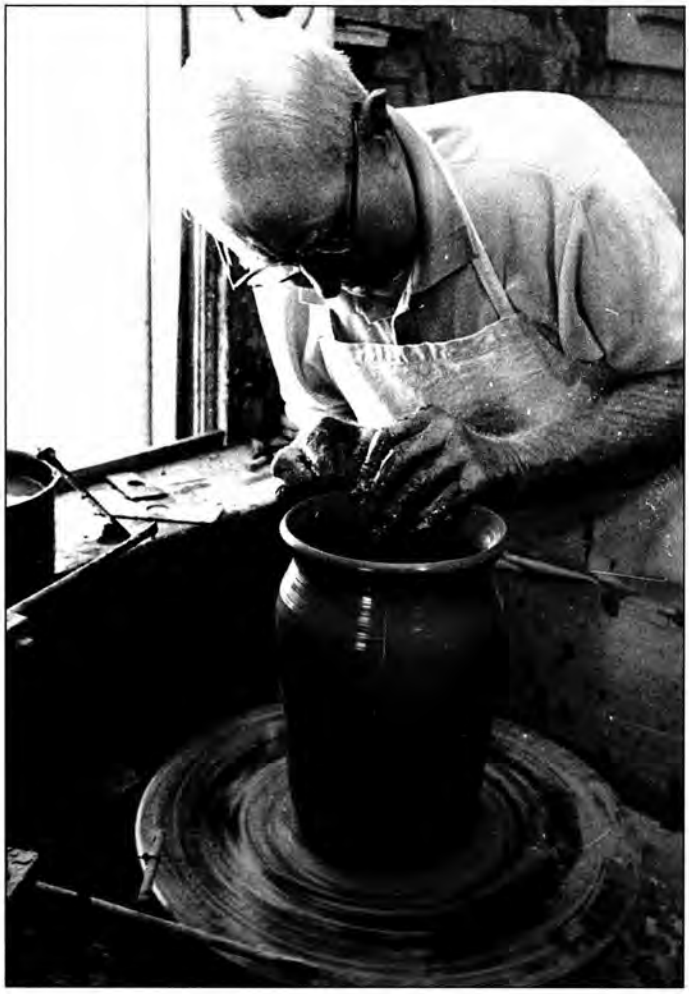
LA TIERRA



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LA TIERRA
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Shirley Van der Veer
Editor

About the Cover: James Richter, one of the early potters in San Antonio. See paper by Anne Fox on page 33. Drawings by Richard McReynolds are on pages 15 and 16.

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The ROBERT F. HEIZER Award

For OUTSTANDING CONTRIBUTIONS TO SOUTHERN TEXAS ARCHAEOLOGY

1998

Patsy Goebel receives the Robert F. Heizer Award from Chairman Curt Harrell. Photo by Charles Holt.

PATSY GOEBEL

Patsy Goebel of Cuero, Texas, served as one of the STAA special coordinators for the 1997 and 1998 Texas Archeological Society field school at Mission Espíritu Santo de Zuñiga (41VT11), Victoria County, Texas, taking care of local arrangements, special needs, visitors, extra meals, and a myriad of other details, which made this one of the most enjoyable and successful of recent years. Her extra hard work and willingness to serve a second year was cause for a special note of thanks by the principal archaeologist and by members of the STAA committee. Patsy's extra dedication to detail, and her perpetual readiness to help others mark her as a very special person, whose hard work and dedication represent a significant contribution to southern Texas archaeology.

The DEE ANN STORY ARCHAEOLOGICAL CONSERVATION Award

for 1998

Chairman Curt Harrell (right) presents the award plaque to Henry and Helen Biesenbach. Photo by Charles Holt.

HENRY & HELEN BIESENBACH

Henry and Helen Biesenbach of Sutherland Springs, Texas, demonstrate excellent archaeological stewardship of their land, and its prehistoric and historical Indian site, located along Cibolo Creek, in Wilson County, Texas. Their alertness to the site, now named the Biesenbach Site, and their willingness and support for its study, first by a University of Texas at San Antonio field school and in continuing work by the STAA, mark them as very special landowners who wish to fully understand the scope and importance of sites on their property and to conserve its cultural knowledge for future South Texans.

LIFETIME ARCHAEOLOGICAL CONTRIBUTION Award

1998

C. K. Chandler (left) looks over his Award as Paul Ward (center) awaits presentation of his from Chairman Curt Harrell (right). Photo by Charles Holt.

CHARLES K. CHANDLER

For his sustained Exceptional Meritorious Service to the Southern Texas Archaeological Association, Charles K. (C. K.) Chandler merits special recognition for his dedicated work over the entire history of our organization. He has remained active and interested in the group, even when living in other areas of the state and nation. He has served in a variety to offices for STAA and continues to this day in his special role as Documentation Chairman, where he actively seeks out, records, documents, and often publishes information on private collections, one of the most underutilized sources of archaeological data. He has published the results of his work in *La Tierra, the Steward* (publication of the Texas Archeological Stewards Network), and the *Bulletin of the Texas Archeological Society.* He has served in many TAS offices as well, and continues as an archaeological steward for the Texas Historical Commission. C. K. is unparalleled in his dedication to the science of archaeology in our region and state and his work marks him as an outstanding role model for all STAA and TAS members.

PAUL WARD

For his sustained Exceptional Meritorious Service to the Southern Texas Archaeological Association, Paul Ward merits special recognition for his contributions over the entire history of our organization. He has served in many roles, most notably as its secretary and treasurer, and in more recent years as our senior fiscal advisor. Paul and Frances have also hosted the STAA for field school activities on their ranch west of Castroville and hosted quarterly meetings and our annual BBQ in their area. Paul has also championed systematic planning of our archaeological investigations and organizational activities, and has authored a number of significant archaeological reports himself. Paul, through his energetic and ongoing activities in support of the STAA and the cause of archaeology in our region and the state distinguish him as an example for all of us to follow.

OUTSTANDING AVOCATIONAL ARCHAEOLOGISTS OF THE YEAR

for 1998

Smitty Schmiedlin (left center) and Bill Birmingham (right center) with their award plaques. Jimmy Mitchell (left) and Curt Harrell (right) were presentors. Photo by Charles Holt.

E. H. (Smitty) SCHMIEDLIN

His continuing Outstanding contributions to southern Texas Archaeology as a Texas archeological steward with the Texas Historical Commission, regional vice-president for the Texas Archeological Society, and STAA camp boss for the 1997 and 1998 Texas Archeological Society field schools at Mission Espíritu Santo de Zuñiga (41VT11), Victoria County, Texas, all mark E. H. (Smitty) Schmiedlin as a truly dedicated, extremely talented avocational archaeologist who has made, and continues to make, a significant impact on our knowledge of southern Texas archaeology and has enhanced our opportunities to fully participate in the development of the science in this region. To do all this with a continuing sense of good humor, friendship, and humility make Smitty a superior role model for us all.

BILL BIRMINGHAM

Bill Birmingham, Victoria, Texas, was another major STAA worker and representative at the TAS annual field school at the site of Mission Espíritu Santo de Zuñiga (41VT11), at other sites in the region, and in other activities around the state. Bill has worked very successfully to support the Office of the State Archeologist of the Texas Historical Commission and the TAS in a myriad of activities during recent years and has been a staunch advocate for the STAA and for the local Victoria archaeological group. His superlative records, extensive documentation of sites and artifacts, and outstanding scientific skills mark him as an excellent role model for us all. His craftsmanship and artwork in terms of silversmithing and replication distinguish him as an outstanding human being.

ARCHAEOLOGICAL PUBLIC SERVICE AWARD

For 1998

Bob Skiles (left) and Tom Middlebrook (right), recipients of the Public Service Award for 1998. Awards were presented by Chairman Curt Harrell (center). Photo by Charles Holt.

TOM MIDDLEBROOK

Tom Middlebrook, President, The Texas Archeological Society, is recognized for his public outreach program through the TAS to bring archaeological knowledge and information to everyone in our state. He initiated plans for a popularized periodic TAS journal to focus on public education, now under development. His is particularly recognized in his role for championing the development of a TAS website, and the use of such a site for public information and education. He also had a major role in the creation of a web-based discussion group (TxArch-L), a Listserve which has become a major new instrument for enhanced interaction of archaeologists around the state and nation interested in Texas archaeology.

BOB SKILES

Bob Skiles, of Austin, is webmaster of the TAS web pages and owner and operator of the TxArch-L group electronic mail discussion group. This use of new technology to rapidly disseminate information has proven to be an outstanding success; once again Texas leads the nation in innovative new approaches to archaeological investigation, public information, and stewardship of archaeological data, discussion, and public information. Bob also maintains and operates similar websites for several East Texas groups, and personally monitors such efforts nationwide to assume that Texas archaeologists are well informed and that new developments are shared by professional and avocational archaeologists, and the public at large. His substantive contributions will have a lasting impact on archaeology in our region, the state of Texas, and around the world.

NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1999-1
*Life and Death in the Late Archaic of South Texas**

Thomas R. Hester

This brief paper examines some of the data that have emerged in recent years illuminating various aspects of American Indian cultural patterns during the latter part of the Archaic in southern Texas. The region under consideration is south of the Edwards Plateau and between the Guadalupe River and the Rio Grande; the coastal strip, with its own distinctive archaeological record is not included. This area is usually referred to as the Rio Grande Plain; it is semi-arid, has a mosaic of local environments that range from abundant in resources to very meager (Hester 1981), and a modern-day vegetation pattern which is characterized as the "Brush Country."

The mesquite, thorny brush and prickly pear that dominates the landscape today can be traced back to at least the middle Holocene, and despite the exaltations of early European settlers over the abundant grasslands, there is increasing evidence that a mixed brush-grassland savannah has been in place throughout much of the region for several millennia. To be sure, European settlement has led to the spread of thorn brush, to the diminution of water resources, and the elimination of certain animal species (notably pronghorn antelope, black bear, wolf, and, of course, bison).

The time frame for the discussion presented in this paper is roughly 400 B.C. to A.D. 600, and encompasses temporal units that have been variously described as "Late," "Transitional" or "Terminal" Archaic. Regardless of the terminology, the archaeological record is distinctive and is truncated around A.D. 600-700 by the introduction of the bow and arrow, pottery (by A.D. 900), and some distinctive shifts in subsistence and settlement that are part of the Late Prehistoric, as outlined in Hester (1995).

Extensive surveys (such as Choke Canyon and Chaparrosa Ranch), several excavations (41LK201, 41ZV10, 41MV120), and the discovery and salvage of burials and cemeteries have brought the Late Archaic into somewhat sharper focus—at least in the northern portion of the South Texas region (Figure 1). The diagnostic dart point types include Marcos, Montell, Shumla, Ensor, Frio and Fairland. The side-notched forms appear to be the latest, and based on cross-dating with Central Texas, are preceded by Marcos and Montell. The so-called Shumla points are best not cross-dated with their namesakes in the Lower Pecos, as the coastal plain examples are likely not related. Indeed, they reflect a very distinctive technology, in which almost all, if not all, of these specimens are made on heat-treated local cherts.

Irregardless, all of this becomes a moot point (pun intended) if you move just to the south, where stemmed points drop out, and the Late Archaic is

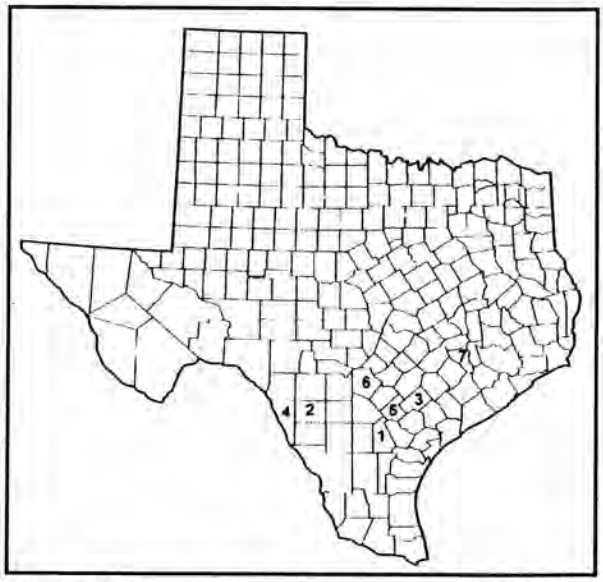

Figure 1. Approximate Locations of Sites Mentioned in Text. 1, Choke Canyon Reservoir (41LK59, 67, 201); 2, Chaparrosa Ranch (41ZV10); 3, 41DW270; 4, 41MV210; 5, Karnes County sites (41KA23, 89, 102); 6, 41BX1; 7, E. Witte (41AU36).

**This is a slightly abbreviated version of a paper presented March 26, 1999 at the Society for American Archaeology meeting in Chicago, IL, as part of a symposium organized by Dr. Brad Vierra. It was illustrated with 29 color slides in its presentation format.*

characterized by small triangular and convex-based dart points (Matamoros; Catan). There have been few excavations of any size (or yet published) in this region and no contextual or comparative data of substance are available at present.

Life in the South Texas Late Archaic

As noted above, most of the fieldwork involving the Late Archaic comes from the northern part of South Texas. In the fieldwork in the Choke Canyon reservoir basin, 44 sites yielded diagnostics of the Late Archaic, including Ensor, Frio, Ellis, Fairland and Marcos points. Sites had extensive deposits of fire- cracked rock, both hearths and earth ovens (these continue from the latter part of the Middle Archaic), and grinding implements (manos, metates) are commonly found. The latter may reflect further intensification of the exploitation of mesquite and acacia beans (as well as other plant resources) after these species spread during the Middle Archaic. However, at site 41LK67 (Brown et al. 1982) excavated a large accumulation of fire-cracked rock (55 kg), with considerable quantities of mussel shell, and they note that "the cooking of mussels may have been at least one of the functions" (this was Feature 8, radiocarbon dated at 400 B.C.). Similar rock features used in roasting mussels are reported by Hall (1981) from 41LK59 at Choke Canyon. Additionally, excavations in a Late Archaic component at site 41LK201 (Highley 1986), yielded an Ensor point and a Late Archaic distally beveled biface and had sandstone hearths and considerable fauna. One of the hearths, Feature 5 (Figure 2, radiocarbon-dated to 480 B.C.), contained wood from mesquite and acacia, and had in association fragments of metates, an abrading stone, and a grooved sandstone weight. The fauna includes mostly small game and fish, as well as whitetail deer. Important items include catfish, freshwater drum, turtle, rabbits, rats and mice, squirrels, and tortoises. As at LK67, freshwater mussels, along with *Rabdotus* land snails, were also abundant. Among the small fauna was pine vole, no longer in the region. While the fauna and the wood species suggest an environment very similar to that in the area today, the presence of the pine vole warrants closer review of local conditions. Thus, the Choke Canyon Late Archaic subsistence and vegetation data suggest exploitation of small animals, especially turtles, fish, and rodents, supplemented by deer. *Rabdotus* snails and mussel shells are common, reflecting their collection as food sources and cooked in rock features. Hall et al. (1982) also note that among the Late Archaic subsistence items at site 41LK59, one of the mussel species is so small (25 mm in maximum length) that the only efficient way to have harvested them would have been with a scoop or dredging device of some sort. In terms of settlement, the Late Archaic campsites at Choke Canyon, and elsewhere in the interior of South Texas, are almost always located adjacent to present stream channels or adjacent sloughs. Recent excavations by the Texas Archeological Research Laboratory under the auspices of the Texas Department of Transportation have been carried out at the Smith Creek site 41DW270, about 75 miles north-northeast of Choke Canyon (Hudler et al. 1999). Of interest here is an Ensor component within Stratum V in the upper part of the site. The stratum averages 30 cm in thickness and is extensively disturbed on both the east and west ends of the block excavation in which it was exposed. The stratum includes eight fire-cracked rock features (clusters of sandstone and chert cobbles), some of which provided faunal and botanical data. Only one radiocarbon date comes from the zone, and it is seemingly too late, at AD 1025-1225, and is likely intrusive from a Late Prehistoric occupation (Scallorn) above it. The rock features are hearths or baking facilities with, in addition to faunal remains, associated snails and mussel shells, along with wood charcoal from hickory, mesquite, hackberry and unidentified hardwoods, all still part of the local riparian forest today. The key word in describing the dietary preferences of the Ensor component peoples is "turtles"—several different aquatic species from the adjacent creek; there are also fish (sunfish, catfish, alligator gar), snakes, frogs, lizards, rats, rabbits, birds, domestic dog, deer, pronghorn antelope, and a single bison. While the excellent preservation provides us with a more detailed faunal list than from other Late Archaic sites in South Texas, the emphasis is clearly still on small game (especially turtles, fish, rodents and reptiles). There is an indication here of greater availability of deer and pronghorn—and at least one bison! Late Archaic components in the more arid reaches of South Texas, between the Nueces and the Rio Grande have provided very little information. At site 41ZV10 which I excavated in 1975 (Hester 1978), the upper deposits contained vertically separated Late Prehistoric and Late Archaic occupations. The Late Archaic occupation, at a depth of 30-35 cm was marked by numerous fire-cracked rock features,

