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In Appreciation of Alan R. Duke

Donald R. Lewis

The Houston Archeological Society has distinguished itself for many years by the level, quality and scope of activities and services. The steady hand on the tiller, guiding the Society through sometimes rough waters, has been that of Alan Duke. He has continually sought to upgrade the knowledge and capabilities of the members through field programs and communications. He has converted collectors to avocational archeologists by his enthusiasm and guidance. He has worked diligently for improved community understanding of the need for appropriate care for the fragile records of peoples' activities in the historic and prehistoric past.

Above all, Alan Duke has been dedicated to the task of the documentation and communication of information which he and other members of the Society have garnered. During his long tenure as editor of HAS publications he has left an admirable record of the growth of knowledge about the inhabitants of the upper Texas coast and surrounding areas. As he turns these responsibilities over to others, he must feel the warm satisfaction of solid accomplishment and the glow of the thanks of all of us in the HAS and the broad archeological community for his extraordinary contributions.

On a purely personal note, I recall many occasions when Alan provided the initiative and energy for surveys and excavations. It was always a real pleasure to work with him and his family in the field or the lab. All of us who worked with him learned a lot, not only in factual information, but in personal values and strength of character seasoned with good humor and good judgement. We are indeed grateful to you, Alan, for helping us all gain a better understanding of our past and a better set of values for the present.

The Walker Site (41SJ163), San Jacinto Co., Texas

L. W. Patterson

Introduction

This article describes the Walker Site, 41SJ163, in San Jacinto County, near the city of Coldspring. It is located on the property of Mickey Walker, and was discovered by the owner during construction of a stock pond. Both historic and prehistoric artifacts are present.

This site covers several acres, and is located on a high terrace above the San Jacinto River drainage system. There are active springs in the adjacent area that could have served as an attraction for human inhabitants. While most of the diagnostic prehistoric artifacts appear to represent ceramic occupations, there are also some indications of occupations in preceramic time periods. Artifact types found here are typical of types that are found over wide areas in southeastern Texas (Patterson 1979). Judged by characteristics of similar sites in this region, this site functioned as a seasonal campsite for nomadic peoples with a hunting and gathering lifeway.

The Surface Collection

While much of this site appears to have been destroyed by construction activities, a surface collection of artifacts from the disturbed area is available. All prehistoric pottery is of the Goose Creek Plain sandy paste variety. The Late Prehistoric period is represented by a Perdiz arrow point (Turner and Hester 1985:187) and a possible Fresno arrow point (Turner and Hester 1985:174). Gary dart points found here could be from the Late Archaic, Early Ceramic or Late Prehistoric time periods. This point type was in use over a long time range (Patterson 1980, Hall 1981). The Late Paleo-Indian period seems to be represented by an Angostura dart point (Turner and Hester 1985:66) with well-ground basal edges.

Other prehistoric artifacts found here include many chert flakes, a bifacial drill, bifacial dart point preforms, a metate, and quartzite flakes that may be from hammerstones. There is also a collection of historic artifacts from this location, including glazed pottery and glass.

Test Excavations

Mr. Walker graciously allowed the Houston Archeological Society to conduct some test excavations at this site in June 1985. Persons participating included Sheldon Kindall, Bernard Naman, Dick Gregg, Lee Patterson, Joe Hudgins, Linda Moorrees and C. R. Ebersole.

Three one-meter-square test pits, spaced at seven-meter intervals, were dug in an undisturbed area along the south side of the stock pond construction area. Most of the prehistoric artifacts found were potsherds and chert flakes, as summarized in Table 1. Artifact densities were generally not high. An arrow point tip and a miscellaneous chert core were found in the 10-to-20 cm level of Pit A. Sandstone pieces that may have served as grinding tools were found at the 10-to-20 and 30-to-40 cm excavation levels. Quartzite hammerstones and fragments were found at the 30-to-40 cm and 50-to-60 cm excavation levels.

Few faunal remains were present at any excavation level. Two pieces of turtle shell were found at the 30-to-40 cm level of Pit C. Only two primary chert flakes (completely covered with cortex on the dorsal faces) were found in all of the excavations. This is an indication that trimmed lithic raw flakes were being imported to this site. Many specimens in the chert flake collection show evidence

Table 1. Provenience of chert flakes and potsherds

Excavation Level, cm	Flakes			Sherds		
	Pit A	Pit B	Pit C	Pit A	Pit B	Pit C
0 to 10	0	4	3	1	0	1
10 to 20	6	8	5	2	0	0
20 to 30	8	8	7	2	0	0
30 to 40	9	10	1	0	1	2
40 to 50	4	19	0	2	1	0
50 to 60	1	8	3	5	0	0
60 to 70	2	0	0	1	0	0
70 to 80	2	0	0	1	0	0
80 to 90	1	0	0	0	0	0

of heat treating, by reddish discoloration and potlid surface fractures. No chert flakes over 35 mm square were found, possibly indicating the use of fairly small pieces of primary lithic raw material.

The soil is brown silty sand down to 60 cm. At 60 cm the sandy matrix becomes redder in color. At 75 cm depth the soil becomes much harder, possibly indicating a higher clay content. Natural gravel pebbles also become frequent at this level. Cultural materials were found to a level of 90 cm in Pit A, but only to a level of 60 cm in Pits B and C. Based on these test excavations, this site seems to have a fairly deep stratified sequence of ceramic occupations, a thinner stratum of preceramic time period materials under this, and culturally sterile Pleistocene material below 90 cm.

Historic artifacts were found in the test pits down to a level of 20 cm. Modern white glazed pottery sherds were found at the 0-to-10 cm and 10-to-20 cm excavation levels. One modern wire nail was found at the 0-to-10 cm level and one piece of old purple glass was found at the 10-to-20 cm level. The presence of historic materials mixed with Indian artifacts could be due to modern surface disturbances or the presence of historic Indians.

Summary

This article has summarized archeological work at the Walker Site in San Jacinto County. There seems to be a stratified prehistoric occupation sequence present over much or all of the ceramic period of approximately 2000 years. Some preceramic occupations are also indicated, although not in any clear sequence. Time periods for historic artifacts from this site have not been determined.

