm. thick.

**LITHICS:**

**Projectile Points:**
The collection includes 17 projectile points or fragments thereof. One is an arrow point and the others are dart points. Total weight is 67 grams.

**Yarbrough:** (5) (Fig. 51, A.-E.)
Items A. and C. are flint and weigh 7.6 and 9.9 grams. Items B., D. and E. are silicified wood and weigh 6.7, 4.9 and 4.6 grams.

**Kent:** (2) (Fig. 51, F.)
Item F. is silicified wood and weighs 4.6 grams. The broken stem of another silicified wood point is intermediate between the stems of Items D. and F.

**Gary:** (5) (Fig. 51, G.-K.)
These are all silicified wood and weights are 8.1, 4.6, 9.1, 7.6 and 2.5 grams. A broken flint stem is similar to Item K.

**Perdiz:** (1) (Fig. 51, L.)
This bifacial arrow point is silicified wood and weighs 1.2 grams.

Two of the Yarbrough points and the Gary stem have adherent calcium carbonate. Two distal tips and one lateral edge of broken flint dart points are unidentifiable.

**Flakes and Chips:**
The collection includes 310 flakes and chips that weigh 143 grams. One hundred five (33%) are silicified wood and the others are flint. Many have calcium carbonate deposits on surfaces. Use scars are on 30 (94%). Fourteen had been used for cutting, 12 for scraping and one for graving. Sixteen are fire-popped. Only nine are larger than 15 mm.

WOB-115
DISCUSSION:
The artifacts suggest that the site was occupied from the Late Archaic into the Late Prehistoric period. The dart points show a fairly consistent transition from Yarbrough to Kent to Gary with the Perdiz arrow point being very similar to the small Gary point. The relatively small amount of pottery may suggest that the main occupation was just before the beginning of the Woodland period. The high percentage of points made of silicified wood and the high percentage of flakes of the same material may have some relevance to problems of collecting good lithic material during that time.
INTRODUCTION

In his extensive archeological surveys of Wharton County, Texas, Joe Hudgins has found several sites with long occupation sequences, extending from the Late Paleoindian period to the Late Prehistoric. This article describes another site of this nature, 41WH26, with occupations indicated over a time period of roughly 8,000 to 10,000 years.

Site 41WH26 is the fifth archeological site in Wharton County to be published with occupation starting in the Late Paleoindian period. Site 41WH2 and 7 (Patterson and Hudgins 1980a, Patterson 1980b), 41WH19 (Patterson and Hudgins 1981) and 41WH26 (this article) have earliest occupations indicated by Plainview type projectile points. The earliest projectile point on site 41WH10 (Patterson and Hudgins 1980b) is of the Golondrina type. Johnson and Holliday (1980:Table 3) show Plainview points over a period of 10,000 to 7,000 years ago in Texas, and Golondrina points from 9,000 to 7,000 years before present. All of these Wharton County sites have long occupation sequences after starting in the Late Paleoindian period. There seems to be a long continuity of riverine settlement patterns in Wharton County, with some technological changes and population increases over time.

This article summarizes two work phases at site 41WH26. After initial discovery, an extensive surface collection was made here by Joe and Bill Hudgins. Later, the Houston Archeological Society made another extensive surface collection, accompanied by some test excavations. Acknowledgments should be made to Dick Gregg, Mike Johnston, and Sheldon Kindall, who served as crew chiefs for test excavations; and to Suzanne Wilson for acting as crew chief for intensive surface collecting. Appreciation is also expressed to all other participating HAS members.

The work done at site 41WH26 on November 21, 1981, also had an aspect of public education. Some ninth grade students from Cy-Fair school participated in this work, with their teacher, Suzanne Wilson. Nine college students from an archeology class at St. Thomas also participated, accompanied by their professor, Father Ed Bader.

SITE DESCRIPTION

Site 41WH26 is located on a gently sloping terrace at the edge of the floodplain of the West Bernard River. This site has been disturbed by fairly deep plowing. The main concentration of artifacts has been found in an area approximately 200 feet square. The surface on this area shows more reddish clay than surrounding plowed areas.