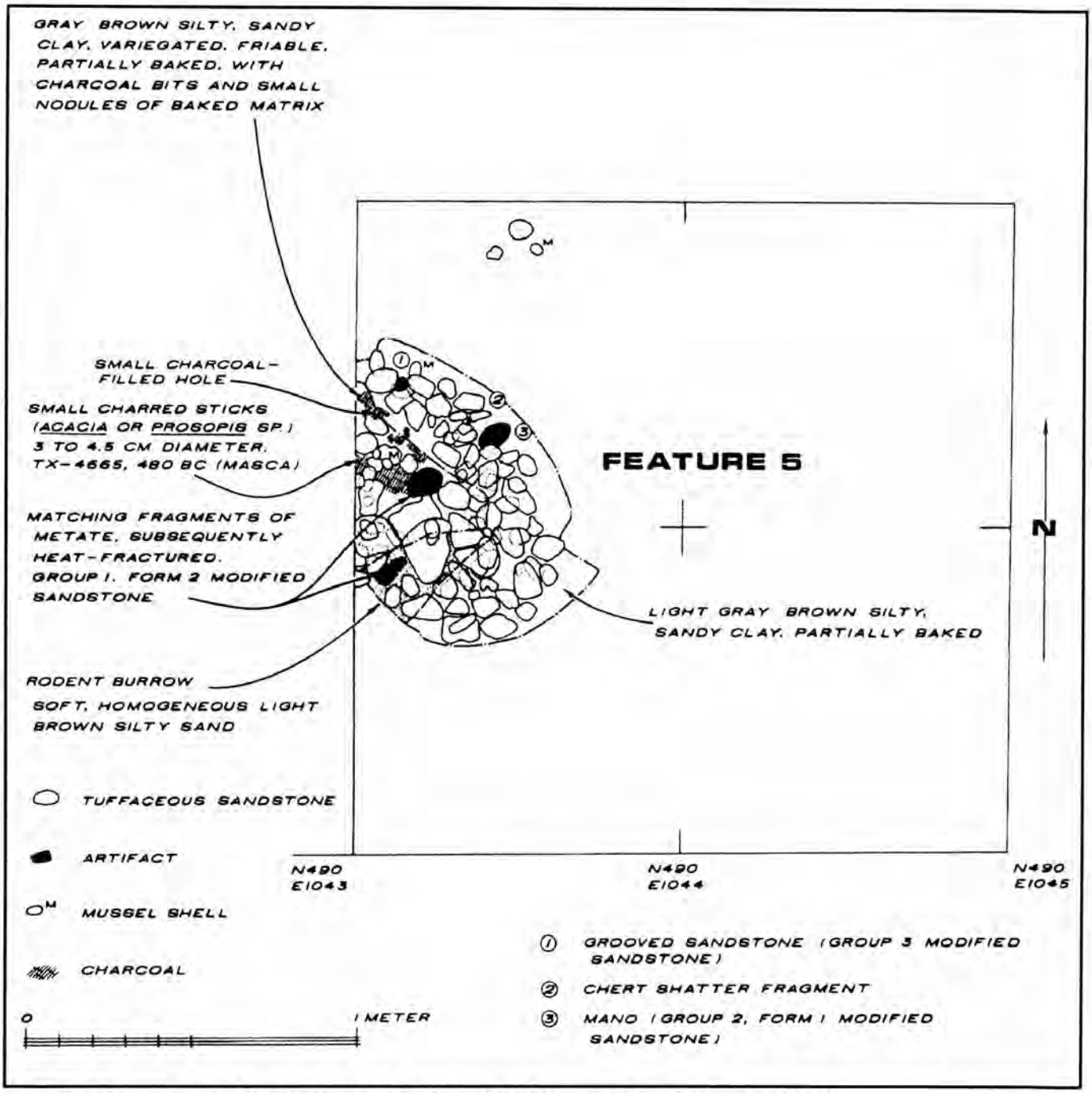

Figure 2. Feature 5, 41LK201. Drawing by Kenneth M. Brown. From Highley (1986:23).

but with little preservation of charcoal or associated cultural materials despite the use of block excavation to look for such associations. Diagnostics of the upper Late Archaic deposits were Ensor, Zavala, and a single Montell point. Deeper in the deposit were earlier Late Archaic diagnostics such as Marcos and Shumla-like points. A single radiocarbon date of A.D. 1150 came from ZV10, associated with this specific point style, and is almost certainly not an accurate date. However, it needs to be emphasized that within the Late Prehistoric lithic assemblages in this part of southern Texas, Ensor and Zavala points, especially, often co-occur with typical arrowpoint forms, dating between A.D. 1250-1700. While the chronological framework of the Late Archaic is hardly bolstered by the ZV10 data, the faunal record is informative. It includes whitetail deer, pronghorn antelope, turtles, snakes, fish, rabbits, mice, and *Rabdotus* snails. Some mussel shell is present, but not common, as the adjacent creekbed probably did not support significant mussel populations. Just 30 miles to the west, Vierra (1998) has recently published site 41MV120, which he will discuss in the following paper in this symposium. Like 41ZV10, the lithic assemblage was meager, and while he has the same Shumla-like points, Marcos and Montell points, and also Ensor points, his sequence is a bit different from mine. With all due respect to Dr. Vierra, I do not put any more credence in his sequence than I do than the one I came up with at 41ZV10! The latter was badly disturbed by vertisol cracks and rodent burrowing, and MV120 had rodent burrows to a depth of a meter. Further evidence of disturbance at MV120 is the mixing of Middle Archaic Marshall and Langtry points, which, whatever label you want to put on one of these periods, are not associated with the Late Archaic types I just noted. This is easily testable by looking at the sequences 40-60 miles to the northeast on the edge of the Edwards Plateau.

No identifiable fauna came from 41MV120, though mussel shells and *Rabdotus* snails were present. There were also very few features, though mesquite was identified from charcoal thin-sectioning. Vierra and his colleagues rather boldly assert a "warm-season" occupation based on mussel shell analysis and he infers a "short term occupation." All I can say is that he and I are probably both safe in offering whatever interpretations we want to about ZV10 and MV120, since there are so few data to argue about at either site! However, I must point out the great lengths to which his research went, in a highly admirable effort to extract every sort of information possible from one of these notoriously uncooperative sites in this subarea.

Trade, Exchange and Symbolism

Another facet of the Late Archaic that is coming to light in South Texas involves trade. Large thin bifaces manufactured in Central Texas were traded into the region beginning at least in Middle Archaic times, and continued up into the Historic era, as reported by Cabeza de Vaca in the 1530s. During the Late Archaic, such specimens have been found with isolated burials (as at the Shrew site in Wilson County). Perhaps more common are biface caches, dozens of intermediate stage bifaces of Edwards chert, generally triangular to subtriangular in outline. These occur both in mortuary and non-mortuary contexts. In the case of one mortuary situation, a cache of 52 bifaces found with a burial on the Rio Grande in deep South Texas included a Late Archaic biface (Hester 1995: Fig.20,a) of Central Texas style (and chert). At the Silo site, subtriangular cache bifaces were placed with one burial. The symbolic nature of lithics in the Late Archaic is clearly seen in terms of the massive corner-tang bifaces at the Silo site, mirrored by those found at the Ernest Witte site in southeast Texas, also of Late Archaic date. Grant Hall (1981) has written extensively on the mortuary offerings of the Ernest Witte site (41AU36), which included a variety of exotic stone, as well as many marine shell ornaments. He hypothesizes an import/export system that evolved along with expanding populations from Middle into Late Archaic times, a system that retracted around A.D. 200. While evidence of the acquisition of exotic goods, whether to reflect personal status and/or wealth, comes mainly from cemetery sites of this era, the non-mortuary biface caches are clearly part of this phenomenon.

Interestingly, the acquisition of obsidian, from sources in New Mexico, Idaho, and Wyoming, that is so well represented in Central and South Texas in the Late Prehistoric does not appear in South Texas during the Late Archaic. However, it is recognized in portions of Central Texas.

Death in the Late Archaic

Several cemeteries, as well as a number of isolated burials are dated to the South Texas Late Archaic. Particularly informative are two cemeteries

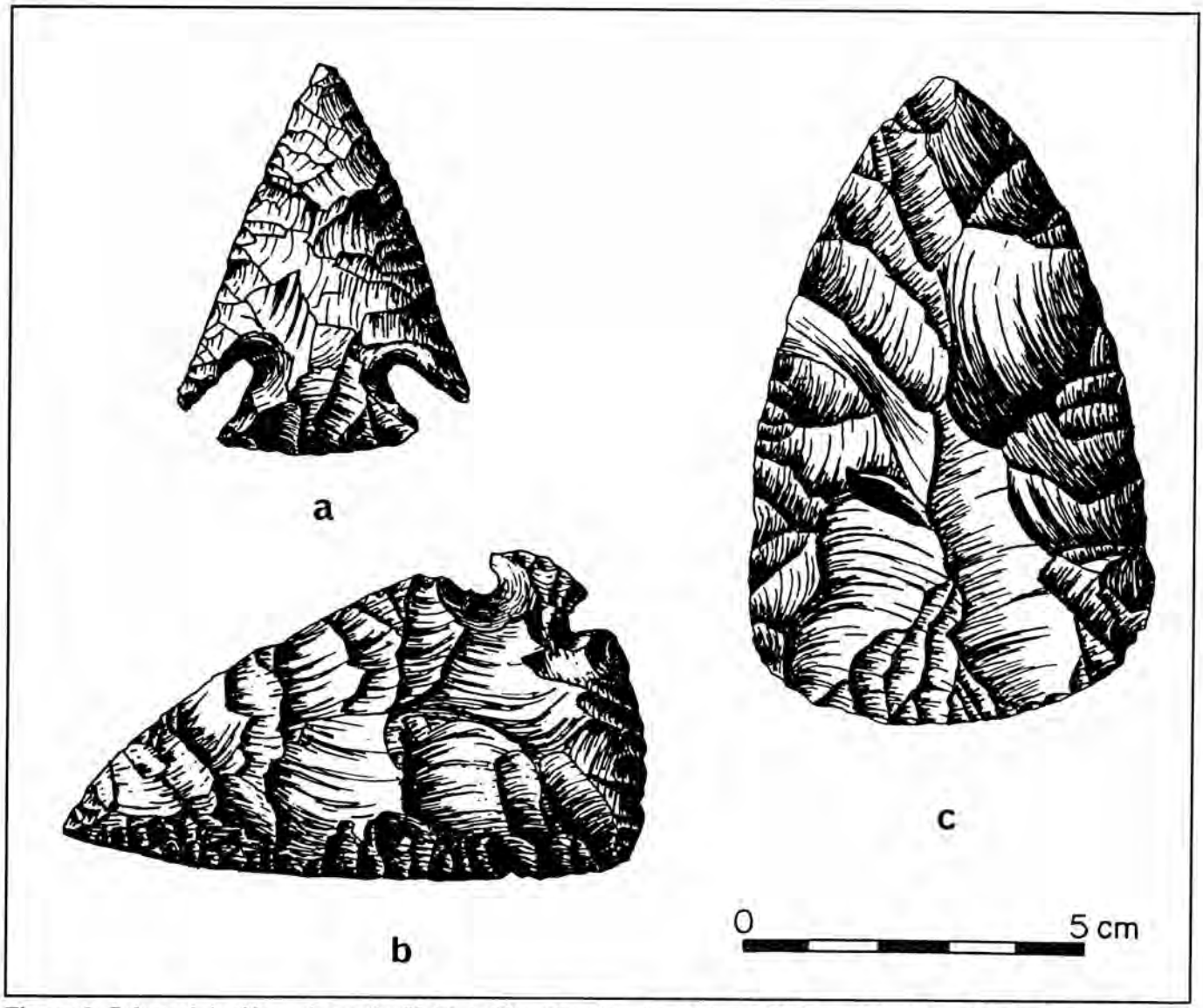

Figure 3. Selected Artifacts from the Haiduk Site. Drawings by Richard McReynolds. From Mitchell et al. (1984). a, Marcos point; b, corner-tang biface; c, cache biface.

on the San Antonio River drainage in Karnes County. One is the Haiduk site (41KA23), excavated by the landowner, but with the skeletal remains and associated artifacts preserved and published (Mitchell et al. 1984). The remains of an adult male and an adult female were found with more than 50 mortuary offerings (Figure 3). These included corner-tang bifaces, Marcos points and other Late Archaic artifacts. More recently, an isolated burial (41KA89) in the same area was scientifically excavated, and had a Late Archaic Fairland point in the chest area (Huebner et al. 1996). Stable isotope analysis of this burial indicates a diet weighted toward C4/CAM plants, such as prickly pear cactus. There is little indication of the use of riverine resources. While only a single example, the suggested dietary pattern is in contrast with the emphasis on aquatic/riverine resources seen at Choke Canyon and at DW270. On the other hand, it is informative, in that it helps to identify plants that may have been intensively utilized, evidence for which is lacking from excavated campsites. Near these two sites is the Silo Site (41KA102; Lovata 1997). Human remains had been exposed by the erosion of a wall of an old silage trench and salvage efforts led to the recovery of 25 individuals in an area of 4.5 cubic meters. We do not know what percentage of the entire cemetery population may be represented. Of those burials excavated, 12 were juveniles (less than 20 years old), and 13 were adults (greater than 20 years of age). Of the adults, seven were conclusively sexed as males, and one as a female. The cemetery was a locale that had seen repeated use, perhaps over many generations, as a large number of the burials had been cut through for later interments, often creating commingled masses of skeletal elements. However, most were flexed, with one hand on the pelvis and the other on the face. There was one double burial of an adult male, 25-35 years old, and a juvenile (gender unknown) 5-6 years of age. One child, 4-7 years old, was extended dorsally. And, one burial (an adult female, 25-35 years old) was buried face down in an extended position. Associated with the double burial were two very large corner-tang bifaces (placed with the juvenile; three additional specimens of this style were found with the burial of an adult male (Figure 4).

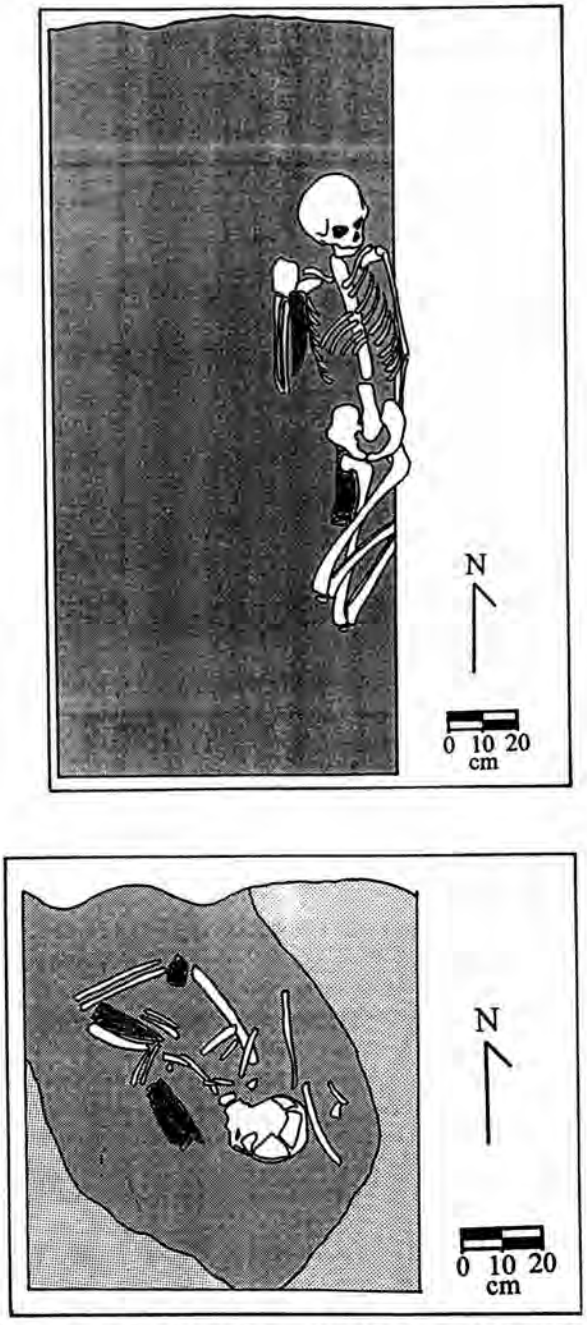

Figure 4. Burials 2-90 and 4-43 from 41KA102. The placement of two corner-tang bifaces (shaded areas) is shown with Burial 2-90 [upper], and three such specimens with Burial 4-43 [lower; two are stacked together west of the upper torso] along with a cache biface, seen in the top part of the sketch. From Lovata (1997).

On the northern edge of the Rio Grande Plain. the Olmos Dam site, 41BX1, excavations by Lukowski (1988) revealed a portion of a Late Archaic cemetery dating between 2000-3000 B.P. The only associated lithic was a small side-notched dart point. The most distinctive grave inclusions were conch shell gorgets, large antler racks of whitetail deer, and long bone awls or hairpins. Eleven individuals were excavated

and included seven adults, a young juvenile, and three infants. The single dart point noted above penetrated the right parietal of Burial 5, a young adult male, causing his death; he also suffered from periostitis, the only such pathology found in the sample.

Closing Observations

The existing data on the South Texas Archaic appears to reflect local variation in diet, although this is biased by generally poor preservation in the Nueces--Rio Grande corridor. Still, the emphasis was on small game, especially turtles, fish, and rodents. Clearly, large game, such as deer, antelope, and the occasional bison, were hunted, but their importance is hard to measure.

We do not yet have enough sizable, well-studied faunal samples from regional sites to deal with seasonality issues in a meaningful way. Poor preservation of archaeobotanical remains hampers our ability to evaluate non-meat components of diet; stable isotope analyses and sophisticated paleopathological studies remain to be done.

Cemeteries indicate the use of specific locales for burials over considerable periods of time, and the grave goods may eventually provide some insight into status, though presently we can talk in a limited fashion about issues involving symbolism and trade. These cemeteries represent a measure of continuity from the Middle Archaic, and combined with them, reflect a period of perhaps 1000 years in which cemeteries, trade systems, use of symbolic artifacts, etc. were in use. Though the use of the concept of "territory" is loaded with ambiguities, it is quite likely that the cemeteries are reflecting the territorial patterns of South Texas groups. Kelly (1995)in his recent book, *The Foraging Spectrum*, suggests that "territory" represents an area that is defended. This may well be the case, as death from dart point wounds is represented at most of the known cemeteries, and is a phenomenon that is more common as competition for resources increase, with the onset of drought conditions around A.D. 1000 (M. B. Collins, personal communication, 1999), in the early part of the Late Prehistoric.