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Geophysics in Archaeology

The latest issue of *Geophysics* (Vol. 53, No. 3), a journal dealing generally with petroleum and mineral exploration, contains a special section on "Geophysics in Archaeology." There are 10 articles on subjects such as resistivity, magnetic, electromagnetic and seismic surveying techniques, including ground-penetrating radar. Of particular interest to HAS members is an article on the use of seismic data in obtaining an accurate mapping of the Gulf of Mexico shoreline and coastal area during the late Pleistocene. This area is now inundated by the Gulf of Mexico. It is claimed that channels, bays, lakes and the like can be resolved. An example is given of the High Island, Texas area with the ancient Sabine River flowing southwest, approximately parallel to the coast.

The Laura Lackner Site Revisited

W. L. McClure

Introduction

The Laura Lackner Site, 41HR89, is on the west bank of White Oak Bayou in Houston, Harris County, Texas. The general area was described by McClure (1975). The site has been truncated by channelization and road construction. The results of surface collections and limited testing were reported by McClure (1976a, 1976b, 1977). These reports showed that the site was occupied from the Late Paleo-Indian through the Early Ceramic periods.

In 1983, the Houston Archeological Society became aware of the owner's plans to develop part of the property. It was considered desirable to ascertain if additional information could be derived from the site before its destruction. Permission was obtained from the owner, D. B. C. Memorial, Inc., and from the contractor, Avalon Construction Company, for HAS to perform excavations on the site. The primary goals were to determine if any stratigraphy could be recognized or if any activity centers could be found.

During November 1983, HAS spent two weekends at the site. At least 40 members participated in the field work as well as in the laboratory. An arbitrary grid system and vertical datum were established. Test pits were dug in 1-by-1 meter squares with levels of 10 cm. All material was passed through 1/4 inch mesh screens. Level notes were recorded in typical fashion. Test pits were excavated in the area near the place that had yielded the most material in prior investigations of the site. Shovel tests were dug throughout the property in order to determine the limits of occupation. One of the shovel tests produced enough prehistoric material to justify excavation of a test pit nearby. A total of 19 shovel tests and 10 test pits were dug. One test pit was not excavated below the surface level and nine were excavated down to the top of the clay formation.

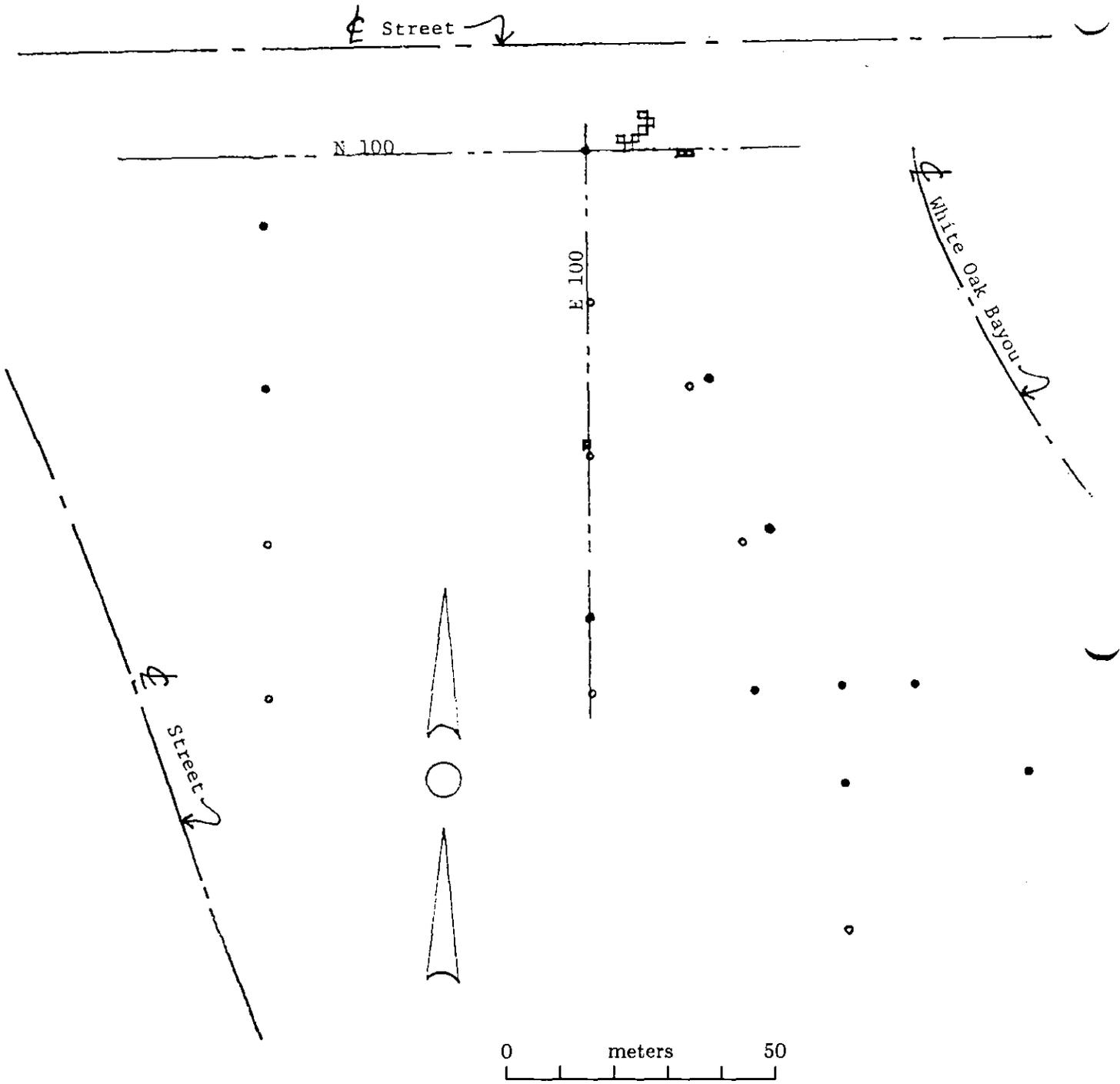
The area investigated is shown in Figure 1; Figure 2 shows the area of most intense excavation along with the areas that were tested earlier. In order to provide some protection for the site, street names are not shown.

