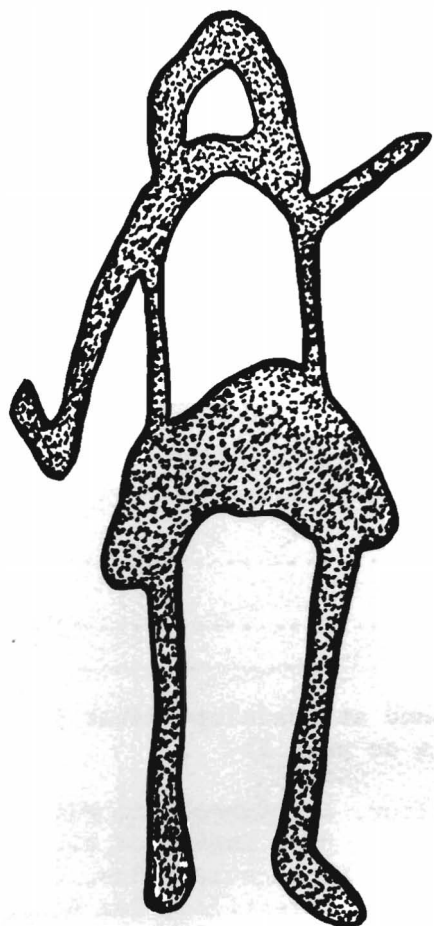


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Jimmy L. Mitchell
Editor

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Cover Illustration: One of several pictographs found at Guadalupe River Site
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EDITORIAL

STEWARDSHIP OF OUR ARCHAEOLOGICAL RESOURCES

In this issue, we have a wide variety of articles ranging from a report of the Southwest Texas State University summer archaeological field school for 1983 to reports of a pictograph site, several metal points in private collections, and a report of a private excavation of Guadalupe Tools from a site near an STAA member's home. Thus we have a wide variety of efforts which share a common theme of stewardship of our archaeological resources through careful excavation, group reporting, or private effort.

All of these articles are excellent efforts to capture and preserve for present and future readers some bit of evidence from the historic or prehistoric past. Even Lee Patterson's report of an experimental replication of the use of a lithic flake to butcher beef shows the same concern to recapture a bit of information about how the prehistoric inhabitants of this continent lived, worked, and thought.

In reading these articles, please keep this kind of concern for those who lived and worked in this area we now think of as southern Texas in mind. And be conscious of the tremendous amount of effort that some of the authors in this issue have gone to to steward our archaeological resources. For instance, you may note in the short biographies of the authors at the end of the issue, some rather startling facts about these authors as interested, active archaeologists (whether they are professional or avocational). Lee Patterson, as one noteworthy example, has personally recorded and documented over 150 archaeological sites in at least three states. And one would suspect that he is currently working on doing the same with ten or twenty more.

The STAA effort to document the Marquardt Ranch Pictograph Site is also an excellent example - of the kind of cooperative work which can be so productive in generating exciting new information about the archaeology of a site, or a county, or of a whole area of the state. We need more such efforts to capture invaluable archaeological information about the many sites which exist but which are rapidly disappearing in the path of urban and highway development around the state.

I commend these reports to you as a challenge to all of us to do more - more site recording and more reporting of your information for others to read and study. Keep those articles coming! We all benefit from the sharing of such information.

Jim Mitchell, Editor

A PICTOGRAPH SITE ON THE GUADALUPE RIVER IN KENDALL COUNTY, TEXAS

Rita Neureuther

ABSTRACT

This brief report documents a pictograph site located along the Guadalupe River near Sisterdale, Texas in rural Kendall County. Pictographic sites are rare in this section of the state, making this site a significant discovery.

INTRODUCTION

Most of the pictographs reported in Texas are found in the Val Verde County area around the confluences of the Pecos and Devil's Rivers with the Rio Grande (see Figure 1). That area has become well known for the polychrome Pecos River Style (Jackson 1983; Kirkland and Newcomb 1967). Two other art styles, the Red Monochrome and the "miniature Red Linear" are also recognized for the same area (Turpin 1984:181). Pictographs are very rare in many other parts of the state including South and Southcentral Texas. Recently, however, we have been able to document a pictograph site in Kendall County in the Texas hill country.

THE SITE

The pictograph site is located on a ranch in rural Kendall County (Figure 1), near Sisterdale, Texas. The ranch has been in the Marquardt family since the 1850s. The owners are concerned with the preservation of the site and are dedicated to its protection from possible vandalism by unauthorized visitors; thus, the site is restricted access and is not available for viewing by the public.

On March 10, 1984, a small group of STAA members were granted access and graciously accompanied to the site by the present owner, Mr. Raymond Marquardt, for the purpose of documenting and recording the site. Although we were unaware of it at the time, the site and pictographs had previously been reported to the Texas Archeological Research Laboratory (TARL) almost a decade ago and was assigned site number 41 KE 66 (Williams 1975). During our visit, we were able to discover additional information not included in the original report: we recovered a piece of pottery; collected a description of points found at the site by the owner; and documented additional pictographic figures. This new information will be sent to TARL in Austin to be added to the original report.

The site is located on a high bluff on the north side of the Guadalupe River; it is approximately 85 meters above the present level of the river. The pictographs are painted on an area under a shallow overhang (see Figure 2) 15 meters wide with a maximum height of two meters. The paintings may extend down into the debris at the base of the overhang, but no testing was done to determine whether or not this is the case.

THE PICTOGRAPHS

The pictographs are faded and have been heavily damaged by natural erosion and flaking of the limestone wall at the back of this small shelter. However, many of the images are still discernable along the central seven or eight meters of the sheltered wall (see Figure 3). The dashed line above the figures indicates the level of the overhanging limestone roof, while the solid line below

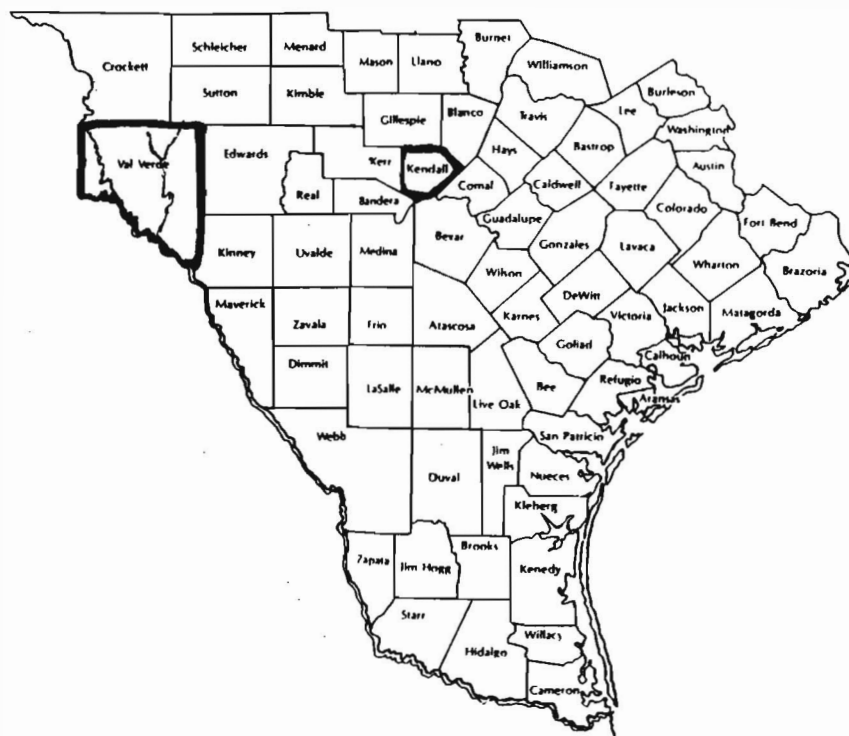


Figure 1. Relative Locations of Val Verde and Kendall Counties in Southcentral Texas.

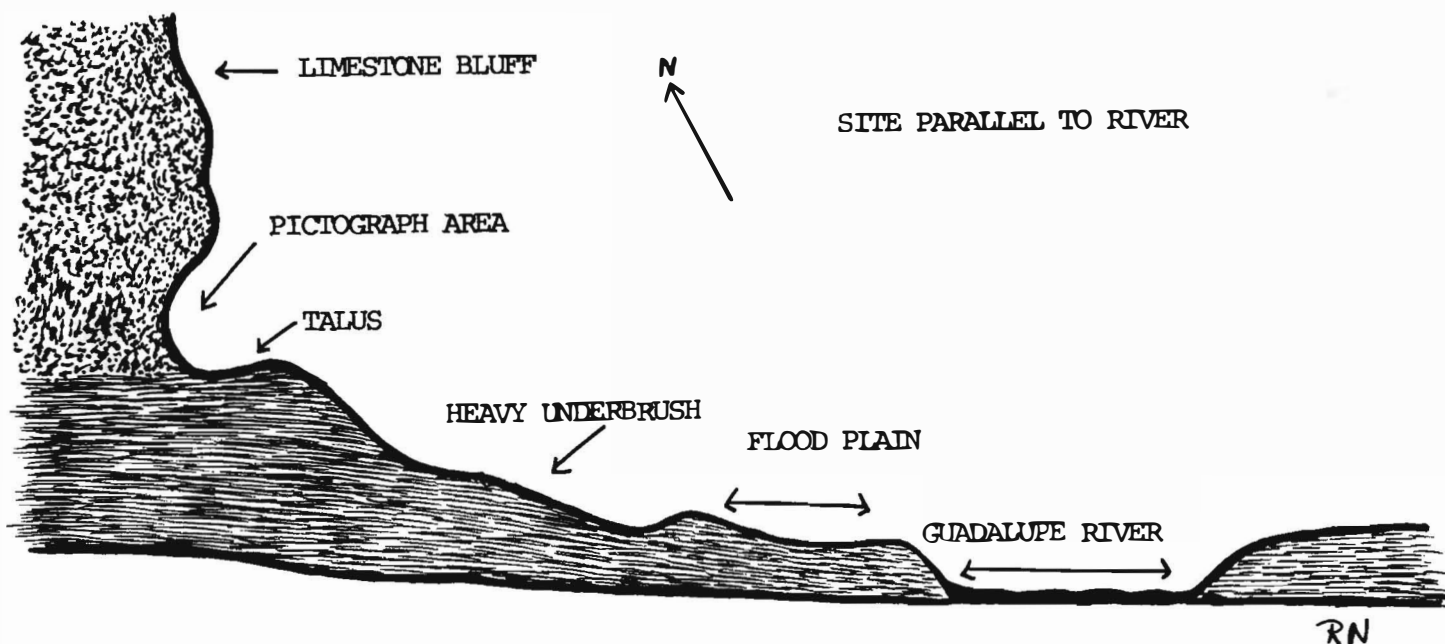


Figure 2. Location of Pictograph Site in Relation to the Limestone Bluff and the Guadalupe River.

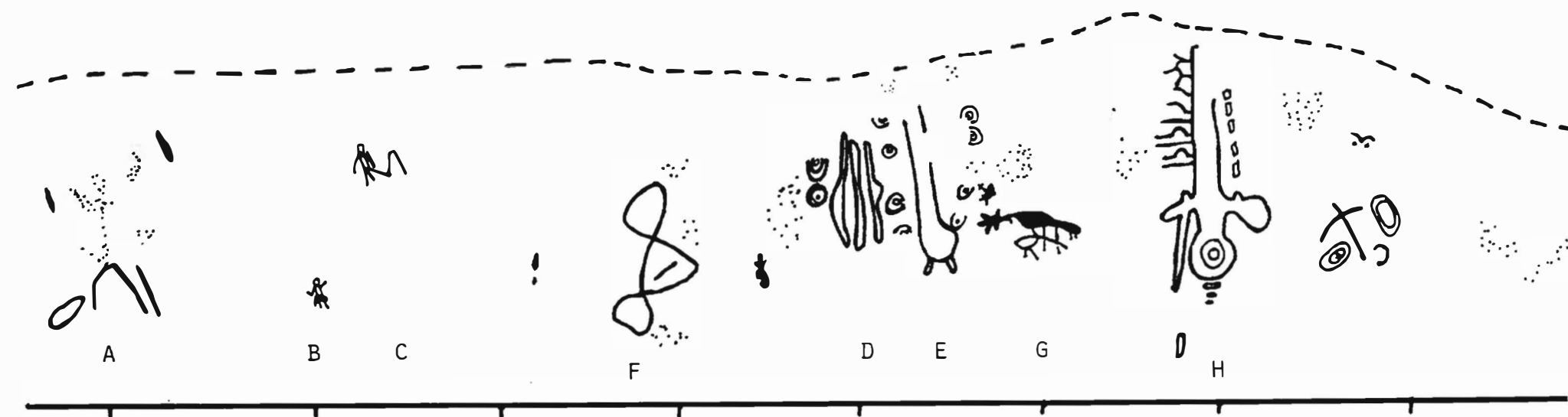


Figure 3. General view of the Red Monochrome pictographs at 41 KE 66. Dashed line at top indicates the extent of the overhang; the solid line at the bottom indicates the level of debris at the base of the pictographs (baseline marked in one-meter intervals). Illustration by Margie Greco.

the figures reflects the level of packed debris forming the present floor of the shelter (this solid line is marked in one-meter intervals to provide a perspective on the relative size and location of the various figures).