ACKNOWLEDGMENTS

I am grateful to Dr. Bradley J. Vierra for his invitation to prepare a version of this paper for the 1999 Society for American Archaeology meeting. Illustrations from the Silo Site are reprinted with the permission of Troy L. Lovata. Dr. G. Lain Ellis of the Texas Department of Transportation graciously reviewed my comments on site 41DW270.

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A POLYHEDRAL CORE FROM HOLLYWOOD PARK IN NORTH-CENTRAL SAN ANTONIO

C. K. Chandler

ABSTRACT

A polyhedral blade core from north-central San Antonio is documented and illustrated. Cores of this type are generally considered to be of early Paleo-Indian times; it is most probably of Clovis affiliation.

ARTIFACT DESCRIPTION

This polyhedral core was found by Doug Murphy in 1982 near the Hollywood Park fire station on the west side of Highway 281 in north-central San Antonio. It was found on the surface with numerous large initial stage biface reduction cobbles but no finished artifacts. The cortex had been removed from all of these bifaced cobbles and there was no cortex on the core.

This core (Figure 1, A and B, and Figure 2, A and B) is of good quality Edwards chert, tan to brown in color. All surfaces are glossy, hard and slick. Patina is minimal and what patina is present occurs in the darker brown portion of the artifact as a pale bluish gray. This core is 140 mm in length and 67.7 mm in diameter across the multifaceted striking platform. It weighs 699 grams. Maximum diameter is 69 mm at 35 mm below the striking platform. Circumference of the platform is 210 mm. There are 10 blade scars that originate at the platform end. None of these are full length of the core. They vary in length from 42 to 97 mm and from 14 to 27 mm in width. Five of these have bulbs made by direct percussion. The other five are without bulbs due to the renewal of the striking platform after these blades were discharged. Ripples occur on most, but not all, of the blade scars. There are three additional small flake scars where short, narrow blades were removed from prominent arrises on the perimeter of the platform. Two flakes were struck from the pointed base, one on top of the other. These two flakes hinged off at 62 and 49 mm. They appear to have been an effort to remove a prominent boss that protruded on that side of the core where one of the previous blade removals had terminated short of mid-length of the core. Obviously this effort was not successful. The present striking platform is formed by three flake removals similar to core tablet flakes that have produced slightly protruding, rim-like platform edges.

Five polyhedral blade cores from northeast San Antonio have been documented and published, four of these in *La Tierra*. One reported by Chandler (1992) is from along Mud Creek south of Highway 1604 in northeast San Antonio. A second (Chandler 1998) is from the Encino Park area of northeast San Antonio. Two by Kelly (1992) are from Comanche Hill south of Highway 1604 in northeast San Antonio. A fifth polyhedral blade core is also from northeast San Antonio. It is from along Bulverde Road south of Highway 1604 (Houk et al. 1997:104-106).

These five polyhedral blade cores and the one reported in this article make a total of six now published. All are from north-central San Antonio and are considered to be of early Paleo-Indian age, probably of Clovis age or affiliation (Collins and Headrick 1992).

ACKNOWLEDGMENTS

Sincere appreciation is extended to Doug Murphy for the loan of this polyhedral core for study and documentation and to Richard McReynolds who did such a fine job illustrating it.

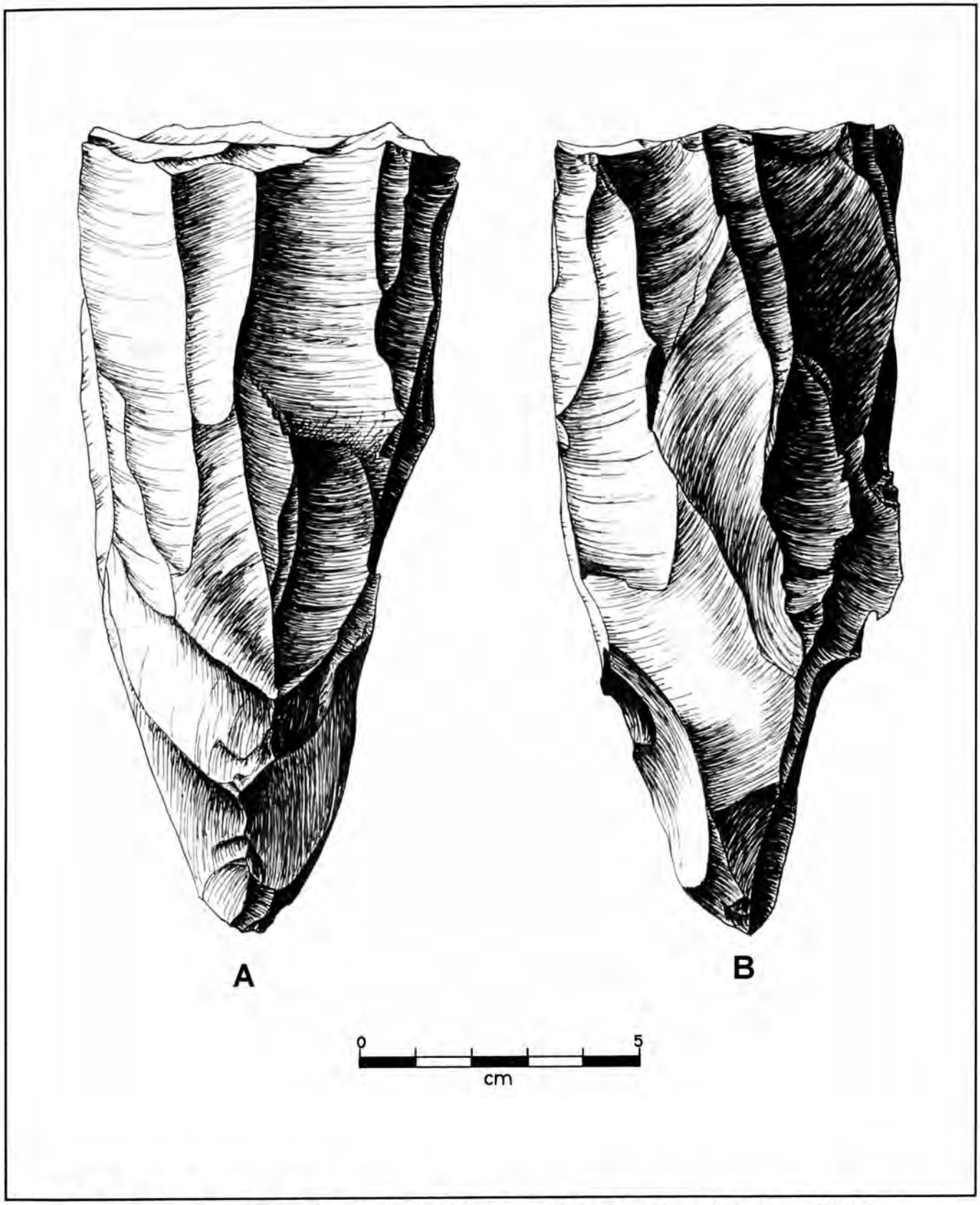

Figure 1. A and B. Two views of a polyhedral blade core found by Doug Murphy, 1982, in Hollywood Park, north-central San Antonio. Drawings by Richard McReynolds.

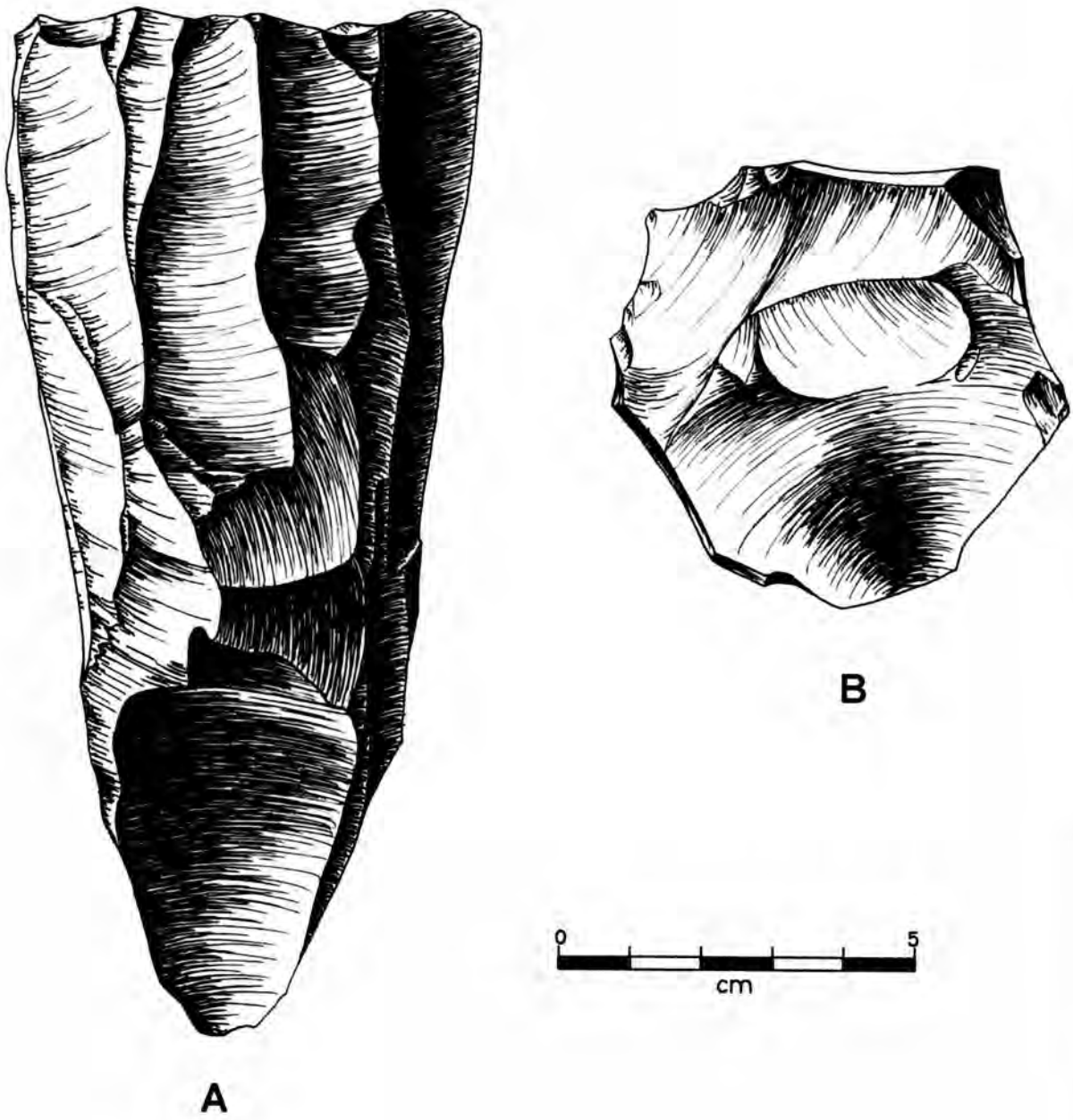

Figure 2. A and B. Additional views of a polyhedral blade core from Hollywood Park in north-central San Antonio. Found by Doug Murphy, 1982. Drawings by Richard McReynolds.

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CULTURAL RESOURCES MANAGEMENT AT THE AMISTAD NATIONAL RECREATION AREA, DEL RIO, TEXAS

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INTRODUCTION

The National Park Service (NPS) manages 378 units throughout the United States and its territories. Each National Park Service unit has a Cultural Resources Management (CRM) program which is responsible for managing the historic and prehistoric resources on federal lands within its jurisdiction. The scope and content of park-level CRM programs vary widely throughout the National Park Service due mainly to the type, variety, and total number of resources to be managed. The foundation for each program is based on the National Historic Preservation Act (NHPA) and is promulgated through NPS-28 Cultural Resource Management Guideline..

The NHPA provides the road map to effective management, and requires (among other considerations) that federal land managers take into account the possible consequences of ground-disturbing projects, and that federal land managers develop specific management plans that will ultimately lead to complete archeological surveys to identify and assess the potential eligibility of cultural sites for nomination to the National Register. The NPS-28 guideline elaborates and details management strategies, outlines decision-making processes, and provides the basis for day-to-day and year-to-year operations related to the basic provisions laid out in the NHPA.

Low-Water Archeological Surveys

The overall effectiveness of any Cultural Resources Management program—be it county, state, or federal—can often be determined by how well it responds to unforseen circumstances such as wild fires, floods and droughts. The CRM program at Amistad National Recreation Area has been put through such a test over the last five years because a regional drought has reduced Amistad Reservoir to its lowest levels since it began filling in 1969.

The reservoir covers an area of 57,292 acres at normal water level—1,117 feet above mean sea level (asml). The recreation area has 540 miles of shoreline and includes 43,250 acres of water. As the reservoir levels began dropping late in the spring of 1994, the park was in an unusual situation. The manageable land area was rapidly expanding as the surface water area was decreasing. By the summer of 1998, Amistad Reservoir had dropped 56 vertical feet and covered less than 20% of the area that it had at normal lake water levels.

In 1994, the park began drought-related NHPA Section 110 reconnaissance-level archeological surveys in selected areas around Amistad Reservoir, where visitor activities were the greatest, in an effort to answer two basic questions: 1) were receding lake levels exposing prehistoric or historic archeological sites and 2) were recently exposed sites being affected by grazing or visitor activities?

The initial surveys quickly demonstrated that previously inundated sites, documented years earlier during preinundation research (1958-1970), were indeed being exposed and that there were perhaps dozens of previously undocumented sites popping up in predictable places, based on land forms, along the 500 plus-mile-long reservoir shoreline. Condition assessments at these newly-exposed sites demonstrated that most of the observed effects were the product of natural forces (wind, water, and wave-action damage), but that unintentional damage from grazing and visitor-use activities (camping, off-road driving) were also taking a significant and preventable toll of the resources. Evidence of looting and vandalism at these new archeological resources appeared to be minimal. Two years later, a second assessment of looting and vandalism tended to confirm the initial assessments; from the 800 documented site visits in 1996 by park rangers, only three inci-

dents of willful disturbance were noted and investigated.

Many of the archeological sites discovered in 1994 initially appeared as silt-covered mounds of rocks rising above the non-vegetated mud flats; some were unapproachable because of the quicksand-like nature of the mud. The overall morphology of these features—circular concentrations of tightly-packed fire-cracked rock (FCR) intermixed with soils that appeared darker than the surrounding surface areas—led to speculations about the archeological integrity of such formations. If these features are intact, the surviving feature matrix could have the potential to provide significant new information on how these features may have been constructed and used in prehistoric times.

In 1996, the park received a competitive grant for participation in the Federal Student Conservation Corps and AmeriCorps program which was used to hire crew members for archeological surveys and documentation projects around Amistad Reservoir. The Student Conservation Corps and the AmeriCorps programs are federal programs that provide tuition assistance and work experience for current and former college students. Former NPS seasonal archeologist Kenny Wright was hired on a 900-hour appointment and UTSA graduate student Sandra Billingsley accepted a 1,900-hour appointment.

By the fall of 1996, the AmeriCorps Low-Water Survey Project had surveyed nearly 100 miles of shoreline and intermittent drainages, resulting in the identification and initial documentation of 72 previously unrecorded archeological sites. The preliminary findings of the 1996 field season were presented in separate papers at the annual Texas Archeological Society Meeting in San Antonio by National Park Service Archeologist Joe Labadie and AmeriCorps member Sandra Billingsley.

Combined with the results of other low-water surveys (1994-1996), a total of 112 undocumented and formerly inundated sites have been documented to date. More than 200 projectile points (dominated by Late Archaic types) have been collected from surface contexts, and more than 850 discrete fire-cracked rock features and scatters have been identified and plotted on field maps.

The initial AmeriCorps Low-Water Survey has now turned into a multi-year survey and documentation project that has benefited greatly from the combined work of four more individuals—Chris Butler, Christina Hernandez, Aimee Hall, and Eddie DeLa-Rosa—since 1996. Collectively, these surveys have resulted in some amazing discoveries and have identified several research opportunities that had been considered unimaginable prior to the drop in reservoir levels. But the omnipresent threat to this situation is that rising reservoir levels have the potential to take away these unprecedented opportunities at any time which recently happened on August 24, 1998 when Amistad Reservoir rose more than 10 vertical feet in one day following heavy rain associated with Tropical Depression Charley.

Assessment of Site 41VV1697

In the summer of 1995, the park asked Dr. Phil Dering and a volunteer crew of Texas A&M students to conduct limited testing at a recently exposed site (41VV1697) to determine if formerly inundated features possessed archeological integrity and to assess the potential macrobotanical significance of the feature fill from selected soil samples. The site, overlooked or not visible during preinundation surveys, is situated on an old river terrace and has spent most of the last 35 years under the waters of the Devils River arm of Amistad Reservoir (see Figure 1). Twenty-four separate hearth features were documented; most consisted of fist-sized river-rolled rocks. Diagnostic projectile points included Shumla, Val Verde, Castroville, Ensor, Frio, and two Perdiz points. Several large bone fragments, found in both surface and partially buried contexts, have been tentatively identified as bison bone (Brian Shafer, personal communication 1995).

Geomorphological testing indicated that, prior to the re-exposure, the shallow-water, near-shoreline environs provided an ideal habitat for *corbicula fluminea* clams, an exotic species of Asian clam that is now pervasive at many reservoirs across the United States. Corbicula shells were found in nearly all shovel tests and test pits at depths up to about 20 cm (8 inches) below the ground surface and represent yet another class of bioturbation at submerged archeological sites (Shafer et al: 1997).