Discussion

Soils

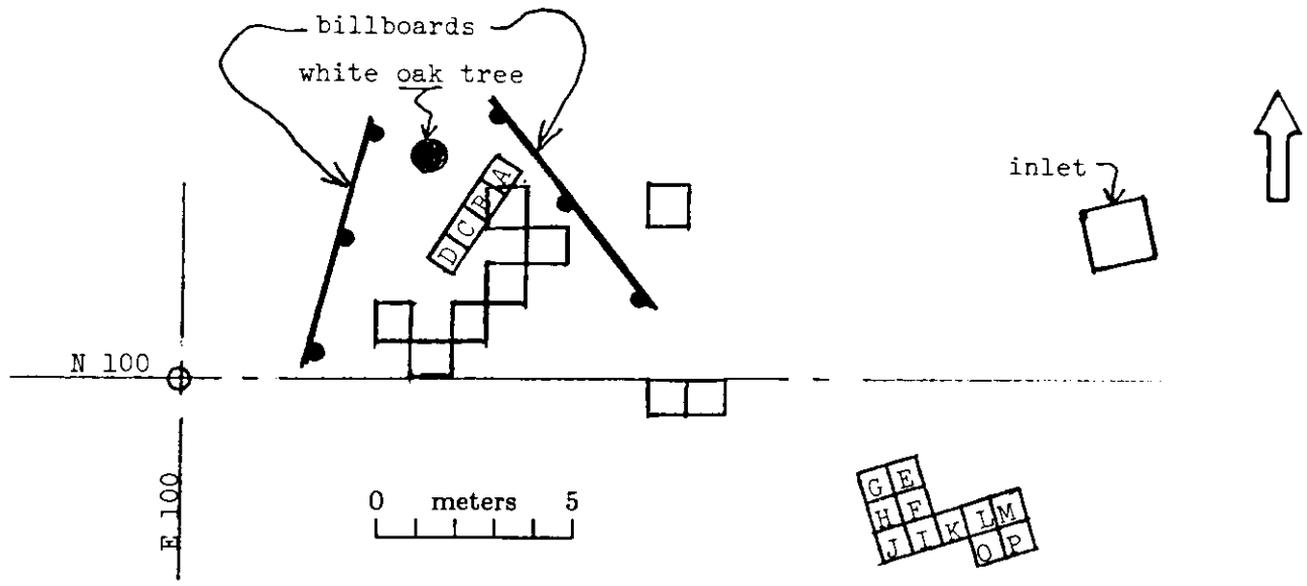
The soils that were excavated consisted of a medium sand from the surface down to sterile clay. This soil indicated significant disturbance due to recent human activities as well as from tree roots and probably from insects and small mammals. No indications were noted that revealed any separable strata. Numerous nodules of oxides of iron were encountered at various levels. In a few instances, chert flakes had the ferruginous concretion adherent to one surface, indicating that formation of at least some of the nodules was subsequent to human occupation. Some particles of charcoal were recovered but these were considered to be of modern origin, probably from burning during the 1940's.

The surface soils in this part of the county are primarily of the Lissie formation and were deposited during the middle Pleistocene. At this site, there also appear to be some younger clays overlying the Lissie that represent the early Beaumont formation. White Oak Bayou lies between low meander-belt ridges that reflect traces of ancient channels of the Brazos River which was responsible for the depositions (Van Siclen 1985). The lower end of one of the ridges is at the Laura Lackner Site. Thus the clay that underlies the sandy surface soils was deposited long before



- = test pit
- = shovel test with prehistoric material
- = shovel test without prehistoric material

Figure 1. Plan view of the Laura Lackner Site



Lettered squares are from prior testing.

Figure 2. Plan view of the most intensely excavated area

humans arrived in North America. At this location, the present bayou is closer to the ridge than at any other point. The excavations revealed that the upper surface of the clay is very irregular with as much as 40 cm vertical variation within a single meter square. This indicates that severe erosion occurred before buildup of the sands. Therefore, it is probable that a water course also existed in close proximity to the site subsequent to deposition of the Beaumont clays and prior to deposition of the sands.

Biological Materials

Remains of the following animals were recovered during the excavations:

- | | |
|--------------------|------------------------------|
| freshwater clam | genus unknown |
| eastern oyster | <i>Crassostrea virginica</i> |
| common rangia | <i>Rangia cuneata</i> |
| Virginia opossum | <i>Didelphis virginiana</i> |
| raccoon | <i>Procyon lotor</i> |
| eastern cottontail | <i>Sylvilagus floridanus</i> |
| domestic pig | <i>Sus scrofa</i> . |

Freshwater clam

Fragments of the shell of a freshwater clam were found in only one level of one test pit. This specimen was from Level 6. It was so fragmented that no indication of use or alteration was evident.

Eastern oyster

Fragments of oyster shell were recovered in all of the test pits, at all levels from the surface to Level 6, but not in all levels of each pit. These shells were commonly used for road stabilization during this century. It is probable that these were not associated with prehistoric occupation.

Common rangia

Shells or fragments of bay clam were found in five test pits, in the upper 30 cm. These shells also were probably road stabilization material.

Virginia opossum

Three bones of opossum were recovered in one test pit. Level 2 included a fragment of the left mandibular condyle and a thoracic vertebra. Level 3 included a skull fragment composed of part of the frontal and part of the parietal. During life the vertebra had sustained the loss of considerable amounts of bone, with redeposition of bone in abnormal locations. It is of interest to note that one of the four sets of skeletal material with which this was compared included a thoracic vertebra with the same condition.

Raccoon

Several bones of raccoon were recovered in two test pits in Levels 2 and 3. All appear to be of the same individual. Level 2 of one pit included the left and right mandibles and maxillas, other skull fragments, two loose teeth and a fragment of a leg bone. The left mandible and maxilla were fractured by a blow from the side, probably from a motor vehicle. Level 2 of another pit included left and right tibias. Level 3 of that pit included the right ulna, a fragment of the left ulna and four phalanges.

Eastern cottontail

The right tibia of a rabbit was found in Level 1 in one of the test pits.

Domestic pig

Two bones of pig were recovered. A scaphoid came from Level 2 of one test pit and a fragment of the distal condyle of a femur came from a shovel test which was 50 meters away.

Provenience of biological material from the test pits is indicated in Table 1.

Recent artifacts

The excavations produced a large number of recent artifacts that would qualify under the definition of 'trash' and 'litter.' This includes plastic items from fast-food establishments, aluminum foil and pull tabs, crushed automobile wheelcover, nails and other building construction debris, road gravel with asphalt, broken glass beverage containers and fluorescent tubes, lipstick tube, and rusty wire and wall hanger. Some of the glass items had been melted. The oldest historic item recovered was an Owens-Illinois 4-ounce medicine bottle which was made some time after 1929 (Toulouse 1971). These historic artifacts were recovered from the surface to as deep as 60 cm.