The paintings include both realistic and geometric forms done in a red monochrome. Some of the more realistic forms are human shapes including one "stick figure" (shown as A to the left in Figure 3). This stick man drawing is quite large and is badly deteriorated with its upper portions only faintly visible; the surface of the stone had to be moistened to make the possible head and arms visible at all. In style, this "stick figure" is very similar to human forms in the Red Monochrome styles of the Pecos and Devil's Rivers area (Turpin 1984).

The next two figures (B and C in Figure 3) are small pictographs which are detailed in Figure 4. The style of these two miniature figures is quite different from the stick figure discussed earlier (A). B appears to be an outline drawing of a human form, with feet and legs, a head and arms, and perhaps a solid skirt or kilt covering its lower trunk. Details are faint or missing, such as the extremities of the arms. The second miniature red figure (C) may also be a human figure or could be an abstract form. To the right of this figure is a second image which may be another outline human figure, but it is too faint and fragmentary for conclusive documentation.

Figure 5 illustrates two more abstract forms (D and E in Figure 3). The long-necked shape shown as E was nicknamed the "giraffe" for obvious reasons. The ranch owner, Mr. Marquardt, remembers seeing it years ago as a more complete image with a "bird-like" head (which is now missing). The roughly parallel lines (D in Figures 3 and 5) are only part of a cluster of figures which includes circular shapes as well as the "giraffe." Details on the complex of pictographs are faded or destroyed.

Geometric shapes are included in Figure 6 (and F in Figure 3). These triangles and possible circles appear to be an isolated element of the pictograph panel and unrelated in both style and content to the other images. Faint patches of color around these geometric forms (see Figure 3 F) may indicate a more complex pictograph which is now partially faded or destroyed.

The lower panel of Figure 6 is located to the right of the "giraffe" in Figure 3 (as G) and may represent some type of antlered animal laying down or slain. Its details are also faded so that a definitive assessment of this possibility can not be made.

The largest figure, a rather abstract form, is shown as H in Figure 3 and the lower portion of it is detailed in Figure 7. The circles in the lower center of the figure are clustered around a hole in the cliff wall (darkest circle). Two concentric circles surround the hole and a series of four parallel lines of diminishing size are below the circles. On the upper left of the figure are a series of alternating parallel lines interspersed with looping lines shaped somewhat like a Greek Omega. Unfortunately, most of this part of the figure has been sloughed off of the wall and thus most details of this part of the panel are missing.

This largest figure is a quite different style from all the other images, although similar in color (a faded red monochrome). Thus, there appear to be a considerable diversity of styles and subjects in this Kendall County pictograph panel.

Margaret Greco, a UTSA graduate student who is studying Pecos River pictographs, was part of the group to visit the site. She tentatively feels that Central Texas pictographs do not in general correspond to Pecos River art, although she sees some similarities between some Pecos River art and the few reported Central Texas pictographs. She believes the Marquardt Ranch pictographs to be Late Prehistoric, although a full analysis has not yet been made (Greco, personal communication 1984).

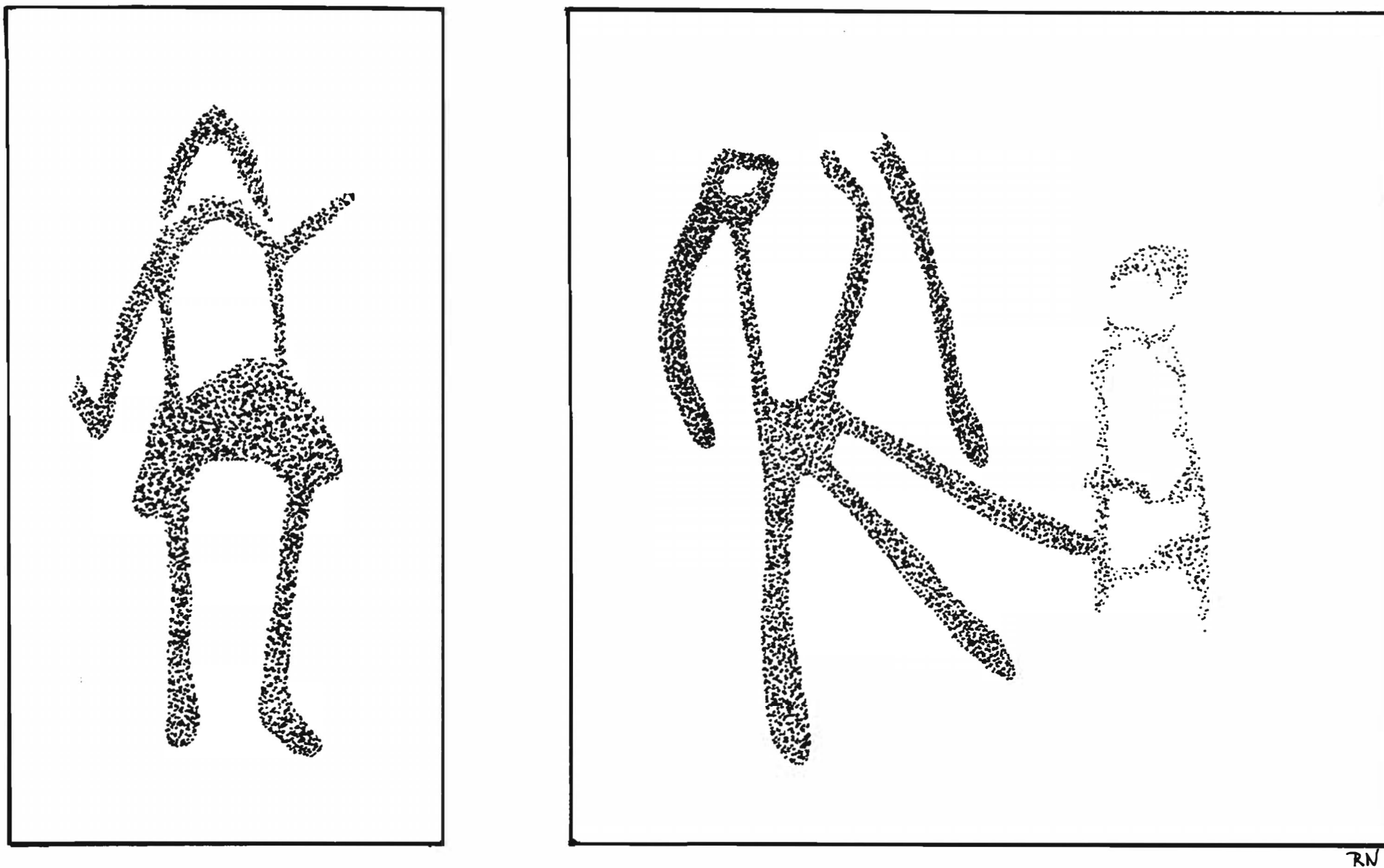


Figure 4. Two miniature human figures (not to scale). These figures correspond with B and C in Figure 3.

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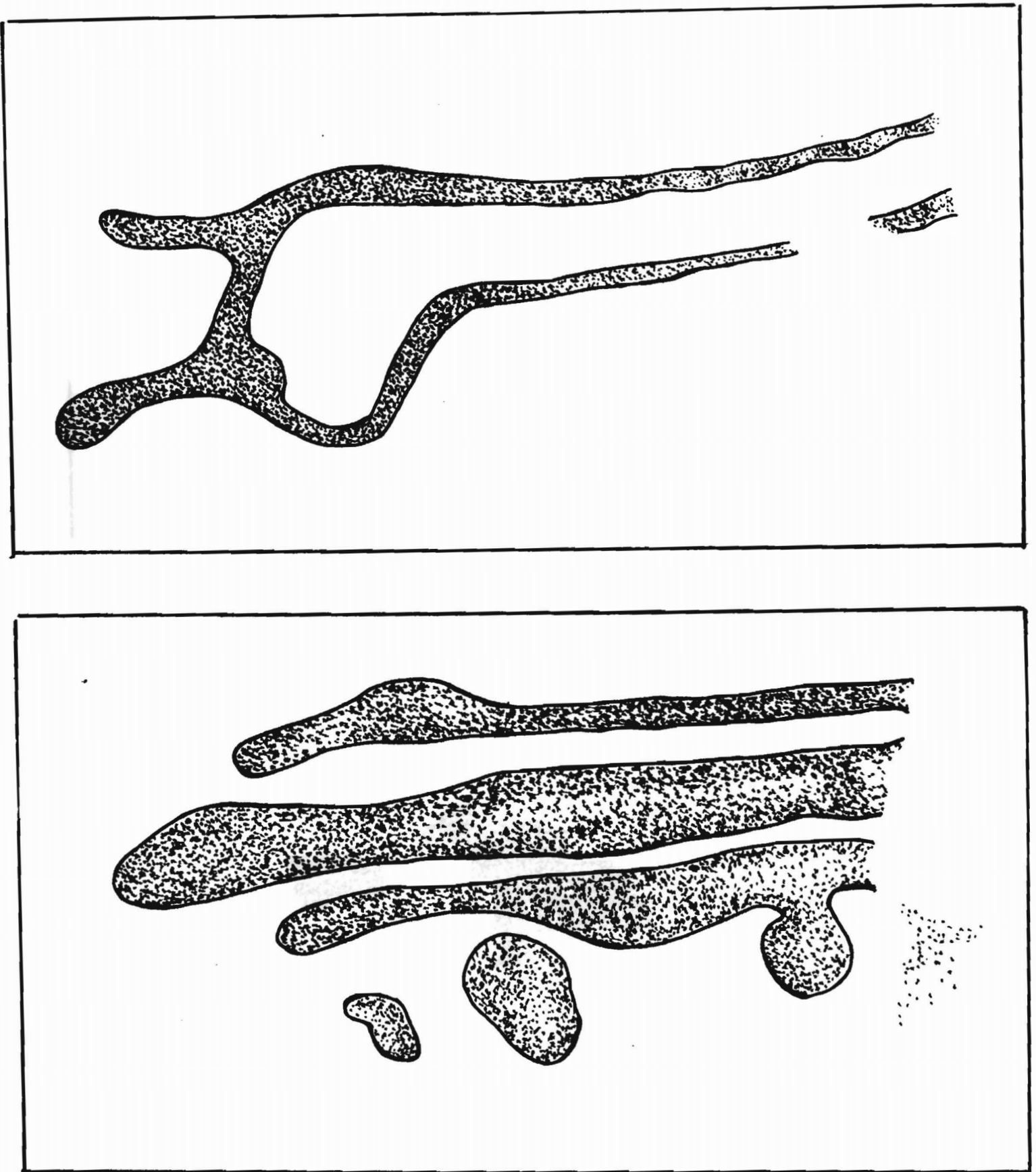
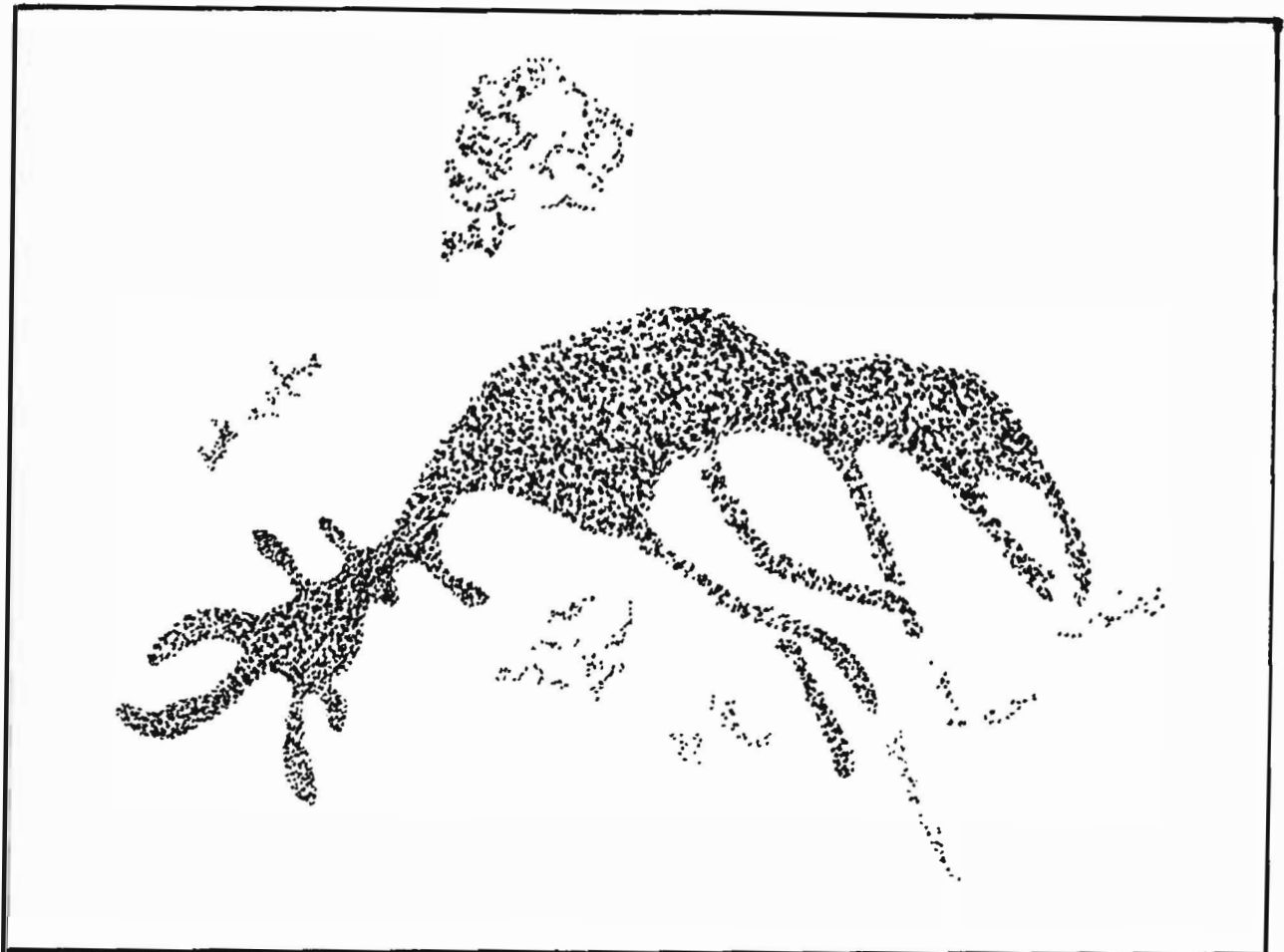
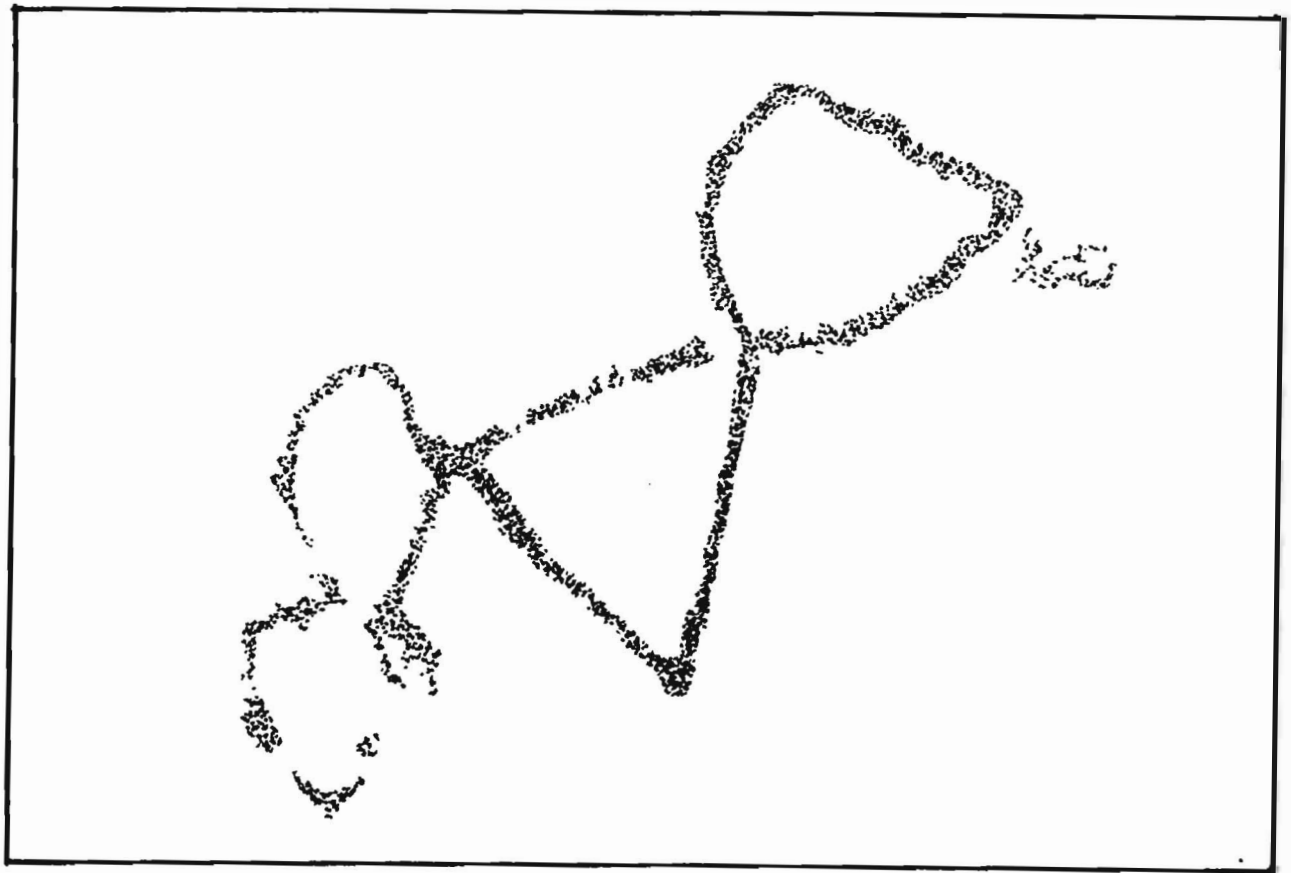