Two separate surface collections will be described here. An initial collection was made by Joe and Bill Hudgins. A later collection was made by the HAS, as four separate quadrants. The highest concentrations of artifacts were found in the northeast and southwest quadrants, with the southeast quadrant having the least amount of archeological materials.
Six test pits of one meter square each were made during the HAS work. Three of these pits were in the northeast quadrant and two were in the northwest quadrant. One test pit was put in the southwest quadrant near to surface finds of an arrowpoint and a Late Archaic dart point. Six of the test pits were rather non-productive, yielding only a few chert flakes and small pebbles. One test pit "c" near the center of the site yielded two projectile points, which will be discussed in more detail.

The stratigraphy of this site consists of approximately 30 cm of highly disturbed sandy soil on the surface, with brown sandy-clay under this, and reddish clay even deeper. There is a caliche stratum under the clay. At test pit "c", there is 7 cm of sand at the bottom of plow furrows, 10 cm of brown sandy-clay and 58 cm of dense red clay in sequence, with a caliche bed under this.

PROJECTILE POINTS AND CHRONOLOGY

Projectile points found at this site are shown in Figure 1. Projectile point types can be used to construct an approximate chronological sequence, in the absence of precise stratigraphic data. The earliest point type is Plainview (1E), which represents initial site occupation in the Late Paleoindian period, possibly in the range of 8,000 to 10,000 years ago. Specimen 1F appears to be an unfinished Plainview point that has been reworked as a scraper. This point was probably broken during manufacture. Suhm and Jelks (1962:Pl. 120) have illustrated several Plainview points. Plainview specimen 2E was found at 6 cm into the brown sandy-clay in test pit "c". This seems to correspond geologically to a Plainview point found in similar sandy-clay at site 41HR315 in Harris County (Patterson 1980a).

There is one San Patrice, st. johns variety point (Webb, et. al. 1971) from this site, which is usually considered to be from the Late Paleoindian and Early Archaic periods. Specimen 1B might be classified as a Bell point from the Early Archaic (Hester 1980:98) or a Shumla point from the Middle Archaic (Hester 1980:102, Suhm and Jelks 1962:247).

For this discussion, the Early Archaic is taken as roughly 7,000 to 5,000 B.P., the Middle Archaic as 5,000 to 3,500 B.P., and the Late Archaic as 3,500 to 1,900 B.P. (Patterson 1979:106). It should be noted that this does not match Hester's (1980) terminology, as he has added a "pre-Archaic" period which shifts later Archaic time ranges.

The Middle to Late Archaic time range is represented here by Pedernales and Bulverde point types. Late Archaic point types from this site include Yarbrough, Ellis, Tortugas, and Darl.

Specimen 1C is a Perdiz arrow point or a transitional Gary/Perdiz arrow point form, representing the Late Prehistoric period. This specimen weighs 2.9 grams, and has a maximum thickness of 4.5 mm. This fits the weight range of possible transitional arrow points given by Patterson (1976:Fig. 4).

The projectile point collection also includes 3 blade fragments and 1 miscellaneous dart point stem. One small pointed flake was found, that was retouched to form a unifacial arrow point or a graver.
The Ellis point (1H) tabulated here was found about 100 yards south of the main site concentration, in the same plowed field. It would appear that a larger general area was being used by various groups of Indians at this location.

The Yarbrough point stem (1J) was found in test pit "c" at a depth of 5 cm in the top sandy stratum. All depths were measured from the bottom of the plow furrows.

**GENERAL LITHIC COLLECTION**

Most stone tools in this collection are simply utilized flakes. A number of specimens have edge damage patterns typical of cutting and scraping functions, that can be reproduced experimentally. Some formal bifacial tool types are also present, as shown in Figure 2. The collection has 12 scrapers, 1 denticulate, and 2 gravers. One scraper (Figure 2D) has a denticulated edge, also. A concave edge scraping tool was also found.

Sixteen dart point preforms were found, which demonstrate manufacturing of projectile points at this site. Eleven of these preforms were broken, and five represent thinning failures. One "overshot" biface thinning flake was also found, that shows biface manufacturing activity.

Most lithic specimens are made from alluvial cherts that can be found in the nearby Colorado River drainage system. The Plainview specimen 1E is probably made from a fine flint from the Edwards Plateau region. There is evidence of extensive use of heat treating of chert, in the form of waxy luster, reddish colorations, and potlid surface fractures on various specimens.