Prehistoric ceramics

Twenty-one fragments of prehistoric ceramic vessels were recovered. All are sandy-paste sherds of Goose Creek Plain wares as described by Suhm and Jelks (1962). Thickness varies from 4 to 7 mm with the average being 5.3 mm. Curvature is slight. Ninety percent of the sherds previously reported from this site were also of this variety.

Sherds were recovered from seven test pits in all levels from the surface down to 60 cm. None came from the shovel tests. Provenience of the sherds is indicated in Table 1.

Lithic materials

The excavations produced a variety of lithic materials that relate to the prehistoric occupation of the site. These include unmodified pebbles, one pebble with a flake removed, an irregular core, a hammerstone, a uniface, 14 bifaces and numerous flakes and chips. All appear to be of chert or silicified wood such as is available on gravel bars in the San Jacinto River a few miles to the north of White Oak Bayou.

The irregular core is 75 by 40 by 30 mm. The hammerstone is 93 by 30 by 20 mm. The pebble with only one flake removed is 45 by 30 by 20 mm.

Eight of the biface tools can not be classified but they could be fragments of dart points. Six projectile points can be identified using the descriptions in Turner and Hester (1985). Four are

Table 1. Provenience of Recovered Material

Depth Below Surface	Test Pits										Total
	N 41 E100	N 99 E113	N 99 E114	N100 E107	N101 E106	N101 E108	N102 E109	N103 E110	N104 E109	N104 E113	
0 cm											
flakes	0	2	0	3	0	5	0	0	1	15	26
sherds	0	1	0	1	0	0	1	0	0	0	3
other	T	ST	ST	ST	S	ST	ST		ST	STV	
10 cm											
flakes	17	0		4	1	3	9	2	5	32	73
sherds	0	0		0	0	0	2	0	1	0	3
other	ST	ST		ST	STV	ST	STV	STV	ST	T	
20 cm											
flakes	29	15		8	24	3	28	23	8	20	158
sherds	0	1		0	0	0	0	0	2	0	3
other	G	S		S	STV			STV	IS	ST	
30 cm											
flakes	36	32		7	26	20	14	17	0	3	155
sherds	1	1		0	0	0	0	5	1	0	8
other	H				ST						
40 cm											
flakes	39	67		2	23	19	4	20	0		174
sherds	2			0	0	0	0	0	0		2
other		DELS			O			T			
50 cm											
flakes	23	6			32	32	2	20			115
sherds	1	0			0	1	0	0			2
other	J				A	U					
60 cm											
flakes	7				13		0	13			33
sherds	0				0		0	0			0
other	K										
70 cm											
flakes					5						5
sherds					0						0
other											
80 cm											
Total											
flakes	151	122	0	24	124	82	57	95	14	70	739
sherds	4	3	0	1	0	1	3	5	4	0	21

A, D, E, G, H, I, J, K, L, O = Items shown in Figure 1
 S = oyster or bay clam shells
 T = recent artifacts
 U = freshwater clam shell
 V = mammal bones

Table 2. Flakes and Chips

Size, mm	Primary	Secondary	Interior	Total	Percentage
under 10	7	78	435	520	63
10 to 15	11	65	130	206	25
15 to 20	5	31	44	80	10
20 to 25	2	9	7	18	2
25 to 30	0	1	1	2	under 1
Total	25	184	617	826	
Percentage	3	22	75		

Palmillas dart points, one is a Gary dart point and one is an Ellis dart point. These types are considered to represent the Middle-to-Late Archaic periods in this part of the state. All three types were previously reported from the site and Palmillas was the most prevalent style. The shape of one preform would be consistent with an incomplete Palmillas point.

A well-made unifacial end-scrapers was also recovered. The scraper and the bifaces are shown in Figure 3. Provenience is indicated in Figure 3 and in Table 1.

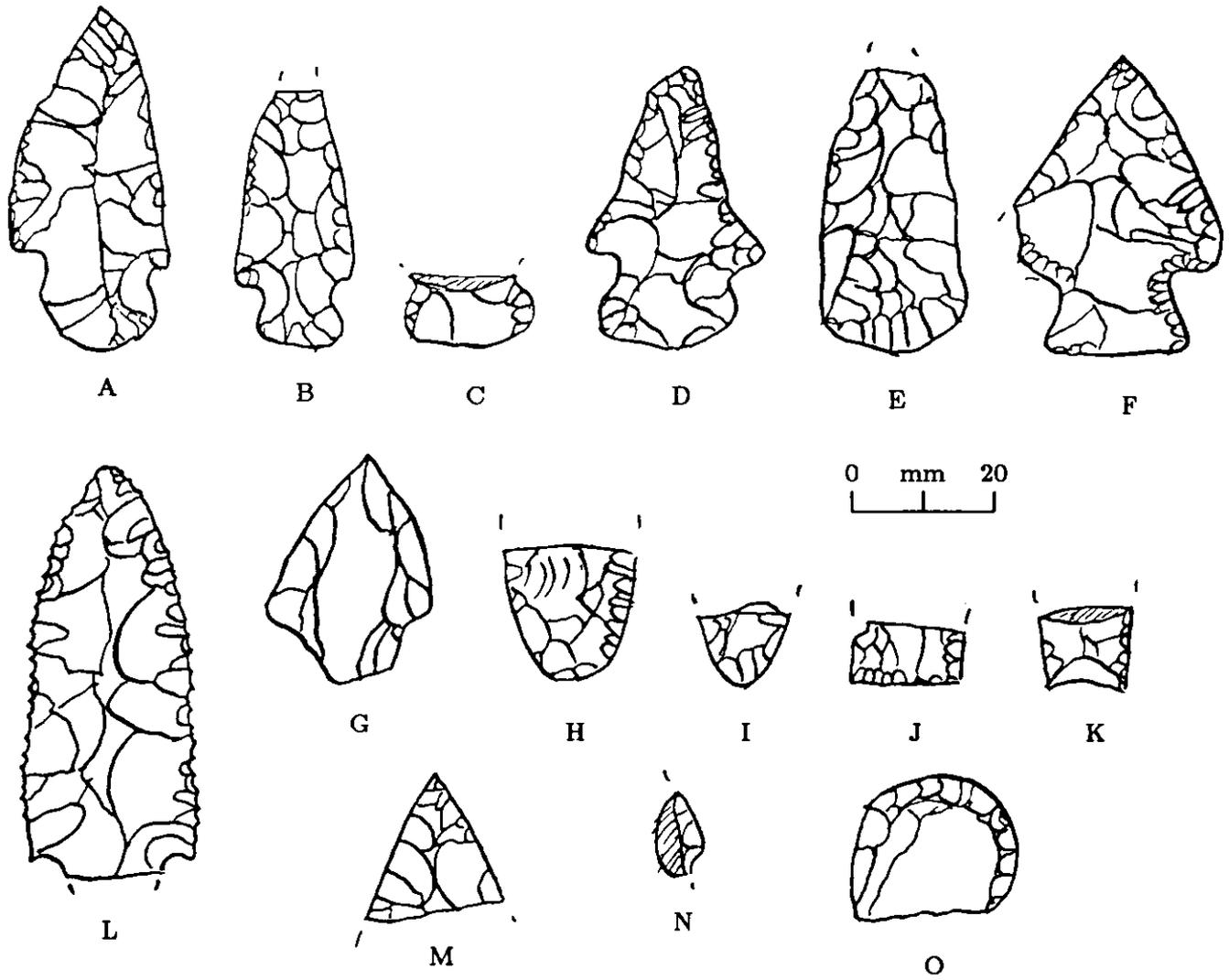
A total of 826 flakes and chips was recovered. The test pits produced 739 and 87 came from the shovel tests. Of the total, 63 percent were smaller than 10 mm square and 12 percent were larger than 15 mm square. Size as indicated here reflects a square that would be covered by the flake rather than greatest dimension. Three percent were primary flakes, 22 percent were secondary flakes and 75 percent were interior flakes. Indications of use for scraping and cutting were exhibited by 67 percent of the flakes larger than 15 mm. Of these, 10 were retouched somewhat before use. A few of the flakes smaller than 15 mm were also used and three had been retouched. The type of flake and the size variation are shown in Table 2. Provenience is indicated in Table 3.