Figure 5. Two additional pictographs at the Marquardt Ranch Site (D and E in Figure 3). (not to scale).



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Figure 6. Geometric shapes from the Marquardt Ranch pictographs (F and G in Figure 3).

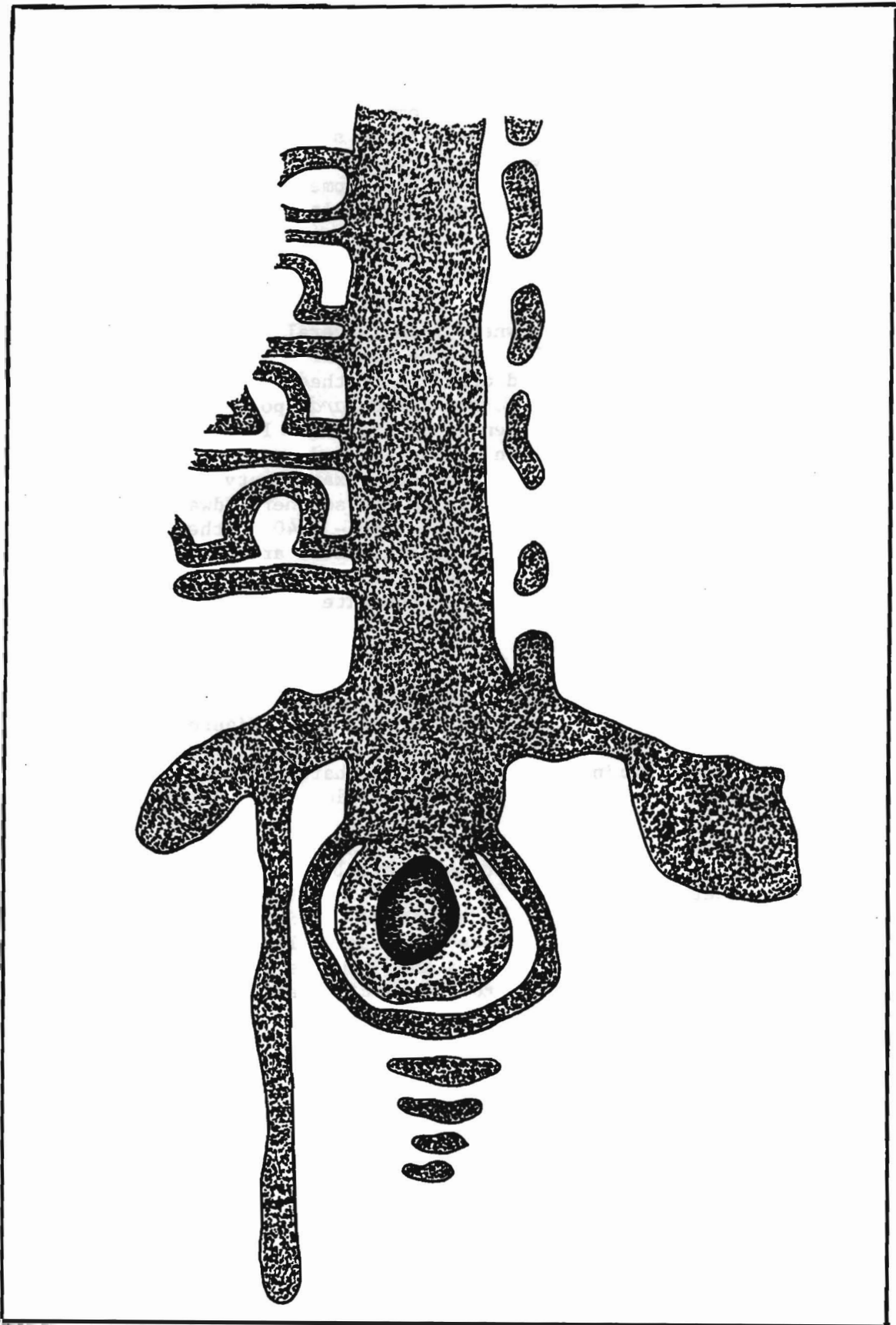


Figure 7. Largest panel of the Marquardt Ranch pictograph (H in Figure 3). Circles at the bottom of the figure are drawn around a natural hole in the limestone wall of the shelter.

In a discussion with C. K. Chandler, who was also a member of the STAA group to document the site, Dr. Solveig Turpin of TARL stated she believes that the red monochrome pictographs found in Central Texas are probably a late diffusion from the Pecos River area (personal communication with C. K. Chandler 1984).

A more detailed analysis of the various styles at the Marquardt Ranch pictograph site is needed to determine the exact number of different styles and the possible cultural relationships inferred. Some potentially valuable information is available, however, based on the other cultural materials recovered at the site.

OTHER ARTIFACTS

Mr. Marquardt, the ranch owner, found several small arrow points some time ago while digging in the debris at the base of the overhang, below the pictographs. From his description and drawings of these points, they appear to be *Perdiz* and *Edwards* arrow points. *Perdiz* and *Edwards* points are both Late Prehistoric forms. *Perdiz* points have been dated from A.D. 1370 to the mid-eighteenth century in southcentral and southern Texas, and a date of A.D. 1530 is associated with such points at site 41 BX 36 in northern Bexar County (Hester 1980:106). *Edwards* arrow points are found primarily on the southern Edwards Plateau and are an earlier type. The type is dated as A.D. 960 - 1040 at the La Jita Site (41 UV 21) in Uvalde County (Hester 1971) and similar dates are reported from sites at Camp Bullis in northern Bexar County (Hester 1980:105-106). A piece of pottery was also recovered from the talus area of the site.

POTTERY SHERD

A small rimsherd of incised, burnished, black pottery was found in the surface debris below the pictographs during our visit (Figure 8). Pottery is not at all common at sites in this area of the Texas hill country.

The sherd was examined by Dr. Harry J. Shafer of Texas A & M University who identified it as *Poyner Engraved*, a late Caddoan type dating A.D. 1400 - 1550. Shafer believes the sherd is from a deep bowl or squat jar decorated with an extended circular motif. He stated, "*Poyner Engraved* sherds stay reasonably soft in the dampness of East Texas but get more brittle in the more arid climates" (Personal communication 1984).

Suhm and Jelks report that *Poyner Engraved* "is the most diagnostic trait of the Frankston Focus" (Suhm and Jelks 1962:123). It is typically found along the Neches River valley in eastern Texas and "appears to have been the most widely traded Caddoan pottery" (Ibid.:125) to the west in Central Texas among people who made little or no pottery of their own.

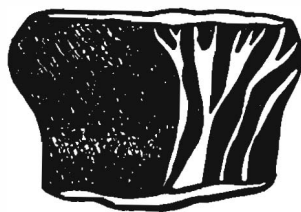


Figure 8. *Poyner Engraved* pottery rimsherd recovered at 41 KE 66. (Illustrated actual size; drawing by the author)

DISCUSSION

The site appears to date in the Late Prehistoric as evidenced by the style of the pictographs, the occurrence of pottery, and the presence of *Perdiz* and *Edwards* arrow points. These three separate pieces of information all converge to suggest a Late Prehistoric time frame for this Kendall County pictograph site. It could have been occupied as early as A.D. 960 (based on the *Edwards* arrow points) or as late as the mid-eighteenth century (as the outside date for *Perdiz* points). A.D. 1400 - 1550 is the most likely time period for the major use of the site, due to the co-occurrence of both *Perdiz* arrow points and *Poyner Engraved* pottery. However, the site was probably occupied, or at least used, a number of times over several centuries, based on the number of pictographs and the variety of styles and the other artifacts.

The presence of an East Texas pottery sherd in Kendall County demonstrates some type of cultural relationship between the two areas (be it trade or travel). Ethnohistoric accounts indicate that East Texas groups sometimes traveled south-westward to the prairie land adjacent to the Balcones Escarpment where they hunted bison with Central Texas groups (Campbell 1983:10). Bison meat was also used extensively by Indians "in the hills" (Ibid.). It is not clear, however, whether this East Texas pottery arrived in Kendall County by direct or by indirect trade.

If, as Dr. Turpin maintains, the Red Monochrome pictograph style was a "late diffusion" from the Pecos area of Texas, then we also have evidence of a cultural relationship between this Kendall County site and the area to the west. It is not clear whether this cultural diffusion is a function of direct contact or by indirect contact through intervening groups. In any case, the association of these few artifacts at this Kendall County site suggests that the prehistoric inhabitants of this area were not totally isolated from other groups in the region.