Aside from dart point preforms, there are several indications of lithic manufacturing activities here. Primary lithic materials found include 50 whole chert cobbles (30 to 70 mm diameters) and 17 split chert cobbles. There are also 51 miscellaneous chert cores, with no particular patterning of core shapes. A total of 34 possible quartzite hammerstones were found, from 30 to 60 mm in diameter. One petrified wood cobble was found.

The presence of many flakes also shows lithic manufacturing activities at this site. Table 1 is a summary of flake size distributions. The flake size distributions for all areas of this site are typical of biface manufacturing debitage (Patterson and Sollberger 1978:111). However, the miscellaneous cores found here demonstrate that other types of manufacturing activities were also occurring.

Several pounds of small chert and quartzite pebbles from 10 to 30 mm diameter were collected here. It was not determined how much of this material occurs naturally at this location. However, it is known that not much lithic material of significant size occurs along the West Bernard River. Some small pebbles may have been brought to this site for use in rattles, similar to materials found in nearby Harris County.

In the collection of flakes of sizes over 15 mm square, there were 4.9% primary flakes (covered with cortex), 32.8% secondary flakes (partially covered with cortex), and 62.3% interior flakes (no remaining cortex).
This gives a total of 37.7% primary plus secondary flakes. Because of this relatively low percentage of flakes with remaining cortex, it would appear that much trimmed raw material was brought to this site, in addition to some whole chert cobbles. This relatively low percentage of flakes with remaining cortex agrees well with the second stage of a chert cobble flaking experiment (Patterson n.d.) which represents use of trimmed materials at a campsite remote from lithic sources. In this experiment using Colorado River basin chert cobbles, there was a total of 40.7% primary plus secondary flakes in the second stage of the experiment, after manufacture of bifacial and unifacial tools and projectile points.

OTHER MATERIALS

No pottery was found on this site, which probably indicates very light use of this location in the Late Prehistoric.

Four highly polished stones of 25 to 40 mm diameters were found. There is also a large chert cobble, 60 mm in diameter and 170 mm long, with one highly polished end. Perhaps these are some sort of hide processing tools.

One coarse iron conglomerate abrading tool was found.

Few faunal materials were found. There were 4 animal bone fragments and 1 bird bone fragment. Two pieces of freshwater shellfish remains were found. Therefore, little data is available on food remains at this site.

SUMMARY

This article has summarized the results of an intensive survey of site 41WH26 in Wharton County. It would appear that some 8,000 to 10,000 years of occupation are represented here, although not necessarily on a completely continuous basis. Occupations represent various nomadic hunting and gathering groups, typical of the entire prehistoric period in southeastern Texas. This site represents a significant addition to data on the long continuity of settlement in this region.

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TABLE I

<table>
<thead>
<tr>
<th>FLAKE SIZE RANGE, MM SQ.</th>
<th>FLAKE SIZE DISTRIBUTIONS</th>
<th>% OF TOTAL FLAKES</th>
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Planning by the U.S. Army Corps of Engineers for the Conservation of Cultural Resources
Carolyn Good

The Corps of Engineers, as all federal agencies, is required to comply with a sizeable body of federal legislation and regulations concerning the preservation of cultural resources. All federal actions must be assessed in terms of impacts to cultural resources, which include both prehistoric and historic archeological sites, as well as standing structures and other sources of data of interest to anthropologists. Actions taken by the Corps of Engineers that require this kind of assessment include Corps construction projects, issuance of Corps permits for activities affecting the Nation's navigable waters, and the issuance of licenses and leases for use and development of Corps owned lands.

The assessment of cultural resources can be accomplished in a number of ways depending on the project and its possible impacts. Each project or action is handled on an individual basis. Assessment can include a literature search to identify already known sites or resources, archival research in the case of historic sites, field survey of a project area to identify physical remains of sites, the testing of sites to determine their composition and research potential, and finally, the mitigation or recovery of information from significant sites that will be damaged by the project. As a result of this identification and assessment of resources present, project impacts are identified and a formal consultation process is entered into between the Corps of Engineers, the Texas State Historic Preservation Officer, and the Advisory Council on Historic Preservation. The result of this consultation is frequently a formal agreement or Memorandum of Agreement outlining steps that must be taken by the Corps to avoid damage to or mitigate the loss of significant sites or resources. Mitigation generally consists of recovery of information by say, site excavation or detailed architectural recording of a structure. The overriding objective of the process, however, is to identify sites early enough in the planning or review process to allow sites to be avoided and protected. Projects can at times be redesigned to avoid damage to sites.