Conclusions

The Laura Lackner site shows obvious evidence of disturbance of the surface. Some of the upper levels of the soil also clearly indicated recent disturbances which relate to road excavation, channel rectification and billboard installation. The mammal bones that are probably very recent were found as deep as 30 cm. The modern trash and road shell were found as deep as 60 cm. The prehistoric ceramics that could be no older than 2000 years were found as deep as the top of the sterile clay stratum. The dart points relate to the Middle-to-Late Archaic periods and were found at various levels with some as deep as the clay. No indications of stratigraphy within the soils were observed. The site had previously yielded artifacts that are thousands of years older. All of these combine to suggest that no conclusions should be made based on vertical position within the site. Perhaps this would also apply to other sites that are composed of sandy soils that are subject to easy disturbance by various agencies.

This excavation confirmed that the site covers the entire property with some portions having heavier concentrations of artifacts. The central part may have been less altered by human activities.

The site was occupied during the major part of the past 9000 years with most activity being during the Middle-to-Late Archaic periods. Little indication of use during the Late Prehistoric period is evident. Lithic tools were produced and used on the site. Pottery was also in use.



- A to D = Palmillas
- E = preform
- F = Ellis
- G = Gary
- O = end scraper
- Others are unidentified bifacial fragments

Items B, C, M and N are from shovel test at N 55, E 120.
 Item F is from shovel test at N 40, E 100.
 Provenience of others is indicated in Table 1.

Figure 3. Points and other bifaces

The location has amenities that made it a suitable living place for many thousands of years.

Acknowledgements

The cooperation of the owner, D. B. C. Memorial, Inc., and the contractor, Avalon Construction Company, is gratefully acknowledged. The labor of many members of the Houston Archeological Society is appreciated, particularly that of Margie Elliott for making arrangements, Sheldon Kindall for field management, Richard Gregg for laboratory supervision and Shirley Wetzel for bottle identification.

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Editor's note: The system used here in classifying flakes and chips by size is different from that used by L. W. Patterson (see, for example, HASJ 80:25, 81:20). Both assign to each flake or chip a linear distance value, typically a multiple of 5mm. This value corresponds to a square whose sides have that length. McClure chooses the largest square which is covered by the flake, whereas Patterson uses the smallest square which covers the flake. (In both cases, the flake lies flat, not being on edge.) Thus, for a give flake assemblage, McClure's values will be smaller than those of Patterson. In addition, long, narrow flakes are classified as relatively large by Patterson and as relatively small by McClure. Justification of these schemes is left to the authors.

Site 41FB102 Revisited

Bruce R. Duke

Introduction

Site 41FB102 in Fort Bend County, Texas is a relatively small prehistoric site that has yielded surface artifacts representing occupations from the Paleo-Indian time period through the Late Prehistoric period (B. R. Duke 1985a,c). This long-sequence occupation is similar to those of known sites in Wharton County on the upper Texas Gulf Coast (Patterson and Hudgins 1981, 1985a, 1985b). As reported previously, portions of the skeletal remains of a young mammoth were found at the site. Surface collecting has continued because of the potential for recovering additional data on early Indians of the Gulf Coast and because the site is eroding rapidly and may disappear in a few years.