This site proved to be very interesting and exciting because of the opportunity to record the rare pictographs, the unexpected discovery of the pottery sherd, and the documentation of information from the ranch owner about *Perdiz* and *Edwards* arrow points found in the debris at the base of the pictograph panel. Indeed, the brief STAA visit to the Marquardt Ranch pictograph site has expanded our knowledge of the archaeology of Kendall County and the interaction of its prehistoric people with other areas of the state.

ACKNOWLEDGMENTS

I would like to thank the following people for their help; without them, this report would have been far less informative: Raymond Marquardt, the present owner of the site, for granting us permission and accompanying us to the site; C. K. Chandler for having the pottery identified, contacting Dr. Shafer and Dr. Turpin, and for locating information in the original site report at TARL; Margaret Greco for her help in recording the site and for information on Pecos River pictographs; and most especially Dortha and Cecil Peel for making arrangements with the owner for the STAA visit to the site.

References

- Campbell, Thomas N.
 1983 Espinosa, Olivares and the Colorado River Indians, 1709. *La Tierra* 10(2):3-12.
- Jackson, A. T.
 1938 Picture Writing of Texas Indians. *The University of Texas Publications* 3809. Austin.

- Hester, Thomas R.
1971 Archeological Investigations at the La Jita Site, Uvalde County, Texas. *Bulletin of the Texas Archeological Society* 42:51-148.

1980 *Digging Into South Texas Prehistory*. Carona Publishing Company, San Antonio.
- Kirkland, F. B., and W. W. Newcomb, Jr.
1967 *The Rock Art of Texas Indians*. University of Texas Press, Austin.
- Suhm, D. A., and E. B. Jelks
1962 Handbook of Texas Archeology: Type Descriptions. *The Texas Archeological Society Special Publication* No. 1, and *The Texas Memorial Museum Bulletin* No. 4. Austin.
- Turpin, S. A.
1984 The Red Linear Style Pictographs of the Lower Pecos River Region, Texas. *Plains Anthropologist* 29-105:181-198.
- Williams, L. D.
1975 Site Report for site 41 KE 66. Manuscript report on file, Texas Archeological Research Laboratory, Austin.

TWO METAL PROJECTILE POINTS FROM CENTRAL TEXAS

C. K. Chandler

ABSTRACT

This brief note documents an unusual, expanding stem, metal projectile point from Comanche County in Northcentral Texas, and a straight stemmed iron arrow point recovered from along the Pedernales River area of Central Texas.

INTRODUCTION

This report documents two metal points which are in private collections in San Antonio. This is a part of the continuing effort to locate and document metal points in the state of Texas; only when a sufficiently large number are so documented can a thorough analysis of such artifacts be undertaken.

SCOTT COLLECTION SPECIMEN

John Scott, who is now a school teacher in San Antonio, grew up in eastern Comanche County in Northcentral Texas (see Figure 1). As a boy, he collected several hundred lithic artifacts and a single metal point from the surface of cultivated fields in the area between Rush Creek and the Leon River. This area is near what is now Lake Proctor in the eastern part of the county.

The metal point from the Scott collection is shown as Figure 2a. This artifact is made from thin sheet metal and appears to have been cut to shape with some form of metal chisel working against an anvil. While the specimen is well preserved, it is rusted over all surfaces with deep rust pits on one side and some erosion along the edge.

Dimensions are: Length = 52mm; Maximum Width = 17mm; Maximum Thickness = 1.75mm. The present Weight of the specimen is 6 grams. It is a barbed point with an expanding stem; stem length on one side is 15mm and on the opposite side, 10mm.

The expanding stem and sharp barbs of this point make it fairly unusual and thus important to document. Most Texas metal arrow points are relatively straight stemmed, some with rounded bases and some with straight bases; an example of the latter type is a point from the Meyer collection.

MEYER COLLECTION METAL POINT

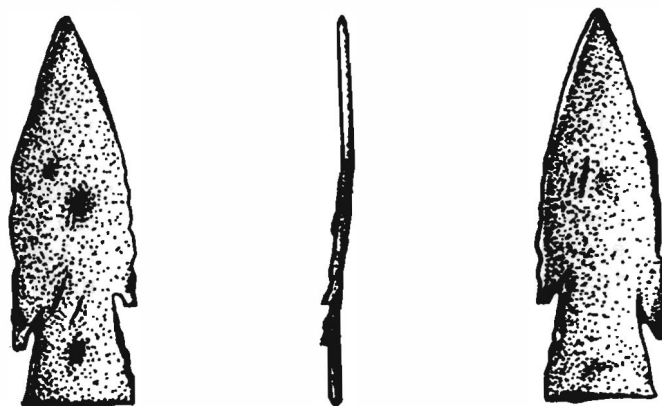
The second point is made of iron and has a straight stem (see Figure 2b). This artifact was found between 1905 and 1910 along the banks of the Pedernales River in Central Texas (see Figure 1) by Armin Elmendorf. Armin was born in 1890 and died in 1983; he was an uncle of George Meyer, who now has this specimen. It measures 73mm in length, 17mm in width, and is 2mm thick.

The stem is 23mm long and 8mm wide; both stem edges have several small, shallow notches, six on one edge and seven on the other. Both blade edges have been thinned (sharpened) from both faces and this appears to have been done with a file. All surfaces are rust pitted and the blade edges have small irregularities as a result of rust erosion.

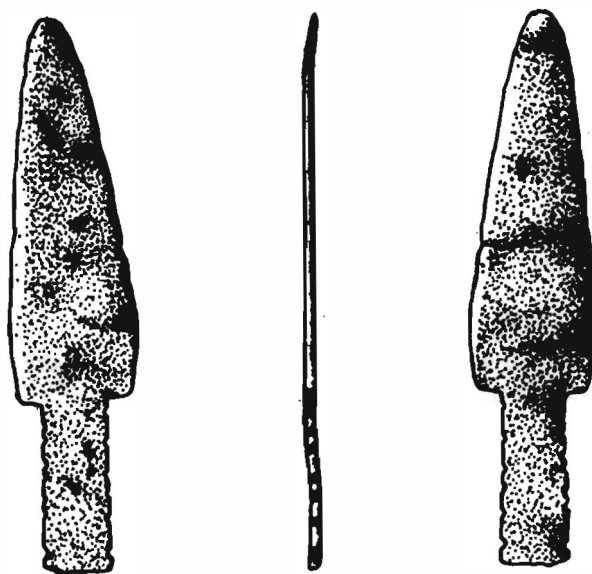
DISCUSSION

The relative crudeness of the workmanship and somewhat irregular outlines of these specimens strongly suggest aboriginal manufacture. However, as Baker

Figure 1. Location of Comanche County in Northcentral Texas (outlined), and the Pedernales River area of Central Texas.



a



b

Figure 2. Metal Points from Central Texas: a, Scott Arrow Point from Comanche County, Northcentral Texas; b, Meyer Iron Arrow Point from the Pedernales River area of Central Texas. Actual size. (Illustration by Richard McReynolds.)

and Campbell (1959) have pointed out, the criteria for distinguishing between European and Native American manufacture of metal points are very inexact. The expanding stem and barbs make the Comanche County specimen a very unusual point; most metal arrow points are typically more straight stemmed (Mitchell 1980) and often have rounded shoulders (Mitchell 1974).

Schuetz (1969:49, and Plate 23G) recovered an unusual straight stemmed iron arrow point from Level 2, Room 7 at Mission San Juan de Capistrano which dates after 1814. She noted that similar points were found at Fort Belknap on the Brazos River, where the Towakoni and related tribes were confined in the 1840s and 1850s. Other stemmed metal arrow points have been recovered in Lamb County (Randall 1970), Victoria County (Mitchell and Highley 1982), Gillespie County (McReynolds 1982), and Crosby County (Parker 1983) as well as in the Apache areas of far West Texas and eastern New Mexico (Thompson 1980). Some of these metal points are very similar to the Meyer collection arrow point (Figure 2b) reported here. None of the specimens reported in the literature, however, have the type of expanding stem and sharp barbs evident on the point from Comanche County.

ACKNOWLEDGMENTS

My thanks to Mr. John Scott and Mr. George Meyer, both of San Antonio, for loaning these artifacts for study and documentation. My thanks also to Richard McReynolds for his excellent illustrations of the two specimens.

References

- Baker, W. E. and T. N. Campbell
1959 Metal Projectile Points from the Oklahoma Panhandle and Vicinity. *Bulletin of the Oklahoma Anthropological Society* VII:51-54.
- McReynolds, Richard L.
1982 An Iron Projectile Point from Gillespie County, Texas. *La Tierra* 9(2):30-32.
- Mitchell, J. L.
1974 Notes on Metal Projectile Points from Southern Texas. *Journal of South Texas* 1:47-51.

1980 Brief Notes on the Archaeology of Mission San Juan de Capistrano. *La Tierra* 9(2):30-32.
- Mitchell, J. L. and Lynn Highley
1982 Notes on a Metal Projectile Point from Southern Texas: The Brom Cooper Collection. *La Tierra* 9(1):21-23.
- Parker, Wayne
1983 Three Metal Projectile Points From a Historic Indian Workshop Site. *La Tierra* 10(1):39-42.
- Randall, Mark E.
1970 The Archeology of the Lamb County, Texas Area. *Lower Plains Archeological Society Bulletin* No. 1.
- Schuetz, Mardith K.
1969 History and Archeology of San Juan Capistrano, San Antonio, Texas Vol. II. *State Building Commission Archeological Program Report* No. 11.
- Thompson, Marc
1980 A Survey of Aboriginal Metal Points from the Apacheria. *The Artifact* 18(1):1-10.

EXPERIMENTAL MEAT CUTTING WITH STONE TOOLS

L. W. PATTERSON

ABSTRACT

A replication of Brose's experimental use of a lithic flake to process meat failed to confirm the wear patterns he reported. There does not appear to be differential wear with processing of the meat of various species as Brose has implied.

INTRODUCTION

Physical experiments can be a valuable method to obtain data for the study of some problems where desired data cannot be obtained directly from the materials found on archaeological sites (Coles 1979:1). Experiments have been conducted successfully for a wide variety of subjects such as: stone tool manufacture, stone tool use, primitive house building, pottery manufacture, metal smelting, etc. The widespread recognition of the potential of experimental methods for the study of archaeological problems is a fairly new development, although some investigators have employed experimental methods in archaeology for some time (Coles 1973, 1979; Hester and Heizer 1979; Ingersoll et al. 1977; Johnson 1978).

Experimental archaeology need not be restricted to specialists. Anyone with sufficient curiosity and ambition can perform experiments concerning primitive technologies. The work itself can serve as a learning process for the individual and the results can often be used as a published contribution to the study of prehistoric technologies. As an example, lithic technology would be a much narrower subject if experimental studies were not made.

An important point to consider is that most experimental archaeology is not expensive, in terms of costs other than individual labor. Usually, some raw material procurement is required, but there is seldom any need for expensive equipment. Experiments of this type often do not require special locations, so that work location can be frequently chosen for the convenience of the experimenter.

This article discusses an experiment concerning wear rates of stone tool cutting edges, as an example of an experiment that could be performed by anyone interested in this subject. As a bonus, my wife has been pleased with the supply of "stone cut" chili meat provided by this experiment.

STONE TOOL WEAR STUDIES

The study of the functional uses of stone tools is an area that is very amenable to the use of experimental methods. A considerable body of literature has now developed on the experimental use of stone tools, including edge damage patterns resulting from various functional activities (Johnson 1978, Hester and Heizer 1973). It should be noted that the analysis of edge-wear patterns has not become standardized, due to a lack of consensus by investigators. The study by Tringham, et al. (1974) remains the best publication to date on this subject. Studies on microwear patterns, such as by Keeley (1980), are yet to be demonstrated to have general usefulness (Ahler 1982).

In view of the large amount of material that has been published on edge damage patterns, it is surprising that so little has been published on wear rates of stone tools. This subject is important for the analysis of lithic assemblages from archaeological sites. Data on the useful life of a stone tool can be used in estimating the amount of activity represented by the tool at a specific site.

INTRODUCTION TO THIS EXPERIMENT

I have previously commented (Patterson 1981) that the observed rates of efficiency loss of stone tools in experiments conducted by Brose (1975) for meat-cutting seem to be surprisingly rapid. My own experiments in deer butchering with stone tools (Patterson 1975, 1976) do not support the rapid loss of function given by Brose (1975:Figure 1), where stone cutting tools were used for only up to eight minutes, with the average tool having been discarded after only about four minutes. Odell (1980a:39) has also commented that the available literature on experimental butchering with stone tools does not support Brose's conclusions that stone cutting tools were used for only short time periods by prehistoric people. Brose's conclusion is especially puzzling since observed losses in tool function were not accompanied by correspondingly significant cutting edge damage.

In commenting on data used by Odell (1980b) for stone cutting tool use-life, Yacobaccio and Borrero (1982:186) have stated that, "We think, however, that the Patterson experiment is species-specific. Tool effectiveness depends not only on the size and weight of the animal to be butchered, but also on the quantity of fat in the carcass (Brose 1975, Frison 1978:318)." The experiments by Brose (1975) used domestic beef which has a higher fat content than wild animals, such as the deer used by Patterson (1975). It would not be predicted that cutting of soft meat is very species-specific, in regard to stone tool edge wear rates. It can also be shown that it is actually somewhat easier to cut meat with a high fat content because of softer consistency. In any event, higher fat content should not contribute to loss of tool function.