There are a number of Corps projects in the Houston-Galveston area that are involved in this process, including the Clear Creek Flood Control Project, Galveston County Shore Erosion Project, Houston Ship Channel Navigation Project, and Buffalo Bayou Flood Control Project. In addition, the Galveston District, Corps of Engineers is responsible for three reservoir areas: Wallisville, Addicks and Barker Reservoirs. Cultural resource assessment and consultation is in various stages for these different projects. In instances like the Cypress Creek and Clear Creek, initial surveys and literature searches have identified a number of resources that may be affected by the respective projects. More thorough surveys, site testing, and site mitigation, if necessary, must still be conducted for these projects. In the case of the Houston Ship Channel project, only a literature search has been conducted. As planning for this project proceeds, field survey and further archival research will be conducted as appropriate. For the reservoirs thorough survey and assessment of these Corps lands will be undertaken.

In conclusion, there is a formal mechanism whereby the Corps of Engineers reviews impacts to cultural resources and coordinates assessments with the Texas State Historic Preservation Officer and Advisory Council on Historic Preservation. The primary concern of the Corps of Engineers is to identify the resources early enough in the planning process to avoid, in so far as possible impacts to significant sites.
Hominids (those animals we refer to as humans) are classified as omnivorous creatures, that is, they are supposed to feed on both plants and animals. The classification is accurate thus far but the problem is that hominid populations are basically vegetarian although both extremes can be approximated. We Texans enjoy perhaps more meat per capita than most other cultures in the world save for those few remnant Eskimo hunters and certain seafaring or fisher adaptations that still survive.

The key to understanding the basic patterns of living for almost any culture in the world is knowing what they eat and their cuisine. Most human behavior patterns are structured around satisfying those basic biological needs. The bleak menu described by the south Texas Indians by Cabeza de Vaca (Krieger 1956) is probably much more accurate than most archaeologists would likely admit, although it is certainly less than complete. The interesting thing to me about de Vacas listing of food resources is the absence of starvation foods—those that could be relied on during extremely lean periods. Granted, several excellent seasonal foods are available in south Texas, prickly pear, mesquite, pecans and perhaps live oak acorns. Yucca is also present in the area and its bulb is edible but we do not know if this was being exploited. Then there are the animal resources, deer, lizards, toads, snakes, rabbit, dove, quail, etc. The animal resources are not nearly adequate for populations to rely on them other than as supplementary dishes. The bulk of the diet was predictably vegetable; prickly pear pads can be consumed the year around and the consumption is mentioned by Cabeza de Vaca. Grubs, insects and prickly pear fruit could not sustain individuals or even populations for very long periods; something else had to be available to them. The point that I am making is that there is not the diversity of plant resources in south central Texas (Atascosa and McMullen counties particularly) on which to base a sustained, resident hunter-gatherer population. The plant resources are thin and scattered except for mesquite and prickly pear. There is no doubt that periodic visits were made into the area by foragers but these visits were predictably brief and either cyclical (during good or lean years) or seasonal.

In order to sustain a resident population a territorial range taking in any part of the study area would have to be quite large. In fact, it may include several hundred square miles and encompass several different habitats containing the needed diversity of plant foods. If resources are available to sustain such adaptations for years, we are indeed challenged to learn what they were. I suspect that some of the apparent homogeneity in the archaeological assemblage recognized over much of southern Texas is due to the necessity of the aboriginal populations to forage over large areas and for neighboring groups to share resource locales. Such sharing encouraged intergroup behavior. For a provocative study of what may be an analogous situation see the book Yiwara by Richard Gould (1969) and the articles "The Walmadjeri and Gugadja" by Ronald Berndt and "the Pitjandjara" by Norman Tindale (both published in Hunters and Gatherers Today edited by Bicchieri). In the western desert area of Australia, sparsh distribution of resources necessitated the kind of population distribution and interaction that I am suggesting for southern Texas. Students of Australian prehistory and ethnography have also noted the widespread homogeneity of the desert aborigine material culture.
This not to say that some diversity does not exist in the archeological assemblages of southern Texas. Dr. Tom Hester in his book Digging into South Texas Prehistory (1981) (which I highly recommend for anyone interested in Texas archeology) has shown that regional variation does exist. We should not, however, lose sight of what we are really looking for. Are the differences in the artifact assemblages merely stylistic or do they actually reflect differences in adaptive responses? The differences that have been noted between lithic resources along the central Texas coast and those from sites in the Choke Canyon area are in the methods used to reduce such resources (Shafer 1976); these indicate different adaptive responses. However, use of triangular dart points in one area and stemmed or oval forms in another are stylistic differences and provide little useful information on the adaptive strategies of the aboriginal populations.