Additional Surface Finds

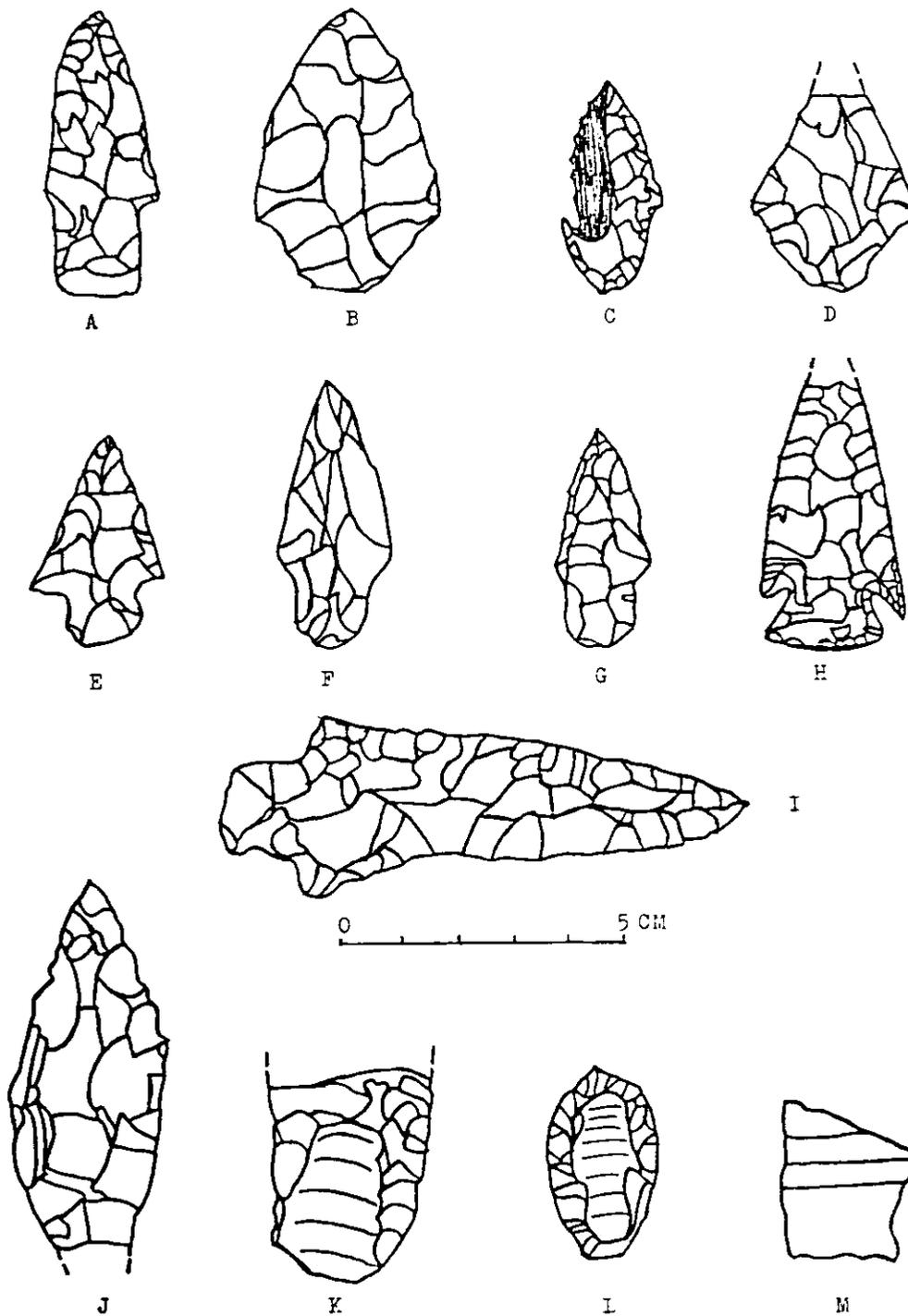
Continued surface surveys at Site 41FB102 have yielded additional projectile points and other flaked artifacts which are depicted in Figures 1 and 2. A Marcos point type found at the site indicates a Late Archaic or Transitional Archaic intrusion from Central Texas. A Marcos point was found at a site to the near west in Austin County (A. R. Duke). The Yarbrough, Gary and Kent point types are common in Southeast Texas, the Yarbrough being an Early Archaic and later point while the Gary and Kent points appear in the Middle Archaic (Turner and Hester). Many additional flakes of chert and petrified wood have been found and their size distribution can be seen in Table 1. Several cores made from chert were collected. A few more Goose Creek potsherds and an incised

Table 1. Lithic Flake Distribution, Site 41FB102 (Updated)

flake size, mm square	count
Under 10 mm	39
10-15 mm	172
15-20 mm	349
20-25 mm	193
25-30 mm	102
30-35 mm	37
35-40 mm	11
40-45 mm	3
45-50 mm	0
Over 50 mm	1
Total	907

tan clay sherd with a coarse sand temper were found (see Figure 1).

The appearance of a corner-tang knife is of particular interest (see Figure 2). These knives are relatively rare in Fort Bend County and along the upper Texas Gulf Coast; however, a corner-tang knife was found by the author at site 41AU4 on Mill Creek in Austin County (B. R. Duke 1985b).



A - Yarbrough point; B - Gary point; C - reworked Gary point; D - Gary preform; E, F, G - Kent points; H - Marcos point; I - stemmed biface (knife?) exposed in bank at 177 cm; J - bifacial tool or preform; K - broken biface; L - convergent scraper; M - incised potsherd

Figure 1. Site 41FB102 artifacts

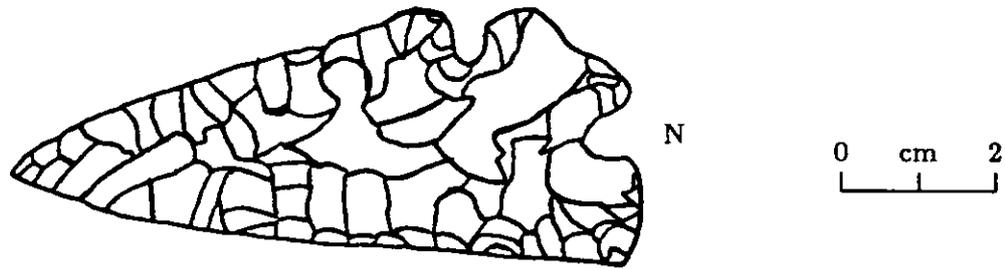


Figure 2. Rare corner-tang biface found at Site 41FB102

Summary

Additional surface finds have expanded the knowledge of Site 41FB102. Paleo-Indian numbers at the site were small but occupation of the site expanded considerably during the Archaic time period and even more during the Woodland period that followed. The Marcos point and the corner-tang knife could represent an influx of people from the west late in the Archaic period.

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Turner, Ellen Sue and Thomas R. Hester

1985 A Field Guide to Stone Artifacts of Texas Indians. Texas Monthly Press, Austin

Research Goals for the Prehistory of Southeastern Texas

L. W. Patterson

Introduction

Research on the prehistory of southeastern Texas has been under way since the early 1950's. However, there has been few attempts to define the overall nature of this work, or to define explicit objectives for research. Professional research in this region have been largely subject to the vagaries of contract work, where objectives are controlled by the needs of development and construction projects, rather than a balanced coverage for this geographic area. Research efforts by serious amateurs in this region have also proceeded on a rather random basis, depending on the efforts of a few individuals to locate and report prehistoric sites, with follow-up excavation projects in a few cases by the Houston Archeological Society.