To test Brose's (1975) conclusions, an experiment was done for cutting of beef with a stone tool, which is described here. The results of this experiment support my original thoughts that the fat content of meat does not contribute much to changes in stone tool cutting efficiencies.

DESCRIPTION OF EXPERIMENT

This experiment involved cutting a large piece of center cut chuck roast. It weighed 4.3 lbs. (1.95 kilograms) and had a thickness of 4.5 cm. The meat temperature was about 60° F (15°C). This meat sample was well "marbled" with fat, and also had a large quantity of tough membranes throughout. No bones were present in the meat.

Cutting in this experiment was done with a single stone tool edge with a length of 6 cm. The stone tool was an unaltered flake of high quality flint from Bell County, Texas, that was 6 cm long and 5.5 cm wide. At the start of the experiment, the tool working edge was undamaged, as observed with a 10x magnifier. To prolong tool use time, the meat specimen was cut into small cubes with side dimensions of 15 to 20 mm. Work time was recorded with a stopwatch, so that only actual tool use time was considered.

RESULTS OF EXPERIMENT

The total actual work time to cut the single piece of beef into small cubes was 42 minutes. At the end of every five minutes, the cutting tool edge was washed with plain water and edge damage was observed. Over the entire time of the experiment only very slight edge nibbling and polish was observed to be developing on the cutting edge. At the end of the experiment, there were a few small scallops on the edge, showing that the edge damage pattern previously observed during deer butchering (Patterson 1975) was just starting to develop on the tool edge.

As would be expected with so little edge damage, there was no observed loss of tool efficiency during this experiment. Much more work time could have been done with this single stone tool, at the same level of cutting efficiency.

It should be noted that this experiment lasted over five times longer than any of Brose's (1975) beef cutting experiments. It is therefore concluded that the results of Brose's experiments are highly suspect in regard to times of tool uses. Comparisons between this experiment and Brose's previous work involve only meat cutting. Frison (1978:318) indicates that hide cutting is more species-specific, but this type of activity is not included here.

CONCLUSIONS

This experiment has demonstrated that a higher fat content of meat does not seem to change the rate of loss of stone tool cutting efficiency, as implied by Brose (1975) and stated by Yacobaccio and Borrero (1982:186). The reference to Frison (1978:318) by Yacobaccio and Borrero in regard to this subject seems unfortunate, as Frison does not actually address the rates of change in efficiencies of stone cutting tools with types of meat involved.

From my other experiments with butchering deer and cutting domestic beef with stone tools, I conclude that meat cutting does not lead to high tool edge wear rates. This conclusion would be expected, as meat is a relatively soft material. Others, such as Odell (1980a), have reached the same conclusion. Frison (1978:323) even observes that a worn tool will cut a lot of meat.

Meat cutting does not seem to be very species-specific, as long as bone cutting is not involved. It is likely that most prehistoric butchering activities with stone tools would not have involved much bone cutting, except for fortuitous tool contacts with bone. Animals can be completely butchered very well without any need for extensive bone cutting.

References

- Ahler, Stanley A.
 1982 Book Review: *Experimental Determination of Stone Tool Uses: A Microwear Analysis* by L. H. Keeley, University of Chicago Press. *American Antiquity* 47(3):688-690.
- Brose, David S.
 1975 Functional Analysis of Stone Tools: A Cautionary Note on the Role of Animal Fats. *American Antiquity* 40(1):86-94.
- Coles, John
 1973 *Archaeology by Experiment*. Charles Scribners Sons, New York.
 1979 *Experimental Archaeology*. Academic Press, New York.
- Frison, George C.
 1978 *Prehistoric Hunters of the High Plains*. Academic Press, New York.
- Hester, Thomas R. and Robert F. Heizer
 1973 Bibliography of Archaeology: 1. Experiments in Archaeology, Lithic Technology, and Petrography in Archaeology. *Addison-Wesley Module in Anthropology* 29.
- Ingersoll, Daniel, John E. Yellen and William MacDonald (Eds.)
 1977 *Experimental Archeology*. Columbia University Press, New York.
- Johnson, L. Lewis
 1978 A History of Flint-Knapping Experimentation, 1838-1976. *Current Anthropology* 19(2):337-372.

Keeley, L. H.

- 1980 *Experimental Determination of Stone Tool Uses: A Microwear Analysis*. University of Chicago Press.

Odell, George H.

- 1980a Butchering with Stone Tools: Some Experimental Results. *Lithic Technology* 9(2):39-60.
- 1980b Toward a more behaviorial approach to archaeological lithic concentrations. *American Antiquity* 45(3):404-431.

Patterson, L. W.

- 1975 Lithic Wear Patterns in Deer Butchering. *Texas Archeology* 19(2):10-11.
- 1976 Deer Skinning with a Bifacial Tool. *Texas Archeology* 20(2):8-10.
- 1981 Comments on Wear Rates of Lithic Tool Edges. *Lithic Technology* 10(1):11-12.

Tringham, Ruth, Glenn Cooper, George Odell, Barbara Voytek and Anne Whitman

- 1974 Experimentation in the Formation of Edge Damage: A New Approach to Lithic Analysis. *Journal of Field Archaeology* 1(1-1):171-196.

Yacobaccio, Hugo D. and Luis A. Borrero

- 1982 Bergumermeer and Modeling: A Comment on Odell. *American Antiquity* 47(1):183-187.

NOTES ON GUADALUPE TOOLS FROM THE ROBARDS HILL AREA
OF NORTHEASTERN BEXAR COUNTY, TEXAS

Bette F. Street

ABSTRACT

Three Guadalupe Tools were recovered from the Robards Hill area of the northeastern section of San Antonio in Bexar County, Texas. Differences in site locations and material suggest that the hilltops along the eastern edge of the Balcones Escarpment in Bexar County and southcentral Texas were heavily utilized as lithic work stations and possibly as meat processing areas over a considerable timespan by Paleo- and Early Archaic Americans.

INTRODUCTION

My interest in American prehistory dates from age ten when I overheard my mother berate my father for "his side of the family" and he responded about her great uncle being a "squaw man." The prospect of having a real live James Fenimore Cooper "Last of the Mohicans" as a relative created a fascination with American Indian history and prehistory which has never left me. This fascination has led me to join the STAA and to now describe some Paleo-Indian or Early Archaic artifacts recovered near my home.

THE SITES

I have collected several Guadalupe Tools on a piedmont that extends out from the Balcones Escarpment in what is now known as the Robards Hill area. This area is located east of Interstate 35N near the O'Conner Road exit in northeastern Bexar County (see Figure 1). Three sites were found at the crests of two ridgelines along King's Crown and Queen's Crown roads. These sites have not yet been officially reported so that they do not have formal site numbers; I have informally designated them KQ A, QQ A, and QQ B in my notes. I have collected from the surface of these sites over the last eight years and done some minor excavation on one of the sites. The relationships of the sites to the roads and one another are shown in my field sketch (see Figure 2); it is not drawn to scale but shows the relative locations of the sites.

GUADALUPE TOOLS

Three specimens were recovered from these sites. They vary in size, curvature of the working surface, and in material.

The larger specimen (see Figure 3a) is of a darker chert; it was found on the surface of site QQ A, which is the northern hill shown in the site sketch. Measurements of this and the other two specimens are given in Table 1. The truncation and curvature of the working surface is reversed from the other two specimens; thus, I believe this larger Guadalupe tool was made for left-hand use. This specimen is only comfortable when held in the left hand.

A second Guadalupe Tool was excavated *in situ* on site QQ B (see Figure 3b). It was found with a number of small flakes (of a different chert). The tool is a light tan chert and a portion of it (the "haft") is heavily patinated. It was fractured and probably pressure-split when heavy road equipment was used in building the road adjoining the microwave stations on the east side (see QQ B in Figure 2). Although fractured, this light tan Guadalupe tool was found in

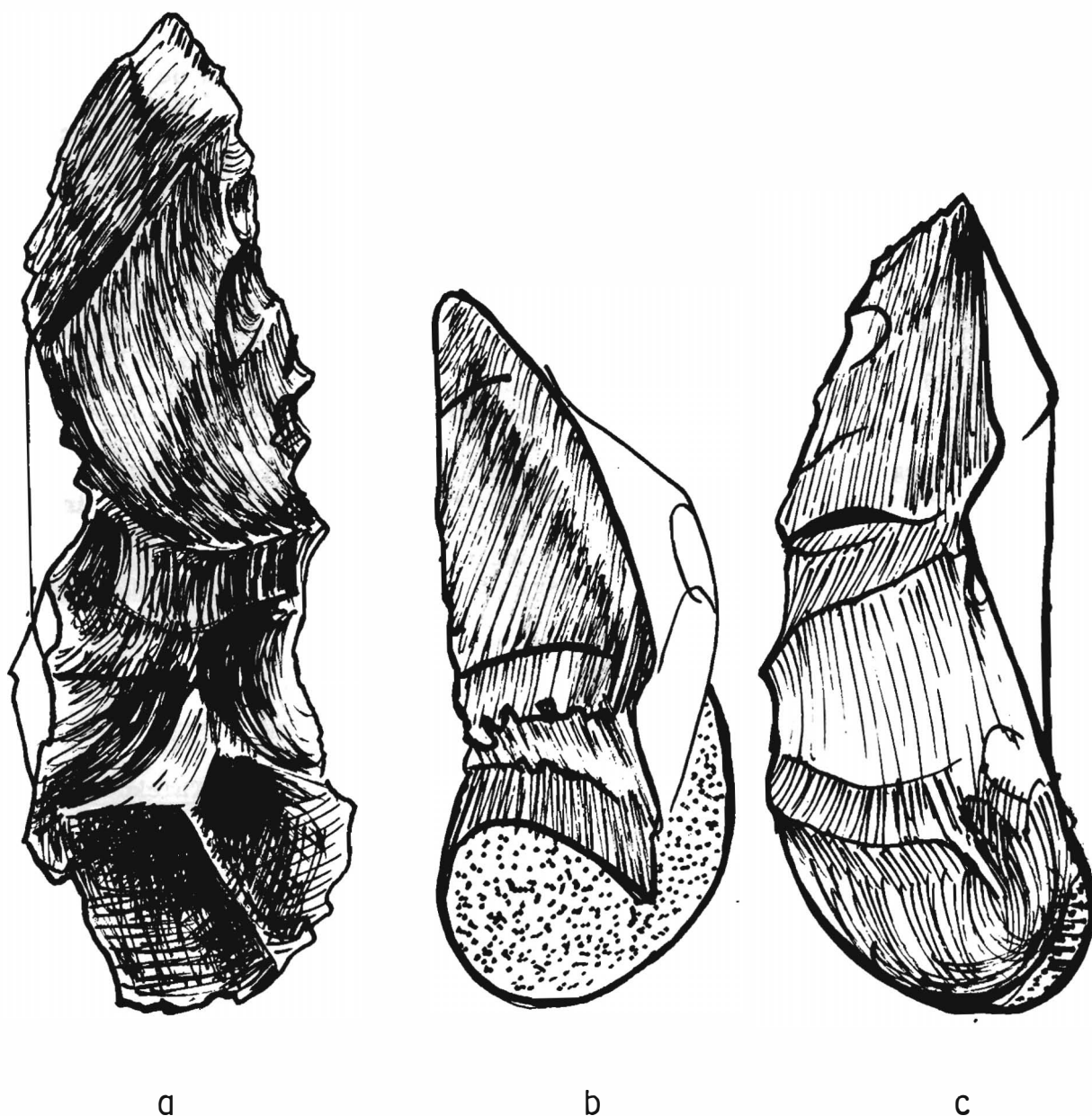


Figure 3. Guadalupe Tools from the Robards Hill Sites, northeastern Bexar County.
a, From Site QQ A; b, From Site QQ B; c, From Site KQ A. (Not to scale)

place, positioned alongside the small flakes. A small pebble (Figure 4c) was found in Grid 9 at site QQ A; it is not a core but has been partially worked. The flakes (Figure 4d, d') were collected about 18mm above and to the left of the Guadalupe Tool. Some of the flakes have finely serrated blades. My conjecture is that these razor-like flakes may have been used in conjunction with a woodworking tool, to slice or cut wood or bark.

A third Guadalupe Tool, which closely resembles the second, was found on the surface of site KQ A (see Figure 3c). Also collected from this site were two large, relatively thin, worked flakes which may have been used as scrapers or gouges (see Figure 4a and b). The surface area of KQ A could be redeposited soil from the construction of either a water well or a house built in the early 1940s (see sketch map). Although the two smaller specimens (Figure 3b and c) are similar in many ways; there is no way to indicate that their respective time frames could be the same, since they were recovered from different contexts.