Macro-botanical analysis of six, one-liter (1 qt.) soil samples from different hearth features resulted in the identification of charred acorns and cups, seeds from three economic species of grass, and six different species of wood (Dering 1999). The preliminary

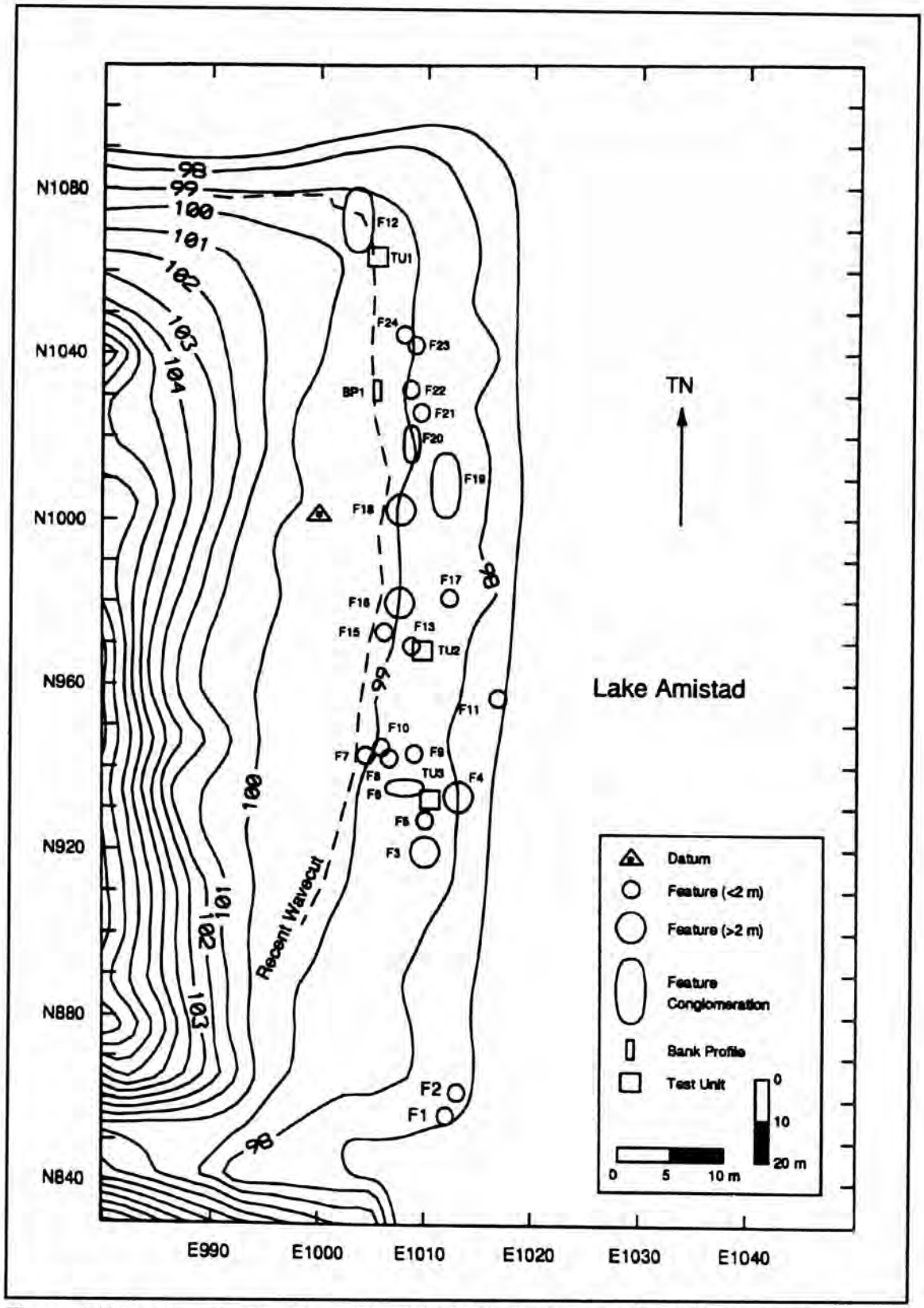

Figure 1. Features and excavations, Site 41VV1697, Amistad National Recreation Area.

research at site 41VV1697 has demonstrated that at least some portions of selected hearth features were indeed intact and that they did have the potential to yield significant new macrobotanical information about what may have been cooked in such features. By the end of the 1995 field season, it was evident that there were many more sites to be found, and that in certain circumstances, recently exposed sites had the potential to provide new answers to some old questions about subsistence and settlement patterns in the Lower Pecos River region.

The Effects of Wave Action on Shoreline Sites

Fire-cracked rock (FCR) features documented thus far generally fall into one of several categories. The majority of the FCR features (N=700+), which average about one meter (39 inches) in diameter, are thought to have been limited-use cooking features. These hearth features come in three varieties: 1) slab-lined pit features; 2) features consisting of fist-sized, river-rolled rocks; and 3) features made entirely of flat tabular limestone rocks consisting of anywhere from 20-40% of fossiliferous limestone. The flat, tabular features are by far the most plentiful within the sample (see Figure 2). We are not sure why the fossiliferous rocks were purposefully selected for use in hearth features, but in 1995, Dr. Don Lewis (personal communication) speculated that dolomitic limestone is more stable at high temperatures than non-fossiliferous limestone, which could mean fewer hot-rock explosions during the use of the features. At several of the Headwaters Experimental Seminars, participants repeatedly hit the ground as limestone rocks exploded during the initial firing of experimental cooking features. One participant was hit in the chest with a hot-rock missile nearly 20 feet away from an experimental feature.

Nearly all features and sites identified during recent surveys have been significantly affected by wave-action from high winds, passing boats, and fluctuating reservoir levels. After nearly five years of surveys, we are only now just beginning to understand the effects of periodic inundation on prehistoric fire-cracked rock features. We now believe that the

Figure 2. Fire-cracked rock feature at Amistad Reservoir, Texas. Flat, tabular, fossiliferous rock are the most plentiful of rock features in this area. See text.

modern ground slope of exposed terraces is a basic determinant of the severity of wave-action damage to the archeological deposits. An optimum ground slope angle appears to exist where wave-action effects are negligible; above or below this angle wave-action is intensified creating somewhat predictable dispersal patterns across recently exposed ground surfaces. Typically, sites with ground slopes above 8 degrees will have a series of individual cut-banks often resembling stair-steps; each step represents a different lake elevation. Sites with low ground slope angles usually have a parallel series of drift lines or windrows (similar to high-tide lines at the beach) composed of corbicula shells, chert flakes, and small fraction fire-cracked rocks. In either setting, horizontal relationships among artifacts or feature-specific lithic associations are highly suspect given the number of times most sites have been subjected to the cycle of inundation, exposure, and reinundation.

It is also becoming clear that wave-action differentially affects the various classes of archeological materials in a site. Small items, such as flint flakes, bone or shell fragments, and organic materials are the first to be relocated as a wave passes across the site; larger items like metates or rock-lined cooking pits require greater amounts of wave-energy to move the item before the waves can systematically disassemble a fire-cracked rock feature. It also seems likely that as a wave sweeps across a concentration of fire-cracked rock, it is capable of dislodging the associated soil matrix and, over time, can fill these voids entirely with modern lacustrine deposits.

Archeological Information Systems

All archeological site data, including site forms, photos, and scale drawings from the last five years of archeological surveys, have been scanned and digitized for use in the park's archeological geographic information system (GIS, referred to affectionately as "Big Brother"). Topographic locations for nearly all of the sites have also been mapped using a Tremble Pro-XL GPS unit. Site locations, with associated digital data, can now be graphically depicted throughout the reservoir basin on an 11-map set of digital 7.5 minute USGS topographic sheets. Each site number displayed on the computer screen has been color-coded to reflect one of four management levels for site protection and frequency of boat patrols by park rangers. In an era of ever-dwindling manpower and funding, the technology associated with the park's GIS Archeology Management Plans allows the park to target its resources in areas where they are most needed.

By the end of 1999, after nearly three years of work involving NPS personnel in Tucson and Santa Fe, another huge set of data will be added to the current low-water archeological survey data in the park's GIS system. The new data represents most of the pre-inundation research archives (1958-1970) that were the product of the Texas Archeological Salvage Project and includes numerous excavation drawings, 4,300 photographs, and museum catalog data for more than 380,000 individual archeological specimens that are part of the park's collection curated at The University of Texas at Austin, Texas Archeological Laboratory (UT-TARL). This new data has all been linked into a user-friendly system that allows park managers to access all the available data for a particular archeological site with just the click of a computer mouse.

The 1999 Texas Archeological Society Summer Field School

Amistad National Recreation Area will host the 1999 Texas Archeological Society Summer Field School (TAS FS) June 13-19. The field school will include activities such as archeological surveys, testing, documentation, stabilization, museum cataloging, rock art documentation, material workshops, and evening programs and field trips. Dr. Mike Collins (UT-Austin) and National Park Service Archeologist Joe Labadie will be Co-Principal Investigators for the TAS FS.

The first real test of the park's new computer-based archeological information system will come this summer, when it is used as the primary research tool in support of the field work at up to 35 different archeological sites. The system will be used to generate detailed site maps and topographic maps (at 4-foot contour intervals) for a field crew that could include up to 300 people. A primary focus of the TAS FS will be to collect additional data at newly-discovered archeological sites for use in computer databases aimed at predictive modeling and day-to-day park operations.

One of the more important archeological sites that the TAS FS will work at extensively is site 41VV1723 where over 140 individual hearth features

have been identified and partially mapped. Several discrete areas of limestone bedrock outcroppings at this site have dozens of grinding facets and mortar holes; one area alone, about four meters square (ca. 172 sq. ft.) has at least 92 distinct grinding features. Seven prehistoric ceramic sherds, tentatively identified as Leon Plain, were found, along with several Perdiz arrow points, in a relatively small area within the larger three-acre site area. Recently, Dr. Mike Collins identified about six tipi or wickiup rings at this same site (Collins and Labadie 1999). Across the canyon from this site, at site 41VV1724, five additional Leon Plain sherds were found on the ground surface, along with two large burned-rock middens and at least 40 separate hearth and fire-cracked rock scatters.

The TAS FS will also conduct a major archeological survey on National Park Service lands on the lower part of Amistad Reservoir. Encompassing roughly 200 acres, TAS FS crews will attempt to survey the entire area, document and assess about 20 known sites, establish an erosion monitoring system, and collect data for use in a later grazing impact study.

The TAS Rock Art Task Force will undertake the documentation of pictographs at site 41VV18 (see Jackson 1938:236; Labadie 1994: front piece; Zintgraff 1991:15). Containing four major pictograph panels, the site is owned and managed as a preserve by the Rock Art Foundation. Field work will include detailed line drawings; water color paintings; and black-and-white, color, and digital photography. The TAS Rock Art Task Force has worked throughout the Lower Pecos region and West Texas and, along with the Rock Art Foundation, has been at the forefront of regional rock art documentation projects.

The National Park Service will be using a global positioning system (GPS) unit to map several large terrace sites that have multiple hearth, burned rock midden, and fire-cracked rock (FCR) features. Past experience has shown this to be a very efficient way to map large sites that can cover 1-5 acres and can have more than 100 FCR features and an equal number of grinding slicks, facets, and mortar holes. Once the field data is differentially corrected, processed, and entered into the park's geographic information system (GIS), the site data can be layered on top of digital map sets and viewed or printed (in color) in large formats (up to 3 x 4 feet). Additional software linkages to the digital photographs of each site feature will allow for later morphological studies and the subsequent definition of FCR feature topologies.

Summary

The five-year regional drought that has gripped West Texas and northern Mexico has been making national headlines for several years now. Visitation at Amistad Reservoir has dropped by nearly 40 percent as the reservoir has receded to its lowest levels since it began filling in the late 1960s. On the brighter side of things, the drought has provided an unprecedented opportunity to study a portion of the prehistoric landscape thought to have been long lost under the waters of Amistad Reservoir. The 1999 TAS Field School will make a major contribution toward furthering our general understanding of the prehistoric lifeways of the region while allowing the National Park Service to better manage the resources under our charge. The long-term effect of the current low-water research projects will be that this endeavor will provide the much-needed balance in research for a region where rockshelters and pictograph sites have always been at the forefront of research and public interest.

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A GROUND STONE MANO FROM LC-12, A MORTUARY CAVE IN THE LAGUNA DE MAYRAN, SOUTHWESTERN COAHUILA, MEXICO

James Bryan Boyd

ABSTRACT

A ground stone mano discovered in the area of a remote cave in southwestern Coahuila, Mexico, is discussed in this report. The artifact is described, followed by a detailed discussion of the site, including its apparent use as a mortuary cave and other specialized purposes.

THE ARTIFACT

The mano was found in 1976 by Sr. Arcenio Cano, a former resident of San Pedro de las Colonias, Coahuila, Mexico. The author had visited the site in April 1989, and in 1993 Sr. Cano informed the author about finding the mano just outside the entrance to the cave many years earlier. Sr. Cano referred to the cave as "La Mancha" [English translation: "The Stain"]. He also had discovered several human burials inside the cave, and recovered numerous associated artifacts. In 1996, Sr. Cano provided the mano to the author for documentation.

The mano is made from a dense but somewhat porous dark gray basalt. The specimen is flat in appearance, has two well-ground surfaces, and is generally oval in shape (Figure 1).The mano appears to have been initially pecked into shape, and the peck marks are visible on both grinding surfaces as well as the edges of the tool.

The mano is 12.7 cm in diameter along its greatest axis, and 10.3 cm in width. It is between 2.5-3.2 cm in thickness and weighs 0.77 kg. It is comparable in size and shape to numerous specimens collected by the author in northeastern Mexico and southern Texas, primarily in the area of Falcon Reservoir, but manos from that area are almost always made from sandstone (Boyd n.d.).

Taylor (1966:68) states that the majority of the manos from the Cuatro Ciénegas Basin, a region approximately 110 kilometers north of the Laguna de Mayran, are made of limestone arroyo cobbles, with basalt and other types of stone less frequent. There is, however, some distinction between the artifact assemblages of the two areas. Taylor (1966:61-62) assigns three well-defined "complexes" and three less well-defined complexes to his proposed "cultural continuum" for Coahuila. One of the recognized traits of the "Jora complex" is the use of basalt and sandstone for manos (Taylor 1966:82). Heartfield (1975:154-155), in her report on four sites in the Laguna de Mayran, reports 8 manos, 6 of limestone, 1 of vesicular basalt, and 1 of uncertain lithology.

The mano from La Mancha Cave (also known as LC-12) shows extensive use on both grinding surfaces, which are very flat and appear highly polished. The exterior edge(s) of both grinding surfaces curve outward very slightly, producing a convex appearance when viewed edge-on. The peripheral edges of the specimen also are lightly polished, possibly caused during the manufacturing process when the edges were battered or smashed in order to attain the desired shape. Taylor (1966:68) notes that the majority of the manos from the Cuatro Ciénegas Basin are pitted. The manos collected by Heartfield (1975:154) only have a single flattened grinding surface, as opposed to

Figure 1. Mano stone from LC-12, northeast Mexico. Oblique view. Author photo.

the mano from LC-12, and some have been shaped by pecking while others are unshaped cobbles. They range in length from 9.9 to 12.8 cm (the LC-12 specimen is 12.7 cm), 10.4 to 10.6 cm in width (LC-12 mano is 10.3 cm), and 4.2-6.2 cm in thickness (LC-12 mano is 3.2 cm). Therefore, the mano from LC-12 conforms quite well in length and width to a small sample of other manos collected in the same region, but it is considerably thinner, perhaps since it has two flattened grinding surfaces rather than one, as in the case of the other manos.

LOCATION OF SITE LC-12

The cave site where the mano was found is located in southwestern Coahuila, Mexico, in a region known as the Comarca Lagunera (literally translated as "District of Lagoons"). This name might at first seem strange to any outsider who has ever visited the region, as it is an extremely bleak and barren desert. There is not a sign of water anywhere, much less "lagoons." However, the region is a large bolsón, or basin, and numerous intermittent streams, including the Río Nazas and the Río Aguanaval, empty into the basin near San Pedro de las Colonias. During early historic times, a lake filled the lower elevations of a large area generally east of San Pedro de las Colonias. This area is known as the Laguna de Mayran. The lake [or lagoon] may have had a circumference of 120 miles during exceptionally wet periods (Griffen 1969:109). In more recent years, the Laguna de Mayran has increased in aridity, becoming the barren desert it is today (Heartfield 1980:72). Several factors are responsible for the increase in aridity, including the damming of the Río Nazas (Heartfield 1980:72).

The cave is known by the characters "LC-12," painted on a wall just inside the entrance. This number is believed to be a registered site number, designated by unknown Mexican archaeologists; otherwise, it is known locally as "La Mancha."

The site is located approximately 50 kilometers east-northeast of San Pedro de las Colonias, and approximately 95 kilometers northeast of Torreón, Coahuila (Figure 2). LC-12 lies in the foothills of a mountain range at the north edge of the Laguna de Mayran. The mountain range is known as the Sierra El Clarín, and rises to a height of 1780 meters a few kilometers northwest of the site. The site itself is in a

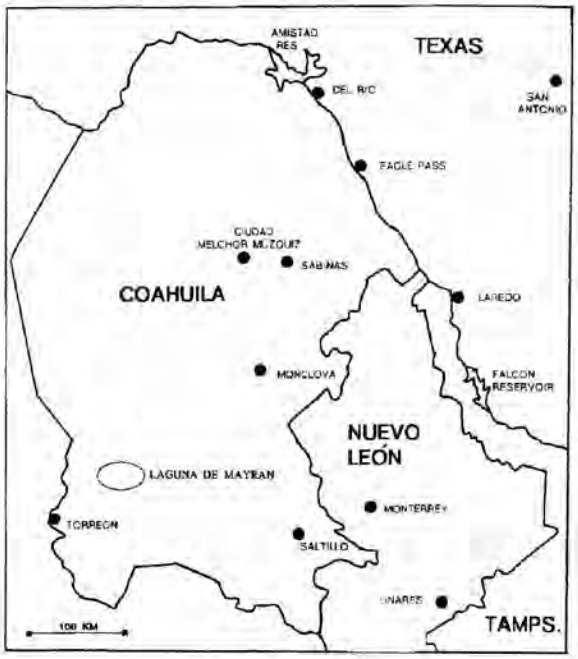

Figure 2. General area map, showing areas of Texas along the Rio Grande, and the adjacent Mexican states of Coahuila, Nuevo León and Tamaulipas. Select cities are shown. The approximate location of the Laguna de Mayran is indicated by the oval at lower left. Scale is shown at lower left. Map drawn by the author.

southeastwardly branching escarpment or "finger" which projects outward from the higher mountains.