Even though there have been few broad research plans for this region, some significant results have been obtained. There is now a large body of literature for southeastern Texas (Patterson 1982), and many prehistoric sites have been recorded. For example, Harris County currently has over 500 recorded prehistoric sites. It is now possible to construct a general picture of prehistoric lifeways and occupation sequences for this region, even though data is lacking on many specific details (Patterson 1979). One book has been published (Aten 1983) that presents a partial synthesis for this region, mainly for ceramic time periods of the coastal margin.

At this point in time, I feel that some consideration of possible future research goals for the study of the prehistory of this region is warranted. This article presents my views on this subject, especially oriented to ways in which amateur archeologists can contribute to future research in this region.

Representative Data Base

Archeological sites in southeastern Texas are being destroyed at a rapid rate. The principal causes are land develop, pothunting, natural erosion and agricultural plowing. There do not seem to be any effective methods for preventing the general destruction of archeological sites in this region, especially since cultural resource protection laws and regulations apply mainly to public lands, while the majority of property in Texas is privately owned. Even when an archeological site can be protected on a short term basis, there is no assurance that it will survive for a longer time period.

The most basic goal for prehistoric research in southeastern Texas should be to obtain a representative sample of all types of cultural remains, while there is still an opportunity to do so. Cultural resources are non-renewable. If an adequate archeological data base is not created now, significant information on the prehistory of this region may be lost. Even today, records of surface collections are the only remaining evidence of many archeological sites. It would appear that preservation of archeological data has been more effective than the conservation of actual archeological sites.

Obtaining a better representative sample of prehistoric cultural remains for southeastern Texas can take two main forms. A more uniform survey of the entire geographic area is very important. The results of surface surveys and limited test excavations will probably continue to constitute the major portion of the archeological data base for this region. It is also important to locate and excavate some additional stratified sites to establish better data on cultural sequences.

It would be desirable to maximize recovery of archeological data from areas that are most subject to destruction of cultural resources at present and in the near future. Since land development is spreading rapidly in this region, however, it may be difficult to assign priorities to specific locations. In any event, salvage archeology should be given high priority where there is immediate danger of destruction of cultural resources.

Comments on Surveys

One aspect of archeological surveys that has received little recognition is that surveys by serious amateurs are often far superior to professional surveys in terms of collections of diagnostic artifacts. There is a basic reason for this. Resident amateurs can devote more time to intensive and repeated surveys of specific locations, compared to the usual "one-shot" short-time surveys done by professionals. Therefore, amateurs should be encouraged to perform intensive surface surveys of their local areas, as a method of making a unique contribution to archeological research. Future research will continue to be highly dependent on surveys by amateurs to discover new sites and to accumulate collections of diagnostic artifacts.

Another unique aspect of archeological research by amateurs is the ability to work on privately owned lands without the need for a funding base. Professional research is limited for much of the geographic area of Texas due to the way that funds are allocated by cultural resource protection regulations. Therefore, amateur and professional research for this region should be viewed as complimentary in developing an overall data base. The potential contributions of amateurs to archeological research are mainly limited to individual initiative and ability, rather than any perceived conflict with professional standards or areas of interest. The pursuit of excellence in archeological research can be a rewarding endeavor for serious amateurs, in terms of personal satisfaction in contributing to human knowledge.

Comments on Excavations

Since archeological resources are non-renewable, the question comes up from time to time as to when it is appropriate to undertake a major excavation project that will remove a significant portion of a site. Major excavations are not appropriate simply to create activities for archeological societies or to give employment to professionals. Major excavations are most appropriate to recover data when a site will be destroyed in any event or when the excavation has the potential to result in a significant contribution to the data base. The results from initial test pits can generally be used to determine if further major excavation work is justified. This philosophy has generally been applied to field work conducted by the Houston Archeological Society.

Explicit Research Goals

As the general archeological data base is expanded for this region, it will be increasingly possible to do more explicit problem-oriented research. It should be remembered, however, that research on many subjects will be retarded until more radiocarbon dates can be obtained and better definitions developed of relative chronological sequences of artifact types. This is especially true in the study of cultural change and intra- and inter-regional comparisons of lifeways.

Some possible specific subjects for future research are:

1. Attempt to define seasonal subsistence activities
2. Define the extent of cultural relationships between inland and coastal margin areas

3. More complete definitions of the cultures of all preceramic time periods
4. The formulation of detailed syntheses for all geographic areas and time periods of this region
5. More detailed descriptions of lithic procurement patterns.

The above are just a few of the many specific subjects that could be chosen for future research.

Summary

This article has presented a brief discussion of future research goals for the study of the prehistory of southeastern Texas. The establishment of an adequate data base should be given the highest priority. While the conservation of archeological sites can be attempted, as a practical matter it is even more important to maximize the preservation of archeological data. It should be remembered that the preservation of archeological data can be completely successful only if there is adequate publication of all sites that have significant data, and complete recording of all sites for state records.

References Cited

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1983 Indians of the Upper Texas Coast. Academic Press

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1979 A Review of the Prehistory of the Upper Texas Coast. Bulletin of the Texas Archeological Society 50:103-123

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Footnotes For Houston Urban Archeologists

Capt. C. R. Ebersole, L.L.B., J.D.

Introduction

The following information is written in the hope that persons digging in central Houston, south of Buffalo Bayou, will be able to skip some of the research done by this writer and others. Anyone writing a report who wishes to use one of these paragraphs may do so, with or without credit to the author, for fun or profit.

Orientation of the City

The Allen brothers (founders of the city) hired another brace of brothers, Gail and Thomas H. Borden, to survey the townsite of Houston. Gail Borden was later to make a name for himself selling canned milk to the soldier boys during the War Between the States. Their survey laid out Houston along and at right angles to a line running 30 degrees from true north, from northeast to southwest. By a common convention the 30-degree deviation was ignored in references and many deeds refer to these directions as true north and south, east and west. I will follow that convention below.

It has been said that this cattywampus orientation was because of the prevailing southeast breeze. This writer is not convinced but it is an agreeable fancy. The John Austin Grant (made in 1824), where the heart of Houston is located, has a north-south orientation.

Houston north of Buffalo Bayou and west of the original survey is laid out on more or less true north-south lines, but the southeast quarter of the city is consistently chaotic.