DISCUSSION

Surprisingly little has been published about the Guadalupe Tool. The form was named for its distribution in the Guadalupe River drainage, which includes the San Antonio River and Olmos Creek (Hester and Kohnitz 1975). They are often called a "gouge" or "adz" because of their presumed function of woodworking, although this presumed use has not been conclusively demonstrated. Sollberger and Carroll have recently postulated that these artifacts are part of a "hide defleshing kit" (Sollberger and Carroll as cited in Black and McGraw 1984). They believe it may have been used as a membrane "lifter and cutter" during bison skinning operations (Ibid). Since there is not yet a consensus as to the function of the artifact, we should perhaps continue to follow the recommendation of Hester and Kohnitz and use the more generic term "tool" (Hester and Kohnitz 1975:22).

Table 1

METRIC DATA FOR ROBARDS HILL SITES SPECIMENS

| Specimen | Max Length | Max Width | Max Thickness |
|-----------|------------|-----------|---------------|
| Figure 3a | 14.74 | 5.80 | 5.00 |
| Figure 3b | 10.00 | 4.00 | 4.75 |
| Figure 3c | 12.75 | 4.75 | 4.00 |

Guadalupe Tools were recovered from the Granberg II site (41 BX 271) along Salado Creek (Ibid), the Olmos Basin area (Fox 1976), and other sites in the San Antonio and Guadalupe River drainage system (cf. Fox and Hester 1976). At the Granberg II site, a cache of four Guadalupe Tools were found in Stratum VIII (circa 245cm) along with associated flakes, snail shells, and some burned rock. In Stratum IV, Guadalupe Tools were recovered along with Clear Fork Tools, *Bell*, *Gower*-like, *Early Triangular*, and *Early Corner-notched* projectile points, thus dating the Guadalupe Tool to the very Early Archaic or even earlier (Hester and Kohnitz 1975:22; Hester 1976:20; Fox and Hester 1976:70).

In the STAA excavations of the J-2 Ranch site (41 VT 6) in Victoria County, a cache of four Guadalupe Tools was recovered from the 62-inch level of Unit K which was considered to date from the terminal phase of the Paleo-Indian period (Fox, et al. 1978:11). *Plainview*, *Angostura*, *Golondrina*, *Bell*,



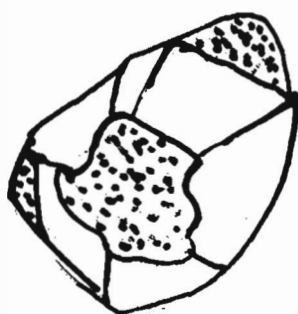
LENGTH 7.5 MM
WIDTH 4.5 MM

a

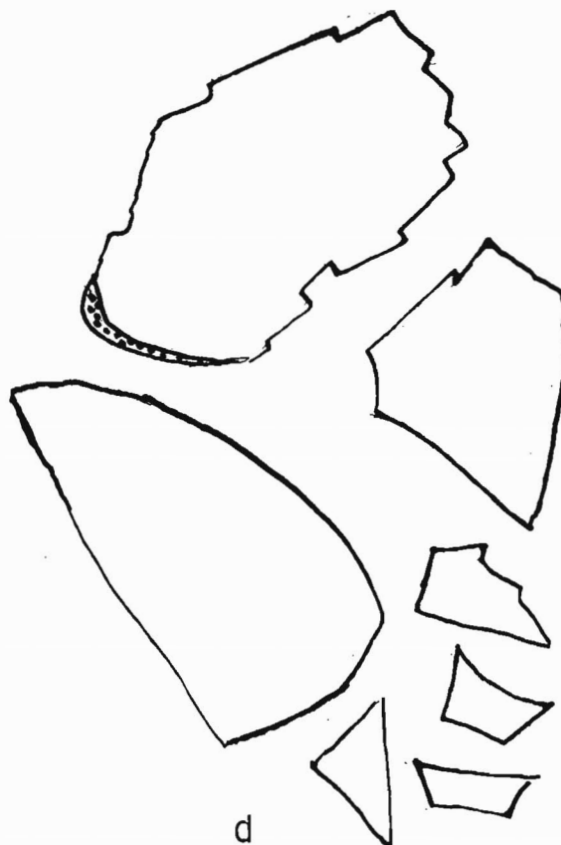


LENGTH 7.0 MM
WIDTH 3.0 MM

b



c



d

Figure 4. Other artifacts recovered from the Robards Hill Sites. a, b, Gouges or scrapers from Site KQ A; c, d, Pebble and flakes excavated from Site QQ A with the Guadalupe Tool.

Scottsbluff and *Early Triangular* points were also recovered from comparable and higher levels at the J-2 site.

Highley (1984) recently reported Guadalupe Tools from Zavala County and plotted all the published data on Texas Guadalupe Tools. She concluded that such artifacts seems to be restricted to southern Texas primarily in the Guadalupe, San Antonio, Atascosa, Nueces, and Frio River drainages. She also urged others to report additional specimens (Highley 1984:28).

At the Robards Hill sites, several other tools (scrapers or gouges) were also surface collected (see Figure 4a and b) in close proximity to the Guadalupe Tool. In addition, the excavated specimen was found *in situ* with a number of small flakes of a different type of chert lying just above the Guadalupe Tool. All of these artifacts could have functioned as woodworking tools; this is the main thing they have in common. This possible common use gives some validity to the belief of some experts of the use of the Guadalupe Tool as a woodworking tool.

It is a further conjecture on my part that the smaller, lighter-colored chert tools are older in age than the larger and darker brown Guadalupe tool found on the surface of site QQ A, since the one lighter specimen was excavated from an undisturbed limestone deposit.

The second, lighter-colored tool from site KQ A was probably part of the fill dirt from either the well or the house construction. Early occupants of the Robards Hill sites may have preferred the lighter-colored chert. Over time, such preferred nodules would have become increasingly difficult to obtain even on a large limestone quarry site such as Robards. Thus, the more abundant darker-colored chert may have come into use during a later period.

Another line of support for the idea that the two smaller Guadalupe Tools (from QQB and KQA) are probably older in age comes from work by Patterson. In his study of Texas pleistocene lithic technology, he concluded that there was no microblade industry in the "Protowestern tradition" although some small blades may be present (Patterson 1977:42). The small flake-blades reported here are probably an isolated event and are notably unusual in the cretaceous limestone of the Robards Hill area. No microblade component has been identified in this area.

While no Guadalupe Tools have been found in lower terrace areas of the Robards Hill area, there is some evidence of discarded cores and other chert materials. However, such debris could also have resulted from erosion of the higher areas of the hilltop. The higher elevations also seem to have been more prominently used as chipping stations. Since no deep excavations have yet been done in the ravine separating the sites, it is possible that future work in the ravine area might also produce further Guadalupe Tools.

The sample of artifacts from the Robards Hill sites is very limited. Enough specimens were recovered, however, to indicate that the area was used as a quarry site over a long period of time. The types of artifacts recovered (Guadalupe Tools, gouges, razor-sharp flakes) are certainly suggestive of woodworking and perhaps meat processing as well. These data let us conjecture that the Robards area hilltops were probably heavily utilized during the Late Paleo-Indian and Early Archaic phases.

CONCLUSIONS

Several sites and artifacts are now documented from the Robards Hill area of northeastern Bexar County. While Guadalupe Tools may not be as exciting or glamorous as many of the projectile points of the Late Paleo-Indian and very Early Archaic phases, such tools are important and may eventually tell us more about the living and work activities of the early inhabitants of this area. I hope this paper will encourage other avocational archaeologists (those of equal child-like enthusiasm) to report their own discoveries.

References Cited

- Black, Steve, and Al McGraw
1984 The Panther Springs Creek Site (41 BX 228). Draft Report.
Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report No. 100.
- Fox, Anne A.
1976 An Archaeological Assessment of the Southern Portion of the Olmos Basin, Bexar County, Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report No. 9.*
- Fox, Anne A., and T. R. Hester
1976 An Archaeological Survey of Coletto Creek, Victoria and Goliad Counties, Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report No. 18.*
- Fox, Anne A., E. H. Schmiedlin and J. L. Mitchell
1978 Preliminary Report on the J-2 Ranch Site (41 VT 6), Victoria County, Texas. *La Tierra* 5(3):2-14.
- Hester, Thomas R.
1976 Notes on the Collier Collection from the Southern Olmos Basin. In Fox 1976 (cited above):19-21.
- Hester, Thomas R. and Harvey Kohnitz
1975 Chronological Placement of "Guadalupe" Tools. *La Tierra* 2(2):22-24.
- Highley, Lynn
1984 Guadalupe Tools from Zavala County. *La Tierra* 11(1):28-34.
- Patterson, Leland W.
1977 A Discussion of Possible Asiatic Influences on Texas Pleistocene Lithic Technology. *Bulletin of the Texas Archeological Society* 48:27-45.

NOTES ON THREE IRON PROJECTILE POINTS FROM SOUTH TEXAS

Ray Smith

ABSTRACT

Three metal points from the Billy Evans collection are documented; these artifacts are from South Texas, probably from Uvalde County.

INTRODUCTION

Billy Evans of Uvalde, Texas, collected three metal arrow points in the late 1950s which he gave to Bill Dillahunt, also of Uvalde, Texas, in 1960. The exact provenience of the specimens is not known, but they are reportedly from South Texas and most likely were found within Uvalde County (see Figure 1).

IRON ARROW POINTS

The three specimens are all heavily rusted iron points with various degrees of serration on the stem. They are illustrated in Figure 2.

The largest specimen (Figure 2a) is 78mm in length and has a maximum blade width of 20.5mm. Blade length is 63mm; stem length is 15mm and stem width is 9.5mm. This specimen appears to have been made from a flat metal sheet; it shows very slight sharpening of the blade edges toward the point and notches have been filed into the stem, presumably to facilitate hafting. The base appears to be snapped off. The surfaces of the point are heavily rusted and an irregular hole is obvious in the central portion of the blade. This hole measures 7mm by 6.5mm; it is not clear whether this hole was eroded through or was intentionally punched out.

The second specimen (Figure 2b) is smaller and is damaged at the tip, where the metal was first bent and then broken off. The specimen is 48.5mm in length, 18mm in maximum width (blade), and 1mm thick. Blade length is 38.5mm; stem length is 10mm and stem width 7mm. The upper edges of the blade evidence a slight sharpening and the stem appears to have been chisel cut and snapped off. There are slight horizontal hack marks on both sides of the stem for notching. The point is not entirely flat in cross-section suggesting that the metal was beaten flat from some other shape.

The third specimen (Figure 2c) is the smallest of the three; it is 41mm in length, 18mm in maximum width, and 1.5mm thick. Blade length is 33mm; stem length is 8mm and stem width is 8mm. This specimen was made from a flat piece of metal; the base appears to have been snapped off; and the shoulders were chisel cut. This specimen also has a hole in the blade but, unlike the first specimen, the hole is very regular in outline (a square shape with rounded corners) and appears to be punched out. The hole is 4.5mm in diameter. The stem of this iron point has hack marks which are angled; this notching or serration occurs on both sides of the stem, presumably to aid the securing of hafting.

DISCUSSION

These three iron arrow points are similar in many ways to other metal points recovered in South and West Texas (Mitchell 1974, Thompson 1980, McReynolds 1982, Mitchell and Highley 1982, and Parker 1983). They were probably made by one of the historic Indian groups, but there is not yet enough evidence to

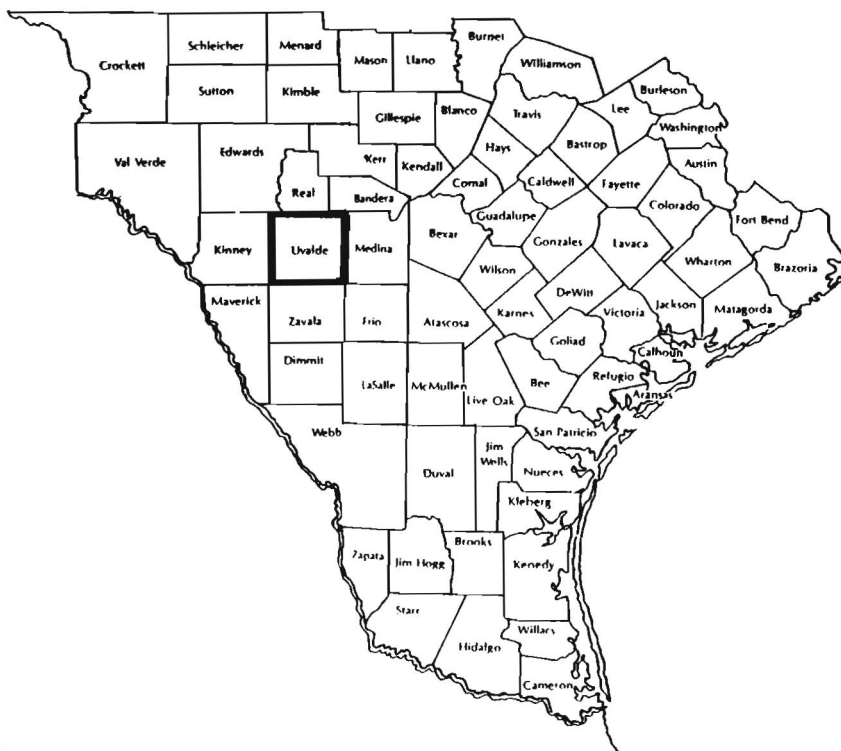


Figure 1. Relative Location of Uvalde County in Southern Texas, where the metal arrow points were probably found.