During the course of our work in Atascosa and McMullen counties area in the mid 1970's, I was impressed by the fact that the archeological sites lacked significant depth (Shafer and Baxter 1975). This could be due to the natural geological circumstances but I feel that it could just as well be due to the lack of prolonged and intensive use of any one spot. This phenomenon seems to be the rule rather than the exception in southern Texas and could, itself, be indicative of the factors dictating the location of campsites such as the proximity of water and wood. Any relatively flat, well drained location near these resources would be an acceptable camping location. Since much of the area is relatively flat and well drained, the same location would only by chance alone be selected in successive visits. The results of this kind of settlement strategy over several thousand years would be a thin concentration of lithic refuse at any suitable location near a seasonal or permanent water source. Since the likelihood that a permanent water source would receive more visits than a seasonal one, greater concentrations would occur along the larger streams and less concentrated refuse would occur proportionately to the reliability of less permanent water sources. This is the situation we found in our 1974 Atascosa and McMullen county survey work (Shafer and Baxter 1975).

Since human populations did inhabit the San Miguel Creek area from time to time and presumably survived many generations in south central Texas, something obviously was going right for them. Unfortunately time has cheated us out of most of the data that we need. We are left with a pitifully meager record; but these chipped stones, split bones, etc., are the products of human behavior and we should not lose sight of that fact. We are dealing with the remains of people who had to live from day to day, who wrested a livelihood from the south central Texas environments, who interacted with each other and with distant groups, who laughed, cried, smiled, worried, who felt joy, sorrow, disappointment and grief.

Any attempt to describe living in the area over a long period of time places the emphasis squarely on where it belongs and gets at the very basis of survival for any population. You look first at what foods are available in the area. Eventually, one should consider the resources for tools which can be used to acquire those foods, since a basic tool kit would expectedly be carried along anyway. Note that archeologists customarily reverse this by looking first at the tools and rarely consider what foods were available. That foods were available for certain days or months makes little difference really in terms of survival for a population. Food has to be available for the entire year for a critical segment of the population in order for that population to regenerate itself. The point is that if one is to ask specifically how the Indians gained a living and managed to survive many generations, then we must now begin to look for sources of data other than the tools and residual stone and ceramic materials.
What are some of these potential data sources? Obviously a great deal can still be learned from ethnographic documents as the Campbell’s (Campbell and Campbell 1981) have recently shown. Also, we anticipate that some of the archaeological and botanical findings from our Hinds Cave studies (Shafer and Bryant 1977; Dering 1979; Williams-Dean 1978) will be applicable to south central Texas. Primary research needs for the area are paleoenvironmental models and historical studies of the area’s plants. Pollen studies have been attempted but are rarely successful in southern Texas sites. Also, the only record of plant use preserved in south central Texas sites is often in the form of charcoal. Ethnobotanists are now developing keys which will allow for the identification of the charred plant remains recovered from archaeological sites in some areas of the state and anticipate that these keys will eventually be extended to include southern Texas. Historical studies of how the early Mexican immigrants lived off the land can provide some invaluable clues as to how the Indians may have done the same. Particularly important will be studies of folk medicines and dishes used by the early Mexican and Anglo residents; folk cures have a way of maintaining themselves in a particular area and any long-time resident of southern Texas can name some common folk cures in that area. The origins of folk medicines and dishes in the New World can many times be traced back to the indigenous populations. Like any archaeological data, it will not be conclusive but it is a clue that should not be overlooked.

Having worked with the cultural resources (or lack of them) confronting the archeologist who dares to invade the monte or its periphery and, at the same time, having the unforgettable opportunity to work with the markedly contrasting and excellently preserved resources in southwest Texas, I must close with this observation. If the young archeologist of the future who walks into the Atascosa and McMullen area specifically and southern Texas in general does not feel both a sense of frustration and an intense challenge when face to face with the archeological situation, then he or she does not belong there. It is perhaps the most challenging area that I have ever had the opportunity to work, but this does not make it any less exciting.

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