DESCRIPTION OF THE SITE

LC-12, or "La Mancha," appears as a fissure, approximately 14 meters in height, located in a rocky escarpment in the foothills of the Sierra El Clarín (Figure 3). This fissure is only about one meter wide near the base (Figure 4). On the rock walls just outside the entrance to the cave are large numbers of pictographs (Figure 5), mostly geometric designs painted in red. Pictographs in Coahuila are common, but those of geometric designs painted in red or yellow may be the earliest (Taylor 1966:67). All of the pictographs noted by the author occurred outside of the fissure.

Just inside the fissure, which eventually leads to the cave, are literally thousands of scratch or abrading marks on the rock walls (Figure 6). Taylor

Figure 3. View of the site: LC-12 is the vertical cleft to the right of center. View north. Author photo.

(1966:69) noted that these rock grooves, or "sharpening grooves," had been found in 12 sites in the area, but that the grooves were not used for sharpening any implement found up to that date in Coahuila. Whatever their purpose or meaning, a great deal of effort must have been exerted by the peoples who made these marks at LC-12.

Figure 4. Author at entrance to the cave. Pictographs are to left above his hand.

A few meters back in the fissure the rocky walls suddenly converge so that there is only a low opening,

Figure 5. Detail of red geometric pictographs just outside entrance to LC-12. Width of photo is ca. one meter. Author photo.

Figure 6. Detail of scratch marks just inside entrance to the cave. Area shown is ca. 0.3 meter wide. Author photo.

or crack, which forces those desiring to enter the cave to crawl on their hands and knees (Figure 7). Just past this already low opening is an even smaller opening which forces those entering to crawl forth by practically lying prone. This narrow tunnel, which

Figure 7. View of author exiting the shaft tunnel which leads into the main portion of the cave.

was estimated to be about four meters in length, suddenly opens into a large vault or chamber of immense proportions. During the author's visit to the site on April 2, 1989, he was accompanied by an acquaintance from Mission, Texas, as well as a Mexican guide from San Pedro de las Colonias. Adequate preparations had not been made for entering such a cave, and the small flashlights utilized were not adequate to sufficiently illuminate the interior of the cave. The air inside the cave was quite cool, and once several meters past the small entrance, it became very dark. We cautiously proceeded into the interior of the cave in stark amazement, finding that several passages extended outward from the path we had chosen. We noticed that there were human footprints in the fine dirt on the cave floor, but we were unable to estimate how old they were, as there does not appear to be any movement of air inside the cave whatsoever. Presently, after becoming momentarily disoriented, we decided to backtrack before becoming hopelessly lost. We found our way back to the entrance and proceeded out into the bright glare of the desert sun.

The site is most easily reached by driving down a long, dusty road which intersects a highway northeast of San Pedro de las Colonias. The road runs generally east from the highway and parallels the Sierra El Clarin. Several kilometers down this road, it is necessary to veer north toward the mountains, either across the barren desert floor or on one of the many almost invisible roads or trails which crisscross the area. After a while, a well-used dirt road is reached that runs along the foothills of the mountains. After turning east on this road and traveling a few kilometers, "La Mancha" is visible a short distance north of the road. A guide is necessary, as the area is quite remote, and once off the main roads it is very easy to become disoriented.

THE MORTUARY CONTEXT

In 1993 Sr. Cano informed the author that when he had explored "La Mancha" in 1976 he had discovered a number of aboriginal human burials just inside the entrance of the cave. His description of the exact location corresponds to a small alcove located just to the right of where the narrow entrance tunnel intersects the front portion of the "main" vault.

Sr. Cano stated that the burials were on the surface, and were accompanied by numerous grave offerings. His recollection is that there were approximately four corpses, lying in a flexed position in the area of the small alcove. He lucidly described the remains as mostly skeletal, but with remnants of hair in the cranial area(s), and long fingernails still intact.

Sr. Cano stated that he and the others in his party recovered many or all of the grave goods but left the skeletal remains intact. He recounted the recovery of a wooden bow, complete with bowstring, as well as a wooden quiver and about 12 arrows (with hafted stone points). He also recovered numerous other grave goods but was unable to adequately describe them in any detail. He eventually gave the bow, quiver, and arrows to a relative, and the artifacts eventually ended up in a museum in San Pedro de las Colonias. In September 1993, the author visited the museum, the Museo de la Revolución. The author was accompanied by Sr. Cano. A complete wooden bow, circular in cross-section, as well as a wood and leather quiver with several geometric carvings, and a single arrow were observed. Sr. Cano positively identified the artifacts as those he had recovered from "La Mancha." However, the bow's sinew bowstring was no longer present, having been replaced with modern cordage, and only one arrow remained (the stone point was missing). Sr. Cano pointed out that the artifacts were displayed in the open, in an unguarded basement exhibit area, and that the arrow and sinew bowstring could easily have been stolen over the years.

When the author visited the site in 1989, he was

unaware of the mortuary context of the cave, and specific notes or observations in that regard were not made. However, the difficulty in entering the cave, entering only by literally crawling inside, would seem to preclude the use of the site for habitation by aboriginal populations of the area. Yet there are numerous indications that suggest the site was utilized for various other specialized purposes, besides a mortuary cave. Taylor (1966:84) states that burials were entombed in large numbers over a great period of time in limestone caves or solution cracks which were not habitable locations. The LC-12 site obviously had special appeal to the former inhabitants of the region, and does not appear particularly habitable.

OTHER SPECIALIZED USES

Further evidence of the LC-12 site being used for specialized purposes is evident just outside, and to the east of the primary entrance to the cave. On a low hill are a number of bedrock mortars (Figures 8 and 9).

Figure 8. Shallow bedrock mortar just outside the entrance to LC-12. Mortar shown is ca. 10 cm in diameter. Author photo.

Figure 9. Local guide, Silvino Ramirez, points to a bedrock mortar near LC-12. View south. Author photo

Taylor (1966:69) reports that bedrock mortars occur at 11 sites in Coahuila, mostly in the northern and western sectors of the state, and that the proximity of bedrock mortar sites to habitation sites was not a prerequisite but rather nearness to plant foods. Mortars are most often found in groups according to Taylor (1966), and this is the case at LC-12. What is quite evident in the vicinity of LC-12 is a stark contrast in both topography and flora: the barren, almost featureless desert floor (Figure 10) devoid of most types of vegetation, and the steep, rocky slopes in the mountainous areas where a wide variety of plant species thrive (Figures 11 and 12).

Heartfield (1975:129) identifies common flora in the Laguna de Mayran as *Agave* (lechuguilla), *Opuntia* (prickly pear), *Cereus, Euphorbia* (candelilla), *Larrea* (creosote bush), *Dasylirion* (sotol), and *Prosopis* (mesquite). All of these were observed in the immediate vicinity of the site. Some of the species present, including *Agave lechuguilla*, were almost certainly an invaluable resource to aboriginal populations. Resources in this area, especially the flora, were vital to the very existence of the hunters and gatherers who foraged for them, and conservation of

Figure 10. View of the barren desert floor south of LC-12, looking north toward the Sierra El Clarín, in which the cave is located. Author photo

Figure 11. Flora at the base of the Sierra El Clarín, near LC-12. View northeast. Author photo.

Figure 12. Flora at the base of the Sierra El Clarín, near LC-12. View southwest. Author photo.

those resources must have been of critical importance. Leticia González (1989:14-15) proposes that the key to survival in the Laguna district may very well have been proper manipulation and/or usage of the indigenous plant species, which could provide food in times of scarcity; provide an alternative food source in times of plentifulness; allow longer stays away from permanent sources of water; and allow longer stays in areas where higher concentrations of *Agave lechuguilla* or other plants existed that were capable of being ground into flour. González (ibid.:10) also cites "nopales," the fruit of *Opuntia*, as the single most important plant food source to the former inhabitants of the region. *Opuntia* was observed in profusion in the area of LC-12 in April 1989, yet it and most of the other plant species observed in these higher elevations do not presently exist in the barren flats of the adjacent Desierto (Laguna) de Mayran. However, in these desolate flats of the desert floor are where most of the large numbers of Prehistoric and Historic occupation sites are located (Heartfield 1980:71; Boyd n.d.).

The mortars located just outside the entrance to the cave are the obvious result of plant processing. Stone or wooden pestles were probably utilized for this processing, and repeated use of them on the bedrock eventually led to the formation of the numerous mortars. Some of the mortars were nearly 0.4 meters in depth. The mano described in this paper was reportedly found on the high ground outside of the cave, in the general area of the mortars. The mano was probably also utilized for plant processing, but during the limited amount of time spent in the site, no metates were noted.

Present on the bedrock surface in immediate proximity to some of the mortars are numerous scratch or "abrading" marks. These marks are very similar to those located in the fissure-like opening to the cave, mentioned above. These marks indicate that a lengthy and deliberate effort was exerted in order to produce them, but why they were made and with what instrument is unknown.

Additionally, the large numbers of pictographs present outside the entrance to the cave would seem to indicate that the site was repeatedly returned to by those who painted them. All of the pictographs observed during the 1989 visit were red in color, and consisted mainly of geometric designs. The heaviest concentration was noted on either side of the exterior of the fissure-like opening to the cave.

CONCLUSION AND INTERPRETATIONS

The mano described in this report is an artifact type that is quite common in the Laguna de Mayran district. Processing of plants for food and other purposes was of critical importance to the aboriginal population in this region, which was a desert even during wetter times. The varied flora in the higher elevations around LC-12 provided a wealth of natural resources, causing the prehistoric inhabitants of the region to return there on a regular basis.

Other factors obviously attracted those peoples to the site as well, such as the conditions that make the site suitable as a mortuary cave. Although it appears that the burials observed in the cave in the mid-1970s are no longer there, other burials may be present deep within the cavernous interior. It is unknown whether the observed burials were removed by looters or archaeologists. Unfortunately, many or all of the associated burial goods were removed from the site and information about most of them appears to have been lost. The disturbance or looting of other burials in the region has previously been reported (e.g. Perttula and Boyd 1998:12-13).

Other features, such as the pictographs and the scratch marks found both inside and outside the cave, indicate that other specialized activities were performed at this very important site. Although some of the features in the site have been disturbed or removed, the site still offers a wealth of valuable information for those who are determined enough to explore this very remote and barren region where man once adapted to the hostile conditions and successfully lived for thousands of years.

ACKNOWLEDGMENTS

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STONEWARE POTTERIES IN THE SAN ANTONIO AREA

Anne A. Fox

This article was first composed as a talk for a stoneware seminar at the National Wildflower Center in Austin last year. This might explain its rather informal tone. The subject matter should be of interest to those STAA members who have worked on late 19th century sites in the San Antonio area. The audience for the talk consisted of people who were acquainted with Texas stoneware, as antique dealers, collectors, or archaeologists. Since we are here changing our focus slightly, it seems only fair to give a few definitions of terms:

> Stoneware pots are made from clays that can be fired to an intense heat. Although firing makes stoneware almost waterproof, it is customarily glazed for ease in cleaning and to improve its appearance. This is done with glazes which form a glassy surface, or slips which add a thin layer of a different clay. A salt glaze is created by throwing rock salt into a very hot kiln full of pots, forming a sodium silicate glass on their surfaces. A Bristol glaze combines feldspar, china clay, and zinc oxide to form a clean white surface. Slips are generally named for their place of origin, thus we have Albany slip from New York, and Alazan and Leon slips from Bexar County.

When I first started to write about San Antonio potteries, I envisioned a discussion of the pots and techniques and how to tell which ones were made by which potters. However, when looking into Georgeanna Greer's files in our laboratory in preparation for a discussion of San Antonio stonewares, I realized that there is an even more interesting story in the people who made this pottery—one you may never hear unless I tell it to you from Dr. Greer's notes and interviews.

Dr. Greer in her research found a remarkable group of potters who worked south of San Antonio around the turn of the century. Most of them arrived in Texas at about the same time, in the 1880s, landing at Indianola just before the hurricane that nearly wiped out that town. All were potters, came from Germany to start a new life, and either knew each other from the trip over or became acquainted immediately after arriving. As time went on, they intermarried, worked for each other, helped each other out, and gradually became one large family. Their operations centered on the clay deposits on the San Antonio River and other creeks and rivers south of town, and they were fortunate in that they went into business at a time when the demand for stoneware was at its height. However, the peak of the demand did not last more than 20 years or so, after which they gradually closed their businesses and turned to other ways to make a living. Georgeanna and I had the extreme good fortune to become acquainted with the last of these potters, and it is from interviews with him that much of the information has come for this article.

Figure 1. William F. (Grandpa) Saenger and his family. From Georgeanna Greer files.

W. F. (Grandpa) Saenger (see Figure 1) the first of the group to arrive, came to the United States from Germany in 1874. Starting in Trenton, New Jersey,

he moved to Missouri, then to Kansas, and finally to LaVernia, Texas in 1878, looking for the right clay to start a pottery (Lewis Publishing Company 1907: 55). Not finding what he was looking for in LaVernia, in about 1880 he moved to St. Hedwig where he produced pots slipped inside and out with a dark brown slip. He was not entirely happy with the clay he found there, although he continued working there until the railroad came through Elmendorf in 1886 providing an excellent means of shipping his products. Then he moved one last time to Elmendorf, which is about half way to Floresville on the San Antonio River. Here he found excellent clay and a fine place to set up business. and did very well for a time. Other Germans who had potting experience went to work for him while they got settled in a new land, then branched out on their own—more of them later.

Saenger's son Frederick worked for his father. They made salt glazed vessels using clay from Alazan Creek to slip the inside of their pots, which fired dark brown quite like the Albany slip others had been using elsewhere in Texas. In 1898 the Saengers started using Bristol glaze as people began to demand white, more easily cleaned interiors on their kitchen wares. A circular cobalt blue stamp used on this pottery read "Saenger Pottery Works, Elmendorf."

However, by 1910 or 1911 the Saengers were unable to get potters and they began to realize they would have to go out of business. At this point, their friends James Richter and his father Ernest, who had another pottery near by, came and helped to fire one last load before the family gave up and moved to San Antonio, where they gave up the pottery business and opened a saloon (Richter 1972a).

Ernest Richter came to Texas from Germany in 1886. His son James was born within the same year at Meyersville, a German settlement near Victoria (Richter 1972a). Looking about for work as a potter, Ernest worked briefly for Franz Schultz who had just started a pottery in Atascosa, then for the Saengers at Elmendorf. In 1888 Richter started the Star Pottery with the aid of Mr. Fest of the Fest and Ball store in Elmendorf. Since it was customary to pay potters in food and other goods rather than money, Richter depended entirely on the backing of Mr. Fest to get started. Surprisingly, the opening of a new pottery directly across the street, so to speak, does not seem to have created any hard feelings between Richter and the Saengers. To make it even more interesting, William Meyer, who had just opened his own pottery in Atascosa, came over and helped build Richter's first kiln.

Richter's son James grew up in the business, becoming an excellent potter in his own right. Pottery from this firm used Elmendorf clay with a salt glaze and an Albany or Michigan clay slip. Their mark was a five-pointed star with the gallon measure inside (Richter 1972a). Bristol glazed wares from the Star Pottery used the same mark starting about 1898 or 1904 depending on your source of information. Since other potters in the area started using Bristol glaze in about 1898, I suspect that is a more believable date.

The Richters sold out to the Newton, Weller, Waggoner Company in 1908. At this point, their mark changed to a circle with a star within and "Star Pottery, Elmendorf, Texas" (Richter 1972b; see Figure 2). Suffering the same problems as the Saengers in their inability to find potters, their business declined and in 1914 to 1916 the firm converted to making brick as the Star Brick and Tile Company (San Antonio Express June 21, 1927). That brick company continues today on the same site, though considerably enlarged, having branched out into sewer tile and other clay tile products required by the installation of water and sewer lines in the city of San Antonio.

James Richter went into other work for a while, but potting was in his blood and by 1929 he was working for Otto Brotze's pottery in San Antonio. From that he eventually opened his own one-man operation, the San Juan Art Pottery, in Berg's Mill, making primarily flower pots and tourist souvenir pottery during the depression. When Mardith Schuetz and I went to Mission San Juan Capistrano in 1967 for an archaeological investigation, there he was still actively throwing pots (see Figure 3), although he had nearly totally lost his sight. We spent many delightful hours listening to his reminiscences about potters and potting at that time.

William Meyer and Franz Schultz immigrated to Texas in 1885 (Richter 1972a). The families were acquainted, perhaps meeting on the ship coming over. Meyer tried farming in Meyersville, but evidently decided he preferred potting and soon joined Schultz working for William Saenger in St. Hedwig. When Saenger moved to Elmendorf in 1886, Schultz and Meyer went along. There they were joined by Ernest Richter, who had married Meyer's sister (Greer and Black 1971:2). In 1887, Meyer joined Schultz who

Figure 2. Workers at the Star Pottery, Elmendorf. Date unknown. From Georgeanna Greer files.

had started a pottery in Atascosa, and promptly married Schultz's daughter. By this time nearly everyone had at one time worked for everyone else and the families were pretty thoroughly interrelated.

Clays dug from local creek beds around Atascosa burned tan to terra cotta, allowing us to differentiate between pottery of the Meyer and the Elmendorf groups whose clay burned white to light buff in color. At first Meyer used salt glaze with Albany-type slip, changing about 1895 to Leon slip glaze instead. The Meyers used this Leon Creek clay from that time until the U.S. Government took over the site where they had been digging it to build Kelly Field (Richter 1972a). Variations in firing conditions and in weather caused differences in color from brown to bright green to yellow. They never went to a white Bristol glaze. Franz Schultz died in 1898 and William Meyer took over the operation of the pottery. In 1920 he turned over the business to his two sons, Frank and Gustav, who had worked with him all their lives. However, he continued to help out whenever needed until he died in 1944. After the death of his brother a bit later, Frank kept the pottery going until the 1960s.