Figure 2. Three metal arrow points from the Billy Evans Collection, Uvalde, Texas.

assign most types to specific tribal groups. Two of these specimens are particularly interesting because of the holes in their blades, but there is no obvious functional utility to such perforations; such holes may have been present in the metal pieces used to make the points. On the other hand, such holes may have been intentionally done for some specific purpose (such as "stringing" the points for carrying?).

ACKNOWLEDGMENTS

My thanks to Bill Dillahunty of Uvalde, Texas, for permission to photograph and study these metal points.

References

- McReynolds, Richard L.
 1982 An Iron Projectile Point from Gillespie County, Texas. *La Tierra* 9(2):30-32.
- Mitchell, J. L.
 1974 Notes on Metal Projectile Points from Southern Texas. *Journal of South Texas* 1:47-51.
- Mitchell, J. L. and Lynn Highley
 1982 Notes on a Metal Projectile Point from Southern Texas: The Brom Cooper Collection. *La Tierra* 9(1):21-23.
- Parker, Wayne
 1983 Three Metal Projectile Points from a Historic Indian Workshop Site. *La Tierra* 10(1):39-42.
- Thompson, Marc
 1980 A Survey of Aboriginal Metal Points from the Apachería. *The Artifact* 18(1):1-10.

EXCAVATIONS AT 41 HY 37: AN ARCHAIC SITE
ON THE BALCONES ESCARPMENT IN SAN MARCOS, TEXAS

James F. Garber and Michael D. Orloff

ABSTRACT

The 1983 Southwest Texas State University Archaeology Field School tested site 41 HY 37 near Aquarena Springs, San Marcos, in Hays County, Texas. Eight excavation units were opened and a few artifacts were recovered. The site is thought to be a multi-component, multi-use site dating from the Middle Archaic to the Late Prehistoric.

INTRODUCTION

During the summer of 1983, two excavations were conducted at 41 HY 37 by the Southwest Texas State University Archaeology Field School (Orloff 1984). These excavations were a part of an ongoing investigation of the prehistoric settlement patterns and subsistence strategies of the San Marcos area (Garber et al. 1983; Garber 1984a,b).

Site 41 HY 37 is approximately one-quarter mile to the north of 41 HY 160, a base camp site adjacent to Aquarena Springs (Figure 1). Although the two sites are only one-quarter mile away from one another, their environmental situations are quite distinct. Site 41 HY 160 is located in the floodplain immediately adjacent to the springs and the Balcones Escarpment, whereas 41 HY 37 is located on the slope of the escarpment itself and is 70 feet higher in elevation. Thus, 41 HY 37 is on the edge of the Edwards Plateau and 41 HY 160 is on the edge of the Blackland Prairie. Excavations at 41 HY 160 have shown that it functioned as a base camp from Pre-Archaic times up through the Late Prehistoric (Garber et al. 1983). Paleo-Indian materials were also recovered from this site, but the deposition of these remains was not clear. *Clovis* and Late Paleo-Indian remains have been recovered in Spring Lake at 41 HY 147 (Shiner 1983).

The exact dimensions of 41 HY 37 have not been determined due to thick scrubby ground cover; however, it is a large site, being at least 400 m east to west by 200 m north to south. As the site is located on the escarpment, there is very little soil depth. A wide variety of tools and debris can be observed on the surface of the site. Several concentrations of artifacts and debris have been observed.

TESTING

Seven 1 m by 1 m test units and one 1 m by 2 m test unit were placed within observed debris concentrations. The selection of an excavation area was often limited by the thick vegetation. All units were excavated in 10 cm levels and were taken down to bedrock which was encountered between 8 cm and 40 cm below the surface.

Excavation Unit 6 (XU6; see Figure 1) was undertaken to examine a pile of rocks approximately 5 m long, 3 m wide and 25 cm high. Initially it was thought that this was a burned rock midden; however, excavation showed that only a few of the rocks were actually burned or fire-cracked. A scraper and several retouched pieces were recovered within the pile of rocks. No historical features are present in the immediate area to account for this feature. At present, the function of this rock pile is unknown. The pile is located on a flat terrace-like area of the escarpment. If the brush were cleared, this area would provide an extensive view of the springs and prairie environment. Similar features in northwestern

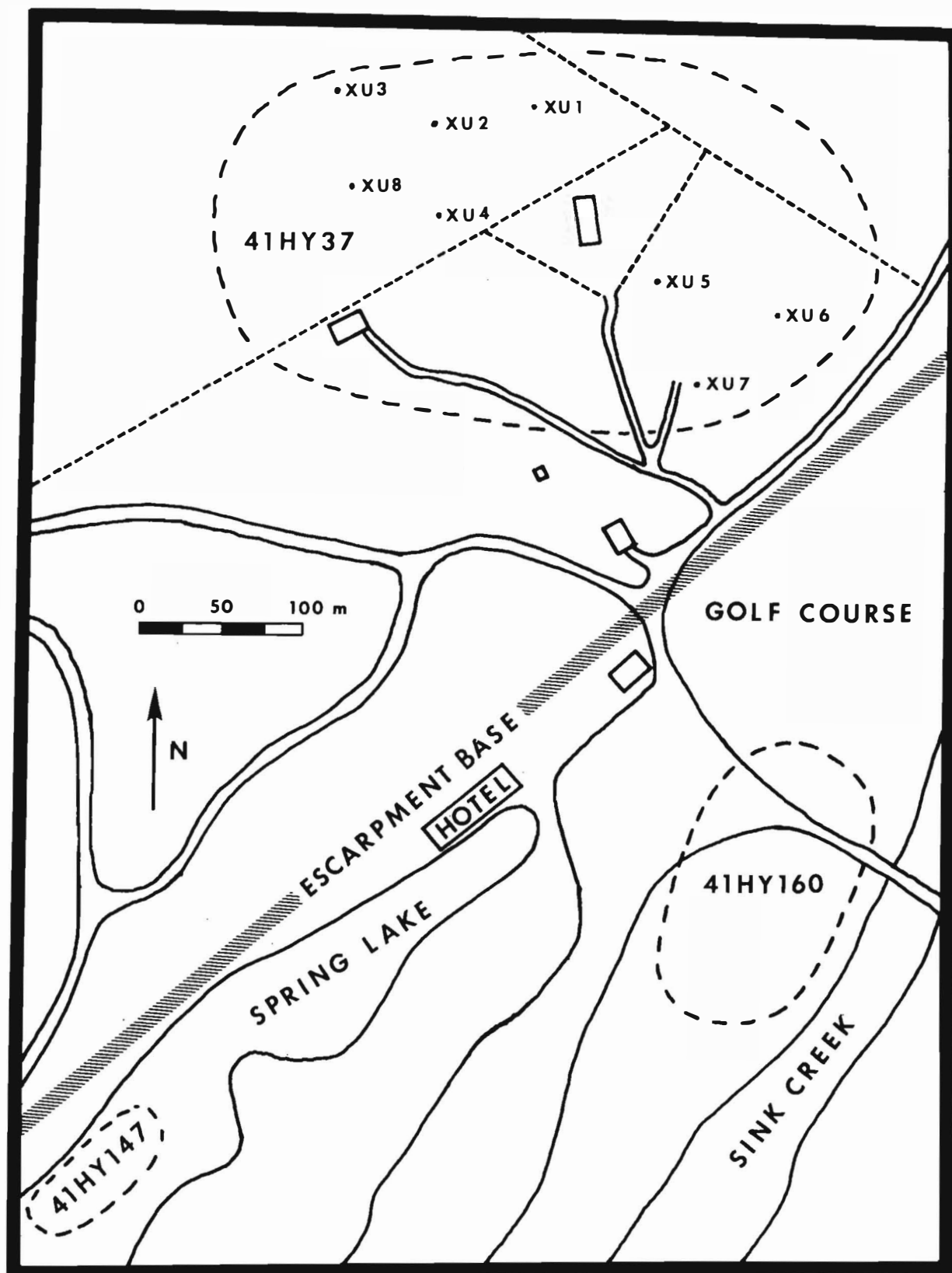


Figure 1. Map of 41 HY 37 and nearby sites. The Edwards Plateau is to the northwest of the escarpment base, and the Blackland Prairie is to the southeast.

California have been associated with traditional trails and mountain high points and, through ethnographic analogy, have been interpreted to have functioned in religious activity involving power quests, ritual and medicinal training, and individual prayer (Chartkoff 1983). The rockpile on 41 HY 37 may have served a similar function.

Excavation Unit 8 was the only test unit that showed any stratigraphy. Neither zone contained artifacts; however, at the interface of the two zones, a tip of an arrow point, several retouched pieces, and lithic debris were recovered.

THE ARTIFACTS

MANOS: Two red sandstone manos, both broken, were recovered from the surface (Figure 2c). Both show extensive use polish on one surface. When complete, each would have been approximately 7 to 10 cm in diameter and 4.5 cm thick.

PROJECTILE POINTS: 4 specimens.

Pedernales: Two specimens were recovered, both from the surface, and both are broken (Figure 3a,b). One has very weak shoulders, a blade width of 2.7 cm, thickness of .6, neck width 2.1 and stem length 1.7. The other specimen is barbed and has a blade width of 5.0, thickness 1.1, neck width 2.1 and a stem length of 1.8 cm.

Frio/Montell: This specimen was also a surface find. Precise identification is not possible as both tangs are missing. Blade width 3.4 cm, thickness 1.0, neck width 1.9.

Edgewood: This specimen was a surface find. The tip is broken and exhibits an impact fracture. It is also fire pocked. Its lateral edges are straight. Its base is slightly concave. It has a blade width of 2.4 cm, thickness 0.8, neck width 1.2, stem width 1.8, and a stem length of 1.0.

Unknown: This specimen is from XU8 Level 3. Based on its thinness (0.3 cm) and delicateness, this specimen has been identified as an arrow point tip. Absence of the base does not permit identification.

BLANKS: Three bifacial blanks were recovered from the surface. These probably represent thinned biface cores. All are oval in outline. The flake scars appear to be the result of both hard and soft hammer percussion. Two are broken, presumably as a result of manufacturing failures.

PREFORMS: Five fragments were recovered: two proximal fragments, two mid-sections and one distal fragment. One mid-section is from XU1, Level 2, and the distal fragment is from XU2, Level 1. The remaining specimens are all surface finds. All are between 0.5 and 0.7 cm thick. Both proximal fragments have straight proximal edges (Figure 3c). One is 2.4 cm wide at the base, the other is 2.9 cm. Both mid-sections have converging lateral edges. The distal fragment has a rounded asymmetrical tip. All specimens show flake scars resulting from soft hammer or pressure retouch. All appear to have been broken as a result of manufacturing error.

SCRAPERS: Four scrapers were recovered: two side scrapers, one disc scraper, and one combination side-end scraper. The combination side-end scraper is a finely made specimen from XU2, Level 2 (Figure 2b). It is of a fine quality gray-brown chert. It is triangular in outline and has the overall appearance of a gouge. All edges show careful retouch. Two straight edges form a right angle; the third edge is slightly convex. It is 7 cm long, 3.5 cm wide and 1.3 cm thick. All edge angles are between 45 and 50 degrees.

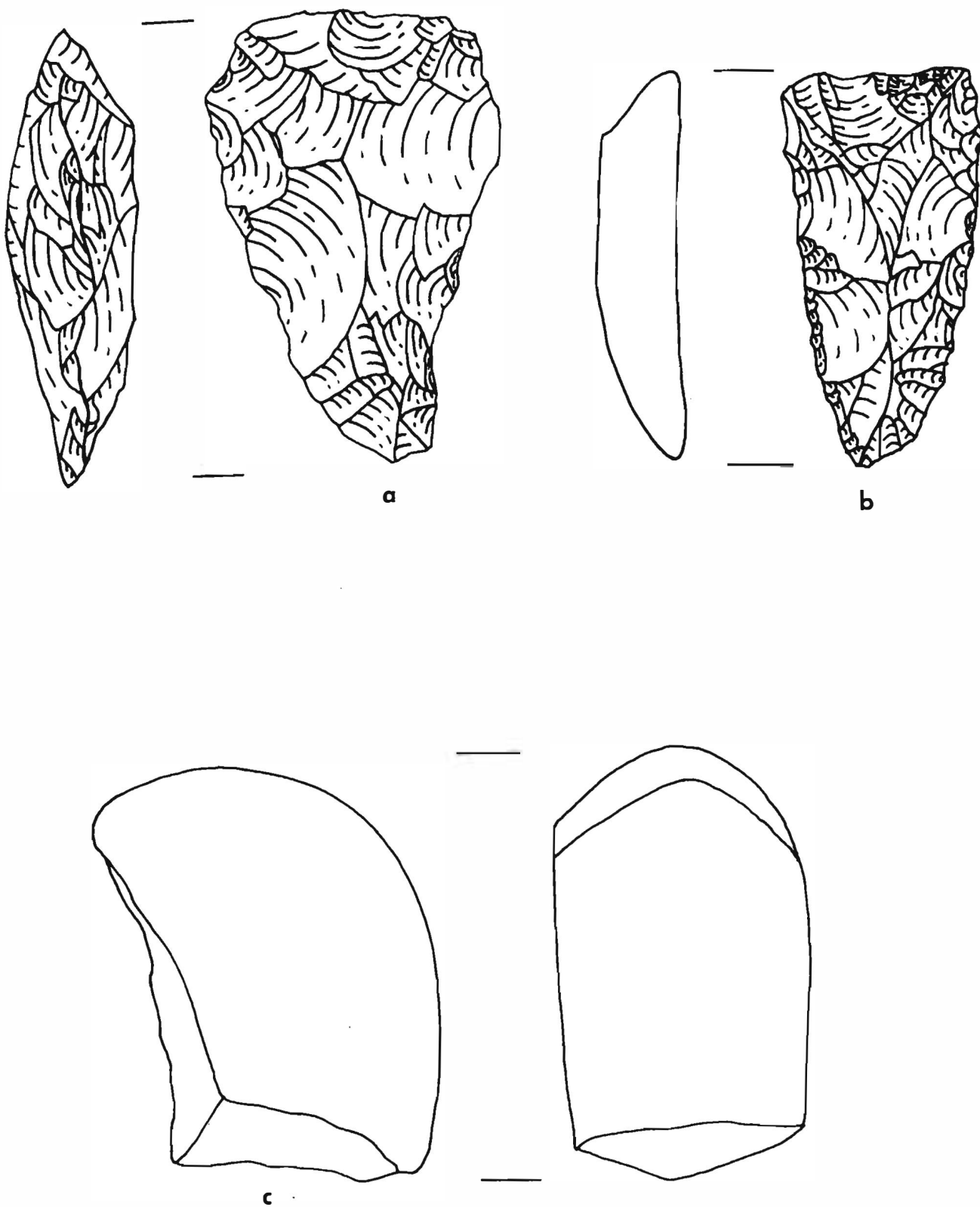


Figure 2. a, Clear Fork Gouge; b, End-side scraper; c, sandstone mano fragment.