There was one other pottery in the San Antonio area worth mentioning for its work. This one was founded by Otto Brotze in 1929. It was located off Pleasanton Road in Terrell Wells, and as mentioned, James Richter potted for Brotze for several years.

Figure 3. James Richter at his potter's wheel, San Juan Art Pottery, 1967. From Georgeanna Greer files.

They used Elmendorf clay, and had both stamped and impressed marks. Notable from this pottery were stoneware vessels with speckled or sponged cobalt blue decoration, particularly bowls and pitchers. They used Bristol glaze, or occasionally colored glazes which were popular at that time. This pottery changed hands several times and went out of business about 1938 (Richter 1972b).

There were other small scale operations that started mostly after the depression, but none ever attained the scale or the expertise of our German friends from the Elmendorf and Atascosa area. So when you drive down Highway 181 toward Floresville and pass the sign to Elmendorf, think of the folks who brought their expertise and enthusiasm for throwing and firing good, honest stoneware vessels for the people of San Antonio and Texas.

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AN OBJECT LESSON IN SITE SURVEY

Michael B. Collins

ABSTRACT

A fresh road cut through a natural levee on the right bank of Smith Creek four km (ca. 2.5 miles) south of Yorktown in DeWitt County exposed an old landsurface buried two meters (6.6 ft.) below the present surface. Ruts made either by a wagon or a narrow-tired automobile were preserved on the buried surface, graphically illustrating how quickly and deeply a surface can be buried by flood deposits. Neither surface inspection nor shovel-testing would discover cultural materials on that older surface and overlying deposits are too young to bear archaeological remains.

INTRODUCTION

During construction of a new bridge over Smith Creek on State Highway 119, four km (ca. 2.5 miles) south of Yorktown in DeWitt County in December, 1997, earth-moving equipment cut through a prominent natural levee on the right (south) bank of the creek. An excellent exposure along the road cut afforded the opportunity for geologist Tom Gustavson and the author to see a cross section of the levee on several occasions in December, 1997, and January, 1998 in conjunction with work at nearby site 41DW270. No archaeological deposits in the usual sense of the word were found in the road cut, but a well-preserved set of wagon or automobile wheel ruts on an old surface buried beneath the levee provided the graphic example reported here of how old surfaces can become obscured quickly and deeply, even by a comparatively small stream.

DESCRIPTION OF THE LOCALITY

This locality is in the central part of the Gulf Coastal Plain (Figure 1), a region characterized by low relief and streams that flow gently except during floods. Smith Creek rises just below the Karnes County line in western De Witt County and flows southeasterly a linear distance of about 22 km (13.7 miles) to the Highway 119 bridge whence it continues on another 7 km (4.4 miles) before joining Fifteenmile Creek. Upstream from the bridge, the catchment drained by Smith Creek is less than 125 square kilometers (48.3 sq. miles) in area. This is gently rolling country with sandy soils and the gradient of Smith Creek is quite low. At the point where Highway 119 crosses it, Smith Creek valley is broad (over 500 meters [1640 ft.] wide), shallow (less than 10 meters [33 feet] deep), and has a nearly flat floor. The channel and active floodplain of Smith Creek are cut another 6 meters (19.7 ft.) into the valley floor. The left (north) bank of this channel is the higher of the two and a minor levee has developed there; prehistoric site 41DW270 is situated there as well. In contrast, there is a prominent levee on the lower (right, or south) bank of the creek. Smith Creek is not a large stream, it drains a limited area, sandy soils of the area generally retard runoff, and the maximum relief in the entire catchment above the bridge is only 86 meters (282 ft). Given these physical conditions, the scale of the levee on the right bank of the stream is larger than would be expected were it not for high-volume floods that can be generated by the occasional very large rain events that characterize the Gulf Coastal Plain (Bomar 1995).

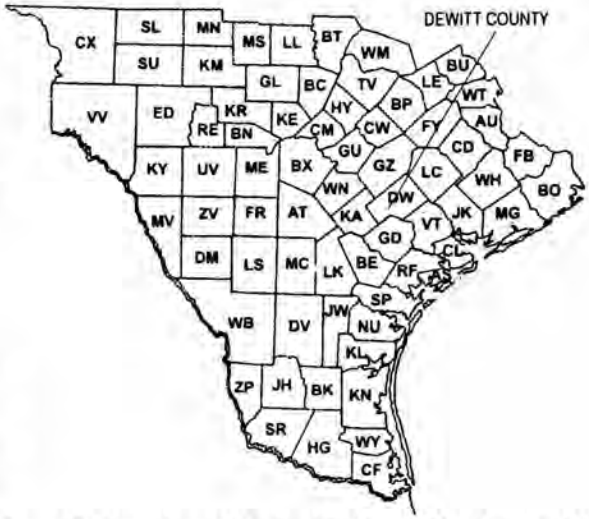

Figure 1. Location of the Smith Creek Bridge locality in DeWitt County.

The right bank levee (Figure 2) rises steeply about 9 meters (29.5 ft.) from the creek to a crest about 50 meters (164 ft.) back from the edge of the creek. From that crest, the surface of the levee falls off very gently over a distance of about 350 meters (1148 ft.) to the south side of the valley (Figure 3). The surface of the levee is sandy and maintained as pasture with grasses, forbs, and a few trees (Figure 2). The trees are small and consist of such fast-growing species as hackberry.

At the time of our inspection, a broad swath had been cut through the levee and a large volume of fill introduced to build up the bed of the new road on its south approach to the bridge (Figure 2 was taken looking down valley from the top of this new road bed). A narrow strip of the cut along the east side of the right-of-way had not been covered by the new fill (Figure 3) and a vertical cut just inside the right-of-way fence afforded an excellent view of the levee in cross section (Figures 2, 3, and 4). It was apparent that the strategy in making this cut had been to remove the loose, sandy levee fill and leave the more durable underlying material in place because the floor of the cut followed the contact between the base of the levee and the top of an underlying, dark-colored loamy soil.

THE NATURE OF LEVEES

Geologically the levee at the Smith Creek Bridge locality is small and entirely ordinary. Its geometry in cross section is like an airplane wing with its leading edge next to the stream, its thickest point close to the leading edge, and a long taper toward the trailing edge (Figure 3). In times of flood, water rising in the stream channel is initially confined by the banks and its energy is directed downstream. When the height of the flood rises above the top of the stream banks, the water spreads out to the sides where, without the confining banks, its energy dissipates over the wider area of the floodplain. With the reduction in energy, suspended sediments are dropped, the coarsest ones (e.g., sand) first near the stream and the finest ones (e.g., clay) last toward the valley wall.

Levees formed during these high flood events tend to be proportional to the stream, as is obvious when one sees the enormous levees along the Mississippi, but various factors such as the amount of vegetation along the stream, kind of sediment, size and frequency of flood events significantly affect levee formation. Most levees build up incrementally in the course of many flood events, but extraordinary floods can build substantial levees in a short period of time.

Figure 2. The right (south) bank of Smith Creek downstream from the Highway 119 crossing showing the prominent levee that was cut by road construction (note long-handled shovel and fence posts for scale).

Figure 3. View from the right (south) bank of Smith Creek toward the south wall of the valley showing the long gentle taper of the levee from its crest (tree at left) toward the distant wall of the valley, the floor of the roadbed cut (left middle ground), the roadbed fill (right side of picture), and the vertical cut exposing the levee deposits (shovel indicates scale).

THE LEVEE AND RUTS AT THE SMITH CREEK BRIDGE LOCALITY

The sediments of which the levee on Smith Creek is built are composed mostly of sand. Lenses and layers of sand of varying colors and textures are readily apparent in the profile (Figures 2-4). These could represent perhaps a dozen or so different flood events, but multiple layers of contrasting material can also result from deposition during different stages of a single flood, so it is possible that fewer events—possibly just one or two—could account for this levee. No matter how many floods are represented, the sharp boundaries between the individual layers and lenses are a clear indication that these are all very youthful deposits. That there has not been time for a soil to develop at the top of the levee is another indication that this is a very recent landform. Local informants speak of several large floods on Smith Creek this century, the largest being early in the 1930s, when part of the old bridge approach on the south side of the creek washed out. This and some of the other memorable floods are undoubtedly the makers of this levee.

In contrast, the dark-colored, loamy layer beneath the levee (at the floor of the cut [Figures 3 and 4]) is a soil that formed on a surface that was stable for a fairly long period of time. Informants told me that two bridges have been built across Smith Creek at this point, one quite early in this century and another in the late 1920s. Before there was a bridge, these informants report, this locality was a ford with a relatively low sloping bank on the south side of the creek. This description matches the old surface exposed at the base of the recent road cut, and ruts cut into that surface by wheels tell something of the age and history of that surface.

There is a single pair of ruts preserved in the top of the buried loamy soil and covered by approximately 1.5 meters (4.9 ft.) of sandy levee deposits (Figure 4). Only a short section of the ruts was exposed and it was not possible to tell whether they were made by wagon wheels or the narrow tires of the kind that were used on automobiles early in this century. These are oriented diagonally to Smith Creek and clearly were made when the soil was soft. It is not known whether these predate the earlier bridge and, therefore, relate to the ford or if they were made after one or the other of the bridges had been built. If these were cut when the crossing was a well-used ford, I would expect multiple ruts oriented perpendicular to the creek. A single set of ruts oriented diagonally suggests to me the uncommon incident of a conveyance (most likely an automobile) that strayed onto the sloping, muddy bank under or near the bridge. The latter interpretation would indicate a time perhaps in the 1920s or 1930s, which would imply that the entire development of the levee has occurred over the last 70 or 80 years.

Figure 4. Ruts on the surface of buried soil beneath levee (shovel standing between the ruts is 1.5 meters [4.8 ft.] tall). Note the bedded nature of the levee fill and near absence of soil development at the modern surface.

IMPLICATIONS

It is obvious that an archaeologist walking on the surface of this levee prior to the recent road work would not be able to see the deeply buried loamy soil. It is even unlikely that the venerable tactic of digging shovel-tests would have been sufficient to reach the buried soil except much nearer the valley wall where the levee deposits are thinner. Only by digging more deeply with machinery would this older soil and the sediments on which it formed be revealed. To one accustomed to looking for geologic clues, this situation is obvious. Levees are always places where cultural materials might be deeply buried, and this levee with its near lack of surface soil development and small flood-tolerant trees should immediately alert us to the potential for older surfaces to be deeply buried. What is unusual is to have such illuminating evidence in the form of ruts buried, preserved, and then exposed at the base of the levee.

By geologic standards, this is a puny levee and on the archaeological time scale, it formed almost instantly. Much larger levees have formed along the bigger streams, and some of these have been growing for hundreds or thousands of years. Levees along streams like the Guadalupe are in places six or eight meters (20 to 26 ft.) in height and 500 to 1000 meters (1640 to 3280 ft.) wide. When the ages of some of the larger levees can be estimated, it is not unusual to find stratified deposits going back 4,000 or 5,000 years. This all means that within larger levees there are extensive buried surfaces at multiple depths, each with the potential of hosting archaeological material. Comprehensive archaeological survey has to include a strategy for identifying those areas with the potential for buried sites and the means to determine their presence. The little levee on the minor stream of Smith Creek is a graphic example of this aspect of our archaeological record.

ACKNOWLEDGMENTS

I thank Drs. Jim Abbott and Lain Ellis of the Environmental Affairs Division of the Texas Department of Transportation for their comments and for encouragement to publish this note, and Dr. Tom Gustavson of the Texas Archeological Research Laboratory for sharing his field observations on the locality and for commenting on a draft of this note.

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TWO ECCENTRIC ARTIFACTS FROM A SITE IN SOUTHERN GILLESPIE COUNTY, TEXAS

Bryant Saner, Jr.

ABSTRACT

This report is to document and discuss two unusual artifacts recovered from a site in southern Gillespie County, Texas. The artifacts were first described as "ceremonial" points by their owners. However, wear analysis revealed a more practical use as a scraping tool for one artifact. The use of the other artifact is not known. It was discarded prior to any use. These artifacts are not Early Archaic multi-notch.

INTRODUCTION

In this report, the term "eccentric" is used to describe the two artifacts discussed herein. Eccentric is defined as something differing from an established pattern or accepted norm (Webster's Dictionary, 1993). The term has been used since the 1920s to described oddly-shaped chert and obsidian artifacts created by the Mayans in Mesoamerica. While these artifacts are not comparable to those from Mesoamerica, eccentric is the best term to describe this type of artifact. The term is also used by collectors to describe any unusual chert artifact. Anthropomorphic chipped figures and the fake "thunderbird" figures that are occasionally seen in private collections also bring to mind the term eccentric. However, not all eccentrics should be classified as fakes; occasionally eccentric artifacts are recovered and can be authenticated (Hester 1990). The collectors that provided these specimen are well known to the author, therefore, the authenticity of both artifacts is not in question.

These artifacts were first described as "ceremonials," another term often used by collectors to describe any unusual, irregular or otherwise different chert artifact. Ceremonial is defined as "marked by or relating to a ceremony" (Webster's Dictionary 1993). In the 1930s, several artifacts recovered during the construction of Buchanan Lake are classified as "ceremonial blades." The first are three large blades recovered at the Fall Creek Sites. They are chipped from what is believed to be Marble Falls limestone. These artifacts are referred to as "large so-called ceremonial blades." Several large knives with double rounded ends are said to be so large that they approach the "ceremonial" classification. A large base tang, approximately six inches in length, is referred to as a "ceremonial spearhead or knife blade" (Jackson and Woolsey 1936-37). Ceremonial artifacts are again mentioned in an artifact book for collectors from the early 1950s. They are described as "rather odd, wicked-looking pieces, many of them having deeply serrated edges, and were used in lodge or religious ceremonies. Thus, the white man can obtain little information about them." The description goes on to say that various pieces are called ceremonials, but few are authentic and many are fakes (Russell 1957). The terms "eccentric" and "ceremonial" are used interchangeably in many cases.

Eccentrics called multi-notched Early Archaic lithics, usually associated with Bell/Andice artifacts, are described in several archaeological reports. The specimen recovered at the Shrew Site, 41WN73, is described as a reworked Bell/ Andice (Labadie 1988). This same artifact along with other multi-notched specimens are documented in another publication

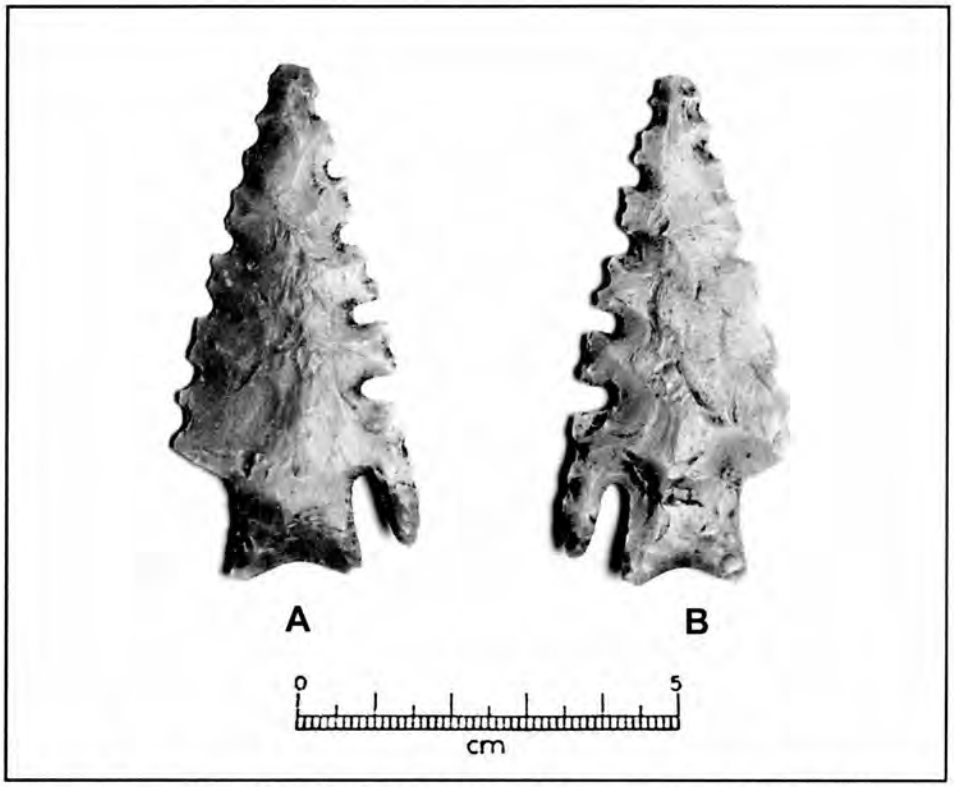

Figure 1. Top view of "eccentric" Artifact 1 from southern Gillsepie County, Texas. Left, Side A; Right, Side B.

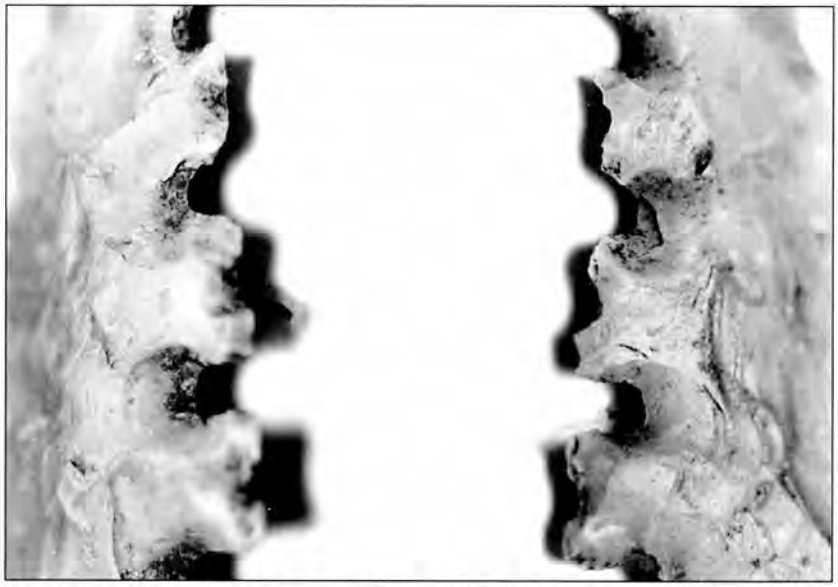

Figure 2. Top view close-up of stem-like lateral edge. Left, Side A. Right, Side B. (20X magnification).

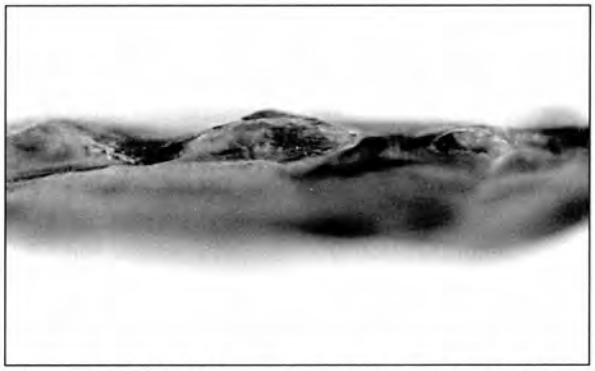

Figure 3. Side view of stem-like edge. Side A. is top of artifact and Side B is the bottom.

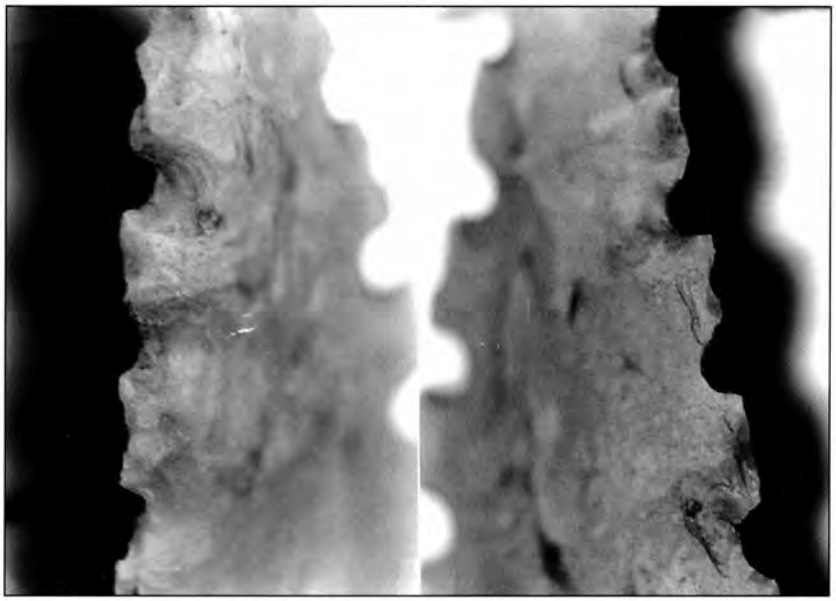

Figure 4. Top view close-up of serrated edge. Left, Side A; Right, Side B.

(Hester 1990). This type of artifact is further documented by Turner and Hester (1993) and it is suggested that these artifacts are the result of the need to practice the deep notching found on the Andice/Bell points.

Several other specimens of eccentrics that closely resemble the two artifacts discussed in this report are found in the literature. These are not Early Archaic multi-notched types. Two are found in a description of artifacts from the Bromley F. Cooper Collection. The first has an Ensor-type base, triangular blade with four notches along one lateral edge. The notches are fairly uniform in depth. The second specimen has short, narrow, stem with a somewhat convex triagular blade. The notches are bilateral and of varying depths (Woerner and Highley 1983). Hester (1990) describes a Uvalde dart point recovered in Uvalde County with one notch on each lateral edge near the tip.

SITE

The site at which these "eccentrics" were recovered is in southern Gillespie County, which is located approximately 100 kilometers (62 miles) northwest of San Antonio in the Hill Country of the southern Edwards Plateau. Fredericksburg is the county seat. The artifacts were recovered at a site on an unnamed creek that is part of the Wolf Creek drainage system. Wolf Creek flows into the Pedernales River approximately 13 km (eight miles) southwest of Fredericksburg near where State Highway 16 crosses the river.

This unnamed creek flows next to the large midden where both of these artifacts were recovered. Approximately 100 meters (328 feet) north is another midden. A permanent spring is located approximately 100 meters west of these middens. The terrain is very hilly and rugged.

Diagnostic artifacts recovered at this site represent a time span from the Late Paleo-Indian to Late/Transitional Archaic. These are: Angostura, Gower, Wells, La Jita, Travis, Bulverde, Pedernales, Almagre, Williams, Marshall, Montell and Fairland. No Late Prehistoric diagnostic artifacts are known from this site. This is not to say they don't exist, rather the author has not seen any artifacts found at the site from this time period (Saner 1996).

ARTIFACTS

Artifact 1 (Figure 1) is a long, thin, triangular bifacial Marshall dart point manufactured from a tannish-brown chert. This artifact is from the Middle Archaic time period (Turner and Hester 1993). The distal tip and one barb are missing. The remaining barb is long, slender and slightly curved. The stem is slightly expanding, while the stem base is concave. One lateral edge has five evenly spaced notches creating the appearance of having several stems on this edge. The notches get progressively more shallow from the barb to the distal tip. The stem-like protuberances are beveled on side A and flat on Side B (Figure 2). Under 20X magnification the beveled portion, Side A, appears to have use wear while side B has none (Figure 3). The opposite edge has seven shallow notches of uneven depths. This edge has more of a serrated appearance (Figure 4). There is no beveling on this edge. Under 20X magnification use wear is seen on side A and none is seen on side B (Figure 4A).

The measurements of Artifact 1: length is 75 mm (estimated), maximum width is 32 mm, maximum thickness (at base of stem) is 7 mm, stem neck width is 16 mm, stem base width is 19 mm, notch depth is 11 mm, maximum notch width is 4 mm, barb length is 10 mm, maximum barb width is 6 mm and maximum barb thickness is 3 mm. Detailed measurements are shown in Figure 5.

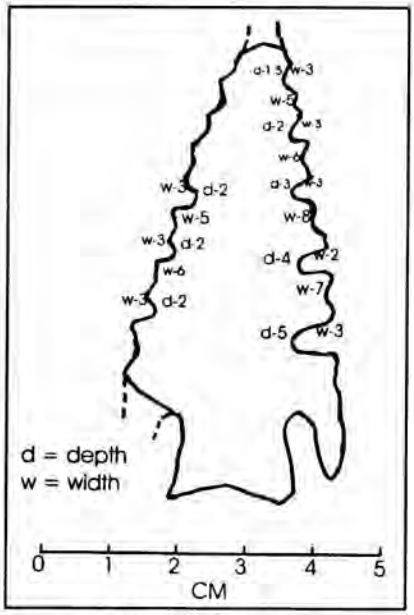

Figure 5. Detailed measurements of lateral edges, Artifact 1. All measurements in millimeters.

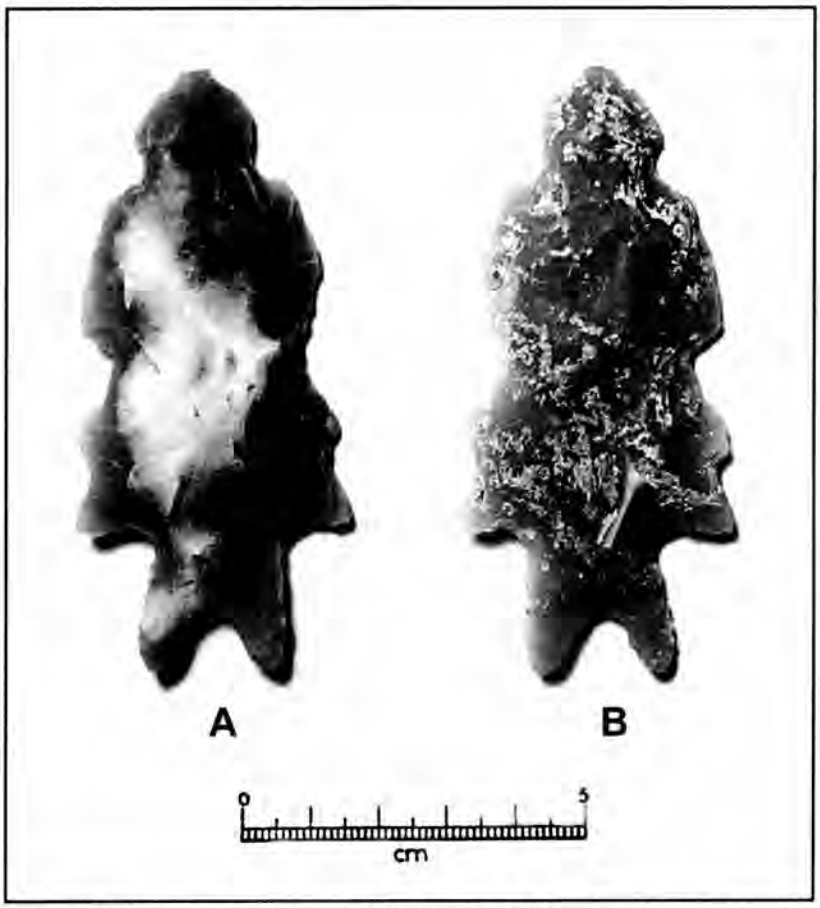

Figure 6. Top view of "eccentric" Artifact 2 from southern Gillespie County, Texas. A, left side; B, right side.

Artifact 2 (Figure 6) is a Pedernales preform manufactured from a grayish-brown chert with a slight lavender hue (Hester 1998). Some patina is noted on Side A, while Side B has a very small streak of patina near the stem neck. This artifact is from the Middle Archaic time period (Turner And Hester 1993). A small portion of the distal tip is missing. The shoulders are square and pointed. The stem is slightly expanding while the stem base is deeply concave. The lateral edges have three concave indentations of varying widths and depths, with portions of a fourth seen at the distal tip. Analysis under magnification indicates this artifact has no use wear on the edges or surfaces.

The measurements of Artifact 2: length is 94 mm (estimated), maximum width is 41 mm, maximum thickness is 9 mm, stem neck width is 19 mm, stem base width is 22 mm, stem base depth is 11 mm and stem thickness is 5 mm.

DISCUSSION

Artifact 1 started as a Marshall dart point and was later used as a tool. With the limited magnification available the author is unable to determine if this tool was ever hafted. Use wear analysis with 20X magnification does indicate that there is a high probablity that artifact 1 was used as a scraping tool. Wear is noted on side A and none on side B. The lateral end of the stem-like portions of the deeply notched edge are beveled. These characteristics are highly indicative of scraping (Tomka 1998). This tool was very likely used despite having one barb and the tip missing. The wear pattern gives a very low probability this tool was used for practice notching. A Marshall dart point is from the Middle Archaic time period, while the multi-notched lithics are from the Early Archaic time period.

Artifact 2 is a Pedernales preform, a lithic common to the Hill Country of Texas. Under 20X magnification there is no wear seen indicating any use. As a preform, it is very doubtful it was ever hafted and used as a dart point. It appears the indentations on one lateral edge are to correspond in depth and width to the opposing indentation. The manufacturer may have been attempting to flake the indentations near the tip when it broke, frustration set in and the artifact was discarded (Hester 1998). The purpose and use of this artifact are undetermined.

Many artifacts that are unusual or different are often called "ceremonials." This is common among collectors. Anyone who has examined artifacts has encountered this nomenclature. Artifacts must at least be examined with a magnifying glass before attempting to identify use. Under high magnification a practical use may be revealed. If the examiner is unable to do this type of analysis, there are many individuals, archaeological societies and academic institutions that would be willing to assist in analysis.

An attempt must be made to replace the term "ceremonial" with the term "eccentric." Ceremonial denotes the artifact was used during a ritual or ceremony. It is possible that some of these were used during a ceremony or special event, but this will never be known. Eccentric is a better term. It describes many unusual lithics without placing them in a category, indicating use or denoting ritual or ceremonial use. It does suggest an artifact that is unusual, hopefully stimulating further investigation. A close examination may give excellent clue as to use. Never judge an artifact by first appearance; do the analysis.

ACKNOWLEDGMENTS

Many thanks go to Robert Feller and Myron and Cara Deike for the loan of their artifacts for study. A debt of gratitude is owed to Tom Hester and Steve Tomka for assisting in the analysis of the artifacts. Thanks to Don Shirley for assisting with the graphics.

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THE 2098 STAA FIELD SCHOOL *

The Field School Committee has announced that final plans have been made to again hold this year's Field School on Asteroid 81 PL 3.

The decision was made based on the overwhelming success of last year's Field School.

Dr. Don Nester will again be the P.I. and stated that he had several areas that he felt needed further study.

The main force of the excavation will again be focused on the astronaut camping area with Sally Walkers and the Lunar Ladies leading the excavations.

Lan Boxe will not be able to attend this year's Field School as she is still working on the ceramics from Presidio La Bahía.

Shay Swith announced that the camp preparations are well under way with Dr. Nester's Lunar Lander already in place.

Nike Bulgum and Loy Straig have moved the heavy equipment in and stated that the Co-ed latrine trench and showers are set up.

Ned (the mole) Bolt has been selected to lead the excavations at the Norman Flaigg Memorial Craters.

Faye Binds will continue the excavations on the dark side of the Asteroid at 81 PL 11. She stated that she hoped to find more evidence that this was the second landing site of the Spanish astronauts.

Nike Pavis will be leading the efforts at the Bagner Crater hoping to break through the crust this year and promised easier digging once the rock layer is reached.

Nitty Medlin will be going all out again this year with the Red Rattler Jet flyovers at 5 A.M.

Will Bimington has announced that various comet and asteroid showers will be on tap each evening for entertainment.

Burt Carrol will again be taking the photos via sattelite with his new digital laser cameras.

As a special attraction, Pauley Flopell will be having a fly-in of UFOs and Dr. Nester stated that the landing pad was already in place.

Natsy Babbal stated that due to budget cuts the space suits will no longer be furnished by STAA, but that shuttle prices will be reduced by 10 percent for those registering early.

Several new publications will be available:

Dr. Don Nester's moving document "Did Space Flight Change the Aranamas Lifestyle?"

Ben Frown's "Maybe More Preliminary Possibilities at Berger Bluff"

Sally Walker's "The Guerrero Point Versus Lazer Beams"

Timmy Tichell's "How to Write, Speak and Publish Spacetalk"

B. K. Panhandler: "Identifying and Dating Painted Spacejunk"

Dan and Burley Shanderveen: "Time Travel and the Ban Daker Artifacts"

Blyn Blighley: "How Space Medicine Helped Me Get Over Loma Sandia"

Blaine Fox: "Acequias and Moon Canals I have Known"

Balston Calms: "The Britchard Feene Crater"

Bip Tennessee and Ted Pokeri: "Burials at Roswell New Mexico"

Rob Ticklis: "A Karankawa Lunar Observatory"

Dom Hiller: "Scotch and Moonbeams"

Cleve Slack: "Cooking with Asteroids"

Sneff Bubner: 'Molecular Deviations in Stratispheric Bombardments"

B. A. Balhoun and Dian Maneson: 'Preventing Chimney Fires in Kilns'

Noreen Crown will again lead the youth group in the rousing song "The Night the Great Sputnik went Down"

All in all it looks like 'Space is Great for 98' will be one of the farthest out STAA digs ever!

* This is Smitty Schmiedlin's tongue-in-cheek contribution to the hilarity at the STAA 25th Anniversary dinner in December, 1998. See if you can identify the unfortunate souls immortalized here!

E. MOTT DAVIS

1918 - 1998

E. Mott Davis, Professor Emeritus of Anthropology at The University of Texas at Austin, died on December 23, 1998. He was born on November 24, 1918, on the family apple farm in Shirley, Massachusetts. Mott attended Lawrence Academy in Groton, Massachusetts, and graduated from High School in 1935. He entered Harvard in 1937, graduating Magna Cum Laude, in Anthropology (Archaeology), a member of Phi Beta Kappa, and winner of the college award for the best senior honors thesis in 1940.

While in college he worked at the Peabody Museum's excavation of Awatovi Pueblo in Arizona and on a survey of sites along the Mississippi. He participated in excavations in Massachusetts, Nantucket Island, the Palmer-Taylor shell mound on the St. John's River in Florida, and in the discovery phase of the Plimouth Plantation site. When the United States entered World War II he worked in the map distribution section of the Air Transport Command.

In 1943 he married Beth Ogden, and after the birth of their first son, Jonathan, took a position at the University of Nebraska, where he taught and excavated. His excavations there were mainly the Lime Creek and Red Smoke sites in western Nebraska, on the latter of which he wrote his dissertation, receiving his Ph.D. from Harvard in 1954. While at Nebraska he also conducted an archaeological survey for the National Park Service of the Big Sandy Reservoir in southwestern Wyoming. In 1956, five years after the birth of their second son, Hugh, he accepted an appointment at The University of Texas at Austin and had been there since. During the summer between Nebraska and Texas, he worked on sites on the Peace River in Canada.

Mott's excavations in Texas were mostly in the reservoir sites in the Caddo area of northeast Texas, including Ferrell's Bridge, and McGee Bend, but he also participated in a site survey by boat of the Rio Grande. He was glad, though, to become a full time teacher, achieving full professorship in 1973.

A long-term undertaking for Mott at The University was his directorship of the Radiocarbon Dating Laboratory. He was not a chemist and did not come easily into that position, but he did get satisfaction from his part in keeping this lab, so important to archaeologists, functioning well.