Of the two side scrapers, one is a surface find, the other is from XU2, Level 2. Both are complete. They range from 6.0 to 6.7 cm in length, 3.8 to 3.9 cm in width and 1.7 to 2.0 cm in thickness. Edge angles vary from 30 to 60 degrees. Both have a scraping edge on one lateral side only.

The disc scraper is 4.7 cm long, 4.4 cm wide and 2.7 cm thick. A scraping edge has been formed on 25 percent of its circumference with a working edge of 64 degrees.

CLEAR FORK GOUGE: This complete specimen is a surface find (Figure 2a). It is roughly triangular in outline with one long edge being slightly concave and the other slightly convex. The bit edge is straight. It is 7.8 cm long, 5.1 cm wide and 2.1 cm thick. The bit edge exhibits an angle of approximately 45 degrees. The piece has been shaped by soft hammer percussion. One surface shows numerous traces of asphaltum opposite the bit. This no doubt aided in hafting.

REWORKED BROKEN PREFORMS: Three of these specimens have been recovered: two surface finds and one from XU6, Level 1. Two are proximal fragments; one is a mid-section. All appear to have broken during the manufacturing process. The broken edges show both use and intentional retouch.

CHOPPERS: Two of these specimens were recovered (Figure 3d). Both have been made from cobbles with the cortex being left on approximately 50 percent of the piece. This no doubt provided protection for the hand during use. Both have been bifacially worked producing a sinuous edge. They have been made through hard and probably some soft hammer percussion. They range in length from 10.6 to 8.8 cm, width 7.1 to 6.2 cm and thickness 4.5 to 4.2 cm.

CORES: Two have been recovered, both of them surface finds. One is a uni-directional natural platform core of gray banded chert. It is 12.5 cm long by 5.6 cm wide on the platform and is 7.3 cm thick. The other specimen is a uni-directional prepared platform core of brown chert. It is 6.7 cm long by 5.5 cm wide on the platform and is 3.1 cm thick.

DEBRIS: 682 pieces of lithic debris were recovered during the excavations. Of particular interest is the high percentage of retouched pieces. Approximately 30 percent of all debris shows either intentional or use retouch. At 41 HY 160, a base camp only one-quarter mile away, only two percent of the lithic debris shows any signs of retouch. This difference indicates a higher degree of material conservation at 41 HY 37.

CONCLUSION

Site 41 HY 37 probably functioned as a special activity zone for base camps 41 HY 160 and 41 HY 147. The site is extensive and should be considered a multi-use zone as opposed to a use-specific site. Activities probably included hunting, as this area, with its thick vegetation, is a favorite habitat of deer. Other activities included hide processing, wood working, and plant food processing. The projectile points recovered indicated that the zone was used in the Middle and Late Archaic, as well as the Late Prehistoric. Other periods may be represented as well, although this and the extent of use during each period represented can not be determined at this point in time. The relative paucity of artifacts and debris suggest that the site was not used extensively for habitation or lithic manufacture. The test pits were not particularly productive due to low artifact density and the shallowness of the site; however, a controlled surface collection to more clearly define the location and nature of the various artifact concentrations could be very productive.

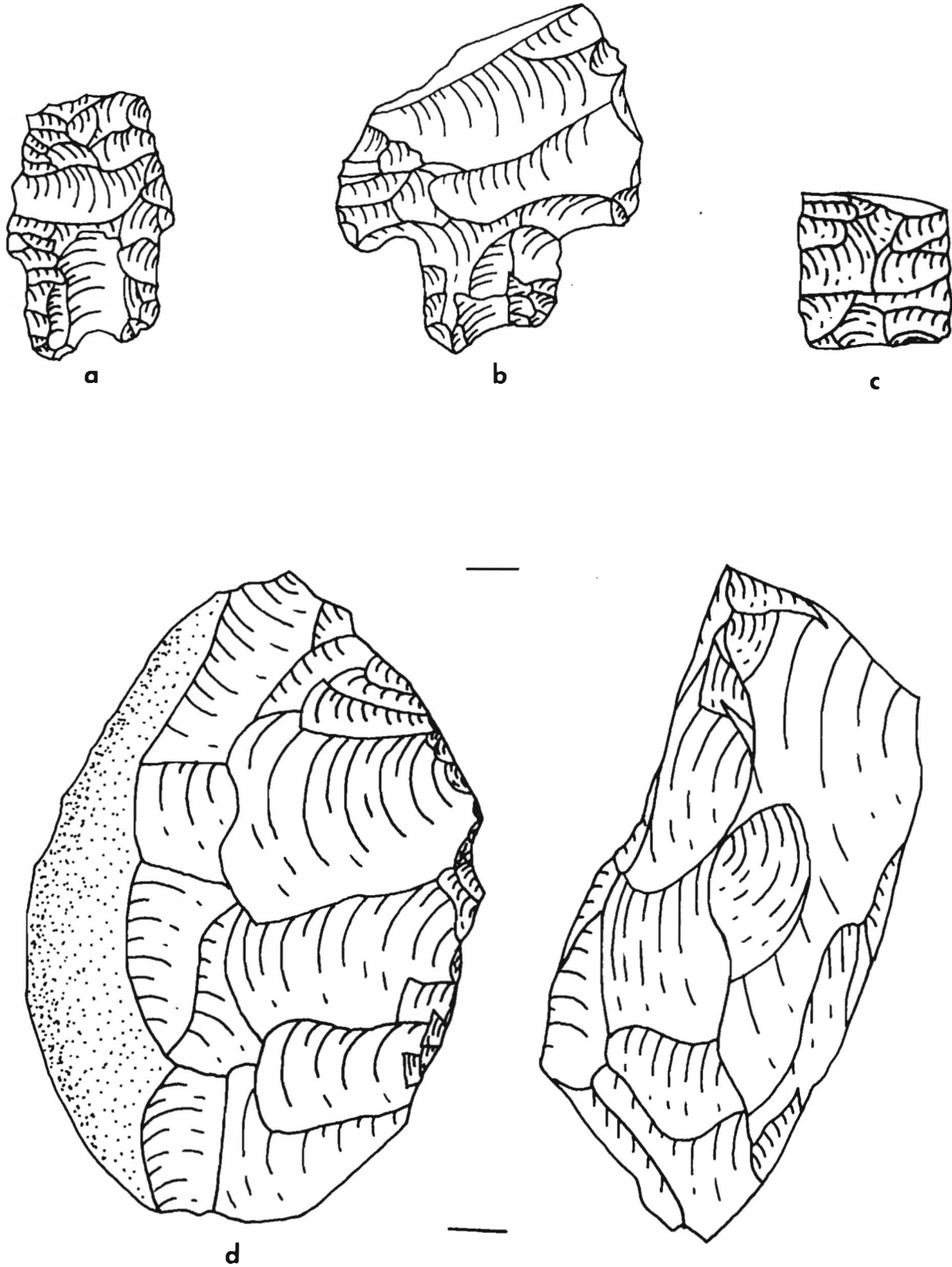


Figure 3. a, b, *Pedernales* points; c, preform fragment; d, chopper.

ACKNOWLEDGMENTS

We would like to thank all of the people of Aquarena Springs, Inc. for being gracious hosts of the 1983 Southwest Texas State University Archaeology Field School, allowing us to excavate two sites on their property, 41 HY 37 and 41 HY 160.

We would like to dedicate this article to Ford Keith Davis, one of the excavators at 41 HY 37, who died in February, 1984.

References

Chartkoff, Joseph L.

- 1983 A Rock Feature Complex from Northwestern California. *American Antiquity* 48(4):745-760.

Garber, James F.

- 1984a Prehistoric Exploitation Patterns of San Marcos, Texas. Paper presented at the annual meeting of the Texas Academy of Science, March 17, San Antonio.

- 1984b Prehistoric Exploitations Patterns and Site Functions of the San Marcos River Headwaters, Central Texas. Paper presented at the annual meeting of the Society for American Archaeology, April 13, Portland.

Garber, James F., Susan Bersman, Billy Dickinson, Robert W. Hays III, Jane Simpson and Jeffrey Stefanoff

- 1983 Excavations at Aquarena Springs, San Marcos, Texas. *La Tierra* 10(2):28-38.

Orloff, Michael D.

- 1984 Archaeological Excavations at 41 HY 37, an Ephemeral Camp Above the Floodplain of the San Marcos River. Paper presented at the annual meeting of the Texas Academy of Science, March 17, San Antonio.

Shiner, Joel L.

- 1983 Large Springs and Early American Indians. *Plains Anthropologist* 28(99):1-7.

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NOMINATIONS for 1984 Robert F. Heizer Award

Please send your recommendations for recognition of outstanding contributions to the archaeology of southern Texas as soon as possible to members of the Awards Committee (Shirley Van der Veer, any member of the Blue Bayou Committee of Victoria, or Jim Mitchell). Nominees should be individuals or groups who have made a significant contribution to the archaeology of our area of Texas during 1984. The winner will be appropriately recognized and honored at the quarterly STAA meeting in early 1985.

ARTICLES for *La Tierra*

Please send in your reports for the October 1984 and January 1985 issues as soon as possible. *La Tierra* is being delayed more each issue due, in part, to a lack of articles. Please share your knowledge of sites, artifacts, and ideas with other STAA members by writing up those things you have or know about. We all benefit by your sharing. Please send them in!

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The volume of reports on new sites is down at the Texas Archeological Research Laboratory in Austin. If you know of sites which need to be documented, please report them as soon as possible to the laboratory (with a copy to UTSA-CAR, please). Use the STAA Site Report Form or the new TARL form - both are acceptable.

The Editor

AUTHORS

C. K. CHANDLER is currently Treasurer and President-Elect of the Texas Archeological Society. He has long been active in the STAA as well as the Houston Archeological Society and the Coastal Bend Archeological Society. C. K. has published a variety of articles in the TAS special publications series and in this journal, most recently in the last issue where he co-authored a study of corner tang knives from the Rudy Haiduk site. C. K. works as a railroad engineering consultant and lives in San Antonio.

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RITA NEUREUTHER is a member of TAS and STAA. She holds a BA in Art Education from Cardinal Stritch College in Milwaukee, Wisconsin, and works as a Rehabilitation Technician with the San Antonio State Hospital. Rita is also a special graduate student in anthropology at UTSA. Her field experience includes TAS field schools at Three Rivers and Rowe Valley as well as work at the Dan Baker Site and Cecil's rockshelter in Kendall County. Rita's report in this issue is her first article for *La Tierra* and provided an opportunity to use her art background. Rita lives in San Antonio.

LELAND PATTERSON is well known to most readers of this journal; he has published over 170 archaeology articles in local, state, national and international journals; he has recorded over 150 prehistoric sites in Texas, Louisiana, and Ohio; and he is a member and past president of the Houston Archeological Society. Most of Lee's recent work deals with lithics and replication experiments, such as the one reported in this issue. Lee works for Tenneco Inc. as their Manager of Environmental Affairs, including responsibility for cultural resources studies for environmental impact statements. Lee lives in Houston.

RAY SMITH is a building contractor in Uvalde County, Texas, but is also very active in archaeological research. He has worked on a number of UTSA CAR projects including work this summer at Las Cabras near Floresville. Ray also coordinated the quarterly meeting of STAA in Uvalde in July and hosted a group of visitors to mission period sites in and around Montell, Texas, where he resides.

BETTE F. STREET has taken a number of anthropology courses at UTSA to further develop her long-term interest in American prehistory. She has been a member of STAA for a number of years and has actively explored the area near her home. Bette's report on Guadalupe Tools from the Robards Hill area of Bexar County is the result of her independent archaeological field work near where she lives in northeastern San Antonio.

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 amateur 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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