Mott was a natural teacher and especially enjoyed working with the mature and highly motivated ex-GIs who were in college on the GI Bill. He received several teaching awards, and was particularly proud of his "Cactus Award," which came directly from the students themselves.

Some of his contributions involved the Texas Archeological Society, an organization of both avocationals and professionals from all across the state where, to his later regret, he was responsible for the use of the "Harvard e" in Archeological (as opposed to the classical ae). He nursed along the society's professional *Bulletin* and its *Newsletter* until they were firmly established, and was instrumental in organizing its popular annual summer field school, where anyone who wishes may learn correct excavation techniques. Mott was also

one of the founding members of the Travis County Archeological Society, a smaller group. Both in Nebraska and here he participated in filming programs: In Nebraska, in a series called "Nomad and Indian: Early Man on the Plains," and here, with the UT Radio/TV Department, he made a series of seven archaeological films called "Spadework for History" showing work at important sites from Washington State to the East Coast.

He was active in the establishment, and became director, of a combined major in Classics and Archaeology at The University of Texas, which enabled students in each field to get course credit toward their majors for learning the principles and techniques of the other.

Since retirement and his appointment as Professor Emeritus he became associated with the Sayersville Historical Society, a group dedicated to preserving the oral history of the old settlement at Sayersville, between Elgin and Bastrop, helping especially with their publication, *The Sayersville Journal*. Among his other nonprofessional affiliations were the Democratic Party, the American Civil Liberties Union, the Harvard Club, and the Unitarian Church, where he had, on occasion, filled the pulpit.

In addition, he gave a lecture series for the Lifetime Learning Institute, and also made lecture tours for the American Institute for Archeology.

He belonged to countless professional societies, holding office in most of them. His publications were legion, and he received many professional awards.

Mott's most recent professional appearance was made when he was invited to speak in Salt Lake City in November 1997 at a Geoarcheology symposium at the Annual Meeting of the Geological Society of America. This symposium was dedicated to the memory of his son, Jonathan, and Mott spoke of Jonathan's career and how he had, in spite of his father's advice to the contrary, combined geology and archaeology, with little short of spectacular success. That paper is now in press with the Geological Society of America's *Proceedings* of the symposium.

Mott was preceded in death by his parents, his son Jonathan Ogden Davis, and his brother, William Morris Davis II. He is survived by his wife, Beth Ogden Davis; son, Hugh Hadfield Davis, DVM, and his wife Diane C., of Kingston, New Hampshire; grandchildren Heather E. Davis of Amherst, Massachusetts, Hope A. Davis and Alexander H. Davis, of Kingston, New Hampshire; sisters, Penrose D. Worman and her husband, Eugene C. Worman, and Hester A. Davis, all of Fayetteville, Arkansas; brother Hugh C. Davis, and his wife Marcia H. Davis, of Leverett, Massachusetts; Jonathan's widow, Sandra L. Powers, of Reno, Nevada; four nephews; three grand-nieces; and a veritable host of former students.

Contributions made in Mott's memory for use toward the purchase of his Red Smoke site in Nebraska would be welcomed by the Archaeological Conservancy, 415 Orchard Dr., Santa Fe, New Mexico 87051.

NOTE: The above is a somewhat shortened version of the STAA web site "Departed Friends" article, taken from the *Austin American-Statesman* obituary. Dr. Davis was a man well known and liked by many STAA members, who will miss him very much.

RECENT PUBLICATION FROM TARL

The Texas Archeological Research Laboratory has published, on the occasion of Mott Davis' 80th birthday, a volume entitled *Chapters in the History of Texas Archeology: Selected Papers by E. Mott Davis*.

The volume reprints, in a new format, three of Mott's major papers on the history of Texas archeology: "Archeology and Anthropology" (from *The 100 Years of Science in Texas*, Rice University Press, 1986); "Effects of Pioneers on Regional Archaeology: The Texas Example" (from *Rediscovering Our Past*, 1992, Reyman, Ed.), and "The First Quarter Century of the Texas Archeological Society" (from the *Bulletin of the Texas Archeological Society*, 1979).

New items include "A Personal Journal of an Archeological Survey of Diablo Reservoir by Boat, March 1958," "References Relevant to a History of Texas Archeology," and "Spadework for History: A Film Series Directed by E. Mott Davis" (the latter compiled by Gail Bailey).

A number of historic photos have been published for the first time, derived from the TARL files: J. E. Pearce at the Merrell Site; Cyrus Ray at the Watson Site; E. B. Sayles in camp during his survey of Texas; Ed Jelks at Diablo Reservoir; Krieger and Jelks at the Scharbauer site; Dee Ann Story at Kincaid Rockshelter, etc.

The volume is available for $7.00 + $2.00 postage and handling. Discounted cost to current Friends of TARL is $5.25 + $2.00 p/h. Checks should be made payable to The University of Texas at Austin. Mail your order to:

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The University of Texas at Austin
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BOOK REVIEW

William C. Foster, Editor; Johanna S. Warren, Translator
1998 *The La Salle Expedition to Texas: The Journal of Henri Joutel 1684-1687.*
Texas State Historical Association, 350 pages 8 ½ x 11 Hardback.
ISBN: 0-87611-165-7.

Reviewed by Mike Davis, Director of Special Projects, Archeology Division,
Texas Historical Commission

There has been much ado about the *La Salle* odyssey in Texas over the last three years with the Texas Historical Commission's investigation of the *Belle* shipwreck, search for the sunken storeship *L'Aimable*, and recovery of *La Salle's* eight iron cannons from Fort St. Louis where major excavations are now planned for the year 2000, stimulating tremendous interest in the first attempt to establish a European colony in our state. Through a very fortuitous juxtapositioning of events, those interested in learning about this late 17th-century French presence at Matagorda Bay and immediate environs now have readily available to them a translation of the most complete journal recounting the expedition's experiences.

Independent of the above archaeological work, historian William C. Foster of Cuero, assisted by linguist Johanna S. Warren of Marathon, has prepared an edited translation of Henri Joutel's journal that covers the period from the sailing of the La Salle expedition from France in July 1684, through all the trials and tribulations along the Texas Gulf Coast, and then the long overland march to the Mississippi River toward Canada by La Salle and fifteen of his compatriots. Henri Joutel was one of the four Frenchmen who survived to return to France; La Salle was assassinated in East Texas by disgruntled members of the group. This newly released book was prepared through the use of primary sources: "Volume III of Pierre Margry's *Découvertes et établissements des Français dans l'ouest et dans le sud de l'Amérique Septentrionale, 1614-1754"* and a photostatic copy of "Joutel's unedited manuscript (with passages missing) [which] is held in the Manuscript Division of the Library of Congress" (Foster 1998). Thus, this very timely Texas State Historical Association publication should be recognized as containing the unambiguous translation and account, according to Joutel, of the events that transpired while he served as one of *La Salle's* most trusted lieutenants.

The Foster/Warren book contains detailed and very informative footnotes; it is divided into chapters that serve as chronological management units (e.g. *Life at the French Settlement*) facilitating reader understanding of the sequence of significant events that evolved to portend the destiny of the French; the editing style makes the translation very readable; and this new version tracks quite accurately with the previous English translation that, while having been available for decades, was at best cumbersome to acquire.

The Joutel journal seems to be a must read for those interested in Texas history, geography, natural history, and ethnography, including, of course, those that have been following the recent marine and terrestrial archaeological findings in Victoria and Matagorda counties. The account contains numerous engrossing elements:

1) There is the detailed story of the historic events and the mundane day-to-day activities that formed the nucleus of French life on the coastal plain: the sinking of the two ships, administration of and personal relations between the colonists and the expedition leaders, life at Fort St. Louis including stories of hunting, fishing, and gardening, the attrition by death that stalked the community constantly, and a graphic account of the assassination of La Salle and the other fatal incidents that immediately transpired.

2) There is a wonderful recounting of observations made of Native American (Karankawas and Caddos particularly) technology, customs, diets, camps, dwellings, and daily life. Interestingly, if one can to some extent discount the impact upon these native populations by the rather ephemeral previous incursions by

Europeans (Cabeza de Vaca, shipwrecked Spanish), the Native Americans that the La Salle contingent dealt with were very near-prehistoric peoples, making Joutel's observations extremely important in a cultural sense.

3) And finally, Joutel seemed to have the eye of a true naturalist. His descriptions of the native flora and fauna and the regional setting add remarkable dimension and depth to his account of early Texas:

> "There are two of three species of eagles (vultures). The most numerous are what we call *aigles corbins*. The are black and are very much like crows, in appearance as well as for their penchant to kill. They have heads like turkeys. I noticed several times when we were hunting and spotted some animals, the vultures would usually go and roost even though we were far distant. We were surprised that in so little time there would be flocks around us. They would wait until we were gone and then eat what was left" (Foster 1998:127).

I highly recommend this book to every reader of *La Tierra*; the journal to me is compelling literature in every sense of the word for those stirred by and keen on Texas' diverse cultural heritage.

Available for $39.95 plus $4.50 shipping and handling, plus $1.55 Texas sales tax from: Texas State Historical Association, Attn: Dwayne Barnes, University of Texas at Austin, Sid Richardson Hall, Room 2.306, Austin, Texas 78712, (512) 471-1525.

Special note to prospective writers for *La Tierra*

A plea went out in the December issue of *La Tierra* for more papers. To the great relief of your editor, several people responded, as is evidenced by the present issue. As the new editor, it has come to my attention that papers are needed ahead of time for the four issues during the year. This January issue has been delayed for one reason or another but with the great cooperation of our membership and several non-member professionals we are into the April issue. BUT, more papers are needed for July and October issues.

This is another request for our archaeological friends and members to think seriously of submitting an article for consideration. Articles about historical objects, sites both historical and prehistoric you have examined, ideas, questions regarding a paper that has been issued, etc. *La Tierra* is here to also offer rebuttals to ideas put forward.

Please let me hear from you. And THANKS!

Shirley Van der Veer, Editor
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210-732-5970 (San Antonio)

AUTHORS

JAMES BRYAN BOYD is a police officer holding an Intermediate Peace Officer's License and an Instructor's License with the Texas Commission on Law Enforcement Officer Standards and Education. He is also a Regional Steward for the Office of the State Archeologist, Texas Historical Commission in Austin. Boyd is currently recording sites along the Rio Grande, in both the Falcon Reservoir area and the Trans-Pecos region.

C. K. CHANDLER, Documentation Chairman of STAA, is a charter member of STAA and a Past President of the Texas Archeological Society (TAS) as well as the Houston Archeological Society. He was the 1985 Robert F. Heizer Award winner for his extensive work in South Texas archaeology and recently received a Lifetime Archaeological Contribution Award (see this issue). He has been honored by being named a TAS Fellow, and is a valued contributor of manuscripts to *La Tierra*.

MICHAEL B. COLLINS is Associate Director of the Texas Archeological Research Laboratory at the University of Texas at Austin. He is co-director of the 1999 Texas Archeological Society Field School at Amistad Reservoir, along with Joe Labadie. Dr. Collins is a welcome return contributor to *La Tierra* after a too-long hiatus.

ANNE FOX is a Research Associate and Laboratory Director for the Center for Archaeological Research, the University of Texas at San Antonio. She has directed more than 50 archaeological testing and excavation projects including historical sites in downtown San Antonio as well as other significant sites throughout Texas. At the STAA\ITC Field School of 1991, Anne led a team which documented historical houses in Castroville, originally an Alsatian settlement in the 19th century.

THOMAS R. HESTER is Professor of Anthropology and Director, Texas Archeological Research Laboratory (TARL) at the University of Texas at Austin. He has done field work in Texas, the western United States, Belize and Egypt, and is the author of numerous books and papers on archaeology including *Digging Into South Texas Prehistory* (1980) and *A Field Guide to Stone Artifacts of Texas Indians* (with Ellen Sue Turner, 1985 and Second Edition, 1993).

JOE LABADIE has been the Chief Park Archaeologist at Amistad National Recreation Area since 1987. He received his BA and MA in Texas Archaeology from The University of Texas at San Antonio and has authored more than 45 articles and monographs on topics ranging from rock art deterioration, GPS/GIS applications in archaeology, and rock art site mangement. He is a past Chairman of the Val Verde County Historical Commission and is an Adjunct Professor of Anthropology at Southwest Texas State Junior College in Del Rio.

BRYANT SANER, JR. developed an interest in archaeology at an early age. He is active as an avocational archaeologist today. His main interests are the southern Edwards Plateau and the Lower Pecos region. Bryant is active in recording, documenting, teaching and preserving archaeological sites in the Hill Country. He is a Steward for the Texas Archeological Stewards Network and is an active member of the Texas Archeological Society and the Southern Texas Archaeological Association.

E. H. "SMITTY" SCHMIEDLIN has most recently worked with the Office of the State Archeologist in field and archival research on Spanish sites in the Victoria area and with private landowners to allow testing at Mission Espíritu Santo mission. Smitty is a charter member and past chairman of STAA, a member and past regional Vice President of Region 6 for the Texas Archeological Society, a member of the Texas State Historical Association, and a steward for the Texas Historical Commission.

INFORMATION FOR CONTRIBUTORS

La Tierra publishes original papers and selected reprints of articles involving the historic and prehistoric archaeology of southern Texas and adjacent regions. Original manuscripts are preferred. Articles involving archaeological techniques, methods, and theories are also considered.

The main objective of this quarterly journal is to provide a way for STAA members and others interested in the archaeology of southern Texas to share the information they have with others. We encourage your full participation through submission of your information for publication; we are particularly interested in receiving manuscripts from those in the less well-known counties of our region, to document even surface finds and old collections. Only through such total member participation can we, as a group, build up a comprehensive picture of the archaeology of our area!

Articles may be submitted in any form, although **double-spaced** typed copy is naturally preferred. However, we will review and work with material in any form to encourage those not comfortable with typewritten or other formal methods; WE ARE MORE CONCERNED THAT YOU SUBMIT YOUR IDEAS AND DOCUMENT YOUR MATERIALS THAN WE ARE WITH THE FORM OF MATERIALS WITH WHICH WE HAVE TO WORK. If you can supply a 3 ½" disk, IBM or compatible, in ASCII form (if not in Word Perfect or Word), it will be very helpful.

We are now incorporating a small Texas map with the county represented down in the lower right-hand corner of Page 1. This is not "Figure 1" and it may be all that you want in your paper. However, if you are being more precise as to your area of Texas, please submit a map showing the general region with rivers, streams, etc. This would be Figure 1. We are trying not to be too precise with locations of sites—unfortunately there are those who take advantage of this information to locate and ravage archaeological sites. Those sites already in the published material are sometimes shown again, however. Also, you MUST have the landowner's permission before entering his property. This small consideration can avoid misunderstanding and ill feeling toward archaeological research.

Other figures can be line drawings or photographs; line drawings are preferred if they are good quality—every photograph used requires special processing which adds to the cost of the issue. Sharp Black and White photos are preferred but color can be used. If you need assistance with illustrations, please let us know—there are several STAA members who have volunteered to help with illustrations. For examples of good artifact and map illustrations, see those by Richard McReynolds and Ken Brown in previous issues.

When drawings or sketches of artifacts are included in your manuscript, please give the name of the artist responsible for the illustration(s). All figures should contain an appropriate caption and, where necessary, identification of each specimen (a, b, etc. or 1, 2, etc.) to aid referencing individual specimens in the text. The suggested procedure is to photocopy your original drawing and write in captions and identification letters on the photocopy. This saves the original for our use in final preparation of camera-ready copy.

PLEASE include a proper scale on all maps, diagrams, artifacts, etc. When any figure must be reduced, the scale must be in the original figure so that reduction will not change any proportions. Most of our artifact figures are drawn "actual size" but this is not proper publishing terminology. A scale is necessary, and may be reset in the picture through "cut and paste"—just so it is there. Remember that photocopied material is very often slightly enlarged, and care must be taken that there is no change in the scale if done separately. For area (regional) maps, a small "rake scale" will help in our final copy—just so it is the proper dimension. Any site excavation map MUST have a good scale with it, again, IN the map so that reduction will not change the proportions.

Citations of references should be embodied in the text, giving the author, date, and page (e.g., Hester 1980:33). All references cited should be included in a References list using normal archaeological form (see articles in this issue for examples). The Reference list should not include publications not referred to in the text. Personal communications are cited in the text (e.g., Anne Fox, personal communication 1977) but need not be included in the Reference list.

Be sure to include a short (4-6 lines) biography for EACH author of the paper. The principal author and one co-author will receive two additional copies of *La Tierra*. Additional coauthors will receive one extra copy each. We will need each author's address for mailing purposes.

NUMBER YOUR PAGES AND MAKE A PHOTOCOPY OF THE SUBMITTED MATERIAL FOR YOUR RECORDS BEFORE MAILING TO THE EDITOR. HAVE DUPLICATE PHOTOS TO BE SAFE.

Manuscripts and/or hard copy of disk, if used, or other information may be submitted to: Shirley Van der Veer, Editor, *La Tierra*, 123 E. Crestline, San Antonio, Texas 78201-6613. With your cooperation, much time may be saved in correspondence to clear up matters before *La Tierra* can go to press. E-mail makes for easy clear-up. Shirley's is shirleyvan@worldnet.att.net. Include your email address when contacting her.

THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

The Southern Texas Archaeological Association brings together persons interested in the prehistory of south-central and southern Texas. The organization has several major objectives: To further communication among avocational and professional archaeologists working in the region; To develop a coordinated program of site survey and site documentation; To preserve the archaeological record of the region through a concerted effort to reach all persons interested in the prehistory of the region; To initiate problem-oriented research activities which will help us to better understand the prehistoric inhabitants of this area; To conduct emergency surveys or salvage archaeology where it is necessary because of imminent site destruction; To publish a quarterly journal, newsletters, and special publications to meet the needs of the membership; To assist those desiring to learn proper archaeological field and laboratory techniques; and To develop a library for members' use of all the published material dealing with southern Texas.

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