The First Survey

The first "final" survey of Houston is shown on a map dated January 18, 1837, made by the surveyors Gail and T. H. Borden. They had made a temporary survey a few months earlier (which I have not been able to locate) and a number of lots were sold from it. This 62-block survey was bounded on the north and west by Buffalo Bayou and what is now Bagby Street, on the south by what is now Texas Avenue and on the east by what is now Crawford Street. There has been widening and rerouting of Buffalo Bayou on several occasions, particularly along the northwest part of the original survey.

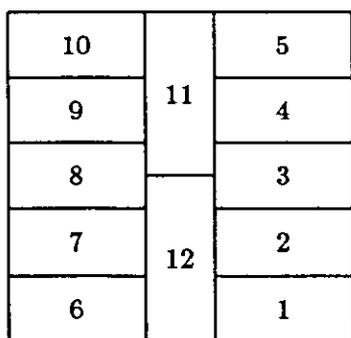
There were four "reserved" tracts:

- (a) Block 31 — Courthouse Square, site of the present Civil Courthouse.
- (b) Block 34 — Congress (now Old Market) Square, where the capitol of the Republic was to be, and where City Hall later was.
- (c) The south three-fifths of Block 55 (bounded by San Jacinto, Fannin and Texas) — the School House Reserve, now occupied by the Chronicle Building.
- (d) The south three-fifths of Block 58 (between Travis, Texas and Milam Streets) — the Church Reserve, now occupied by Christ Church Cathedral.

Later surveys extended this block pattern to a line starting where Lockwood crosses Buffalo Bayou, running south to Canal Street, west to Drennon, south to Garrow, west to Milby, south down to the I & GN tracks, and along them to Brays Bayou, up Brays Bayou to Main Street, north on Main to Alabama, west to Burlington, north to Baldwin and up Baldwin to Buffalo Bayou.

Some of the blocks along the bayou, which were blocks 1 through 6, 17, 18, 36, 37 and 38, were partial blocks; that is, the space between the full-sized blocks and the bayou was too small for a regular 12-lot block (discussed below) so that the blocks were smaller and the lots numbered irregularly. The lots in these partial blocks were numbered with the highest-numbered lot at the southeast corner and the lowest-numbered lot at the northwest corner.

A full-sized block is 250 feet square and contains 12 lots. Lots 1 through 10 measure 50 feet by 100 feet and lots 11 and 12, called *key lots*, are 50 feet by 125 feet. For most blocks, the lots are arranged as shown in Figure 1, with the 50-foot frontages of lots 1 to 5 facing east and those of lots 6 to 10 facing west. Some of the blocks, namely the rows running north and south between Milam and Travis Streets, and between Fannin and San Jacinto Streets, were laid out in the plan shown in Figure 2. This was probably done to get the maximum number of lots fronting Market and



↑
City North

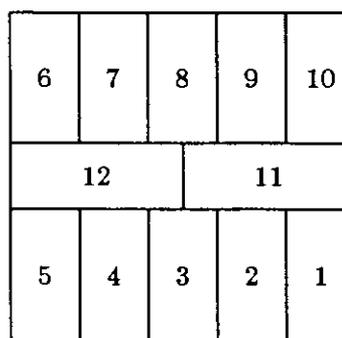


Figure 1. Normal lot numbering system

Figure 2. Alternative lot numbering system

Courthouse Squares. Lots which faced one of these squares were more valuable than the other lots, or such was the theory, and this arrangement of lots gave the subdivider more of these valuable lots to sell.

Finally, 10 long blocks, 50 feet wide east to west, and of varying lengths north to south, were drawn to the north of Blocks 2 and 3. These blocks fronted on the bayou and were directly across from where White Oak Bayou runs into Buffalo Bayou. They are on either side of Main Street where it crosses the bayou if they have not been lost by bayou widening.

Expansion

By 1839 considerably more of the city had been laid out, at least on paper. A map dated 1839 in the Houston Public Library shows streets laid out to the east past Crawford, down to Live Oak (10 blocks east of the original east line at Crawford Street), and north to an unnamed street (now Dallas Street) one block past McKinney. On this later map streets were laid out on the north side of Buffalo Bayou. An anomalous tract, oriented differently from that part of the rest of the city south of the bayou, was laid out in the area north of Commerce Street between Chartres and Crawford Streets, running down to the bayou. This area is possibly the remnant of an earlier settlement and still exists as a street pattern. The 1839 map, drawn by A. Girard, calls them the D. I. Evans and the J. W. Parker tracts.

The lot plan used by the Allens and Bordens did not fit the city as it developed. In a few blocks, buildings were erected more or less on the lots as platted, but in most blocks the key lots became divided between the lots on either side and no buildings were erected facing the side streets. Most of the stores were only half a lot (25 feet) wide.

Building Lines and Lot Sizes

Early Houston blocks and streets, as laid out by Gail and Thomas Borden in their 1836-7 surveys, were uniform in size. The blocks were 250 feet square and the streets were 80 feet wide. The early buildings built around Congress (now Old Market) Square and on other blocks were built clear to the lot lines. For instance, the southeast corner of the building built on Lot 1 in block 19 in about 1838 was at the southeast corner of Lot 1. Sidewalks were placed (or trodden out) in the street space, that is, on the public road. These sidewalks were, as the decades passed, improved into concrete walks and in many places were covered with roofs supported by posts at the curb line. These sidewalks, roofed or not, were constructed, I believe, by the lot owners. The 6-to-10 foot sidewalks remained in public ownership (limitation or "squatters" title cannot be asserted against the sovereign) but the maintenance of the walkways themselves became, by custom, the responsibility of the adjoining lot owners.

Houston streets thus are apparently narrower than the early surveys show and the blocks larger because of the encroachment of the sidewalks into the streets, because the width of the sidewalks is erroneously considered part of the width or length of the blocks.

Buildings may, of course, have been constructed anywhere on the lots, but the archeologist when digging in the downtown area may find it profitable to look for early foundations on the lot lines rather than at a set-back line.

Early residences tended to be set back into the interior of the lots, while store buildings were built up to the street lines.

Money

Money in early Texas was of varying stability. There were:

- (a) Gold coins issued by various countries. These coins were subject to shaving and to the metal in them being adulterated, but determining the true value as gold was fairly easy by a competent assayer. Occasionally, especially where a mortgage was involved, the price paid for land or chattels was set out in gold U. S. dollars.
- (b) The same comment applies to silver coins. The value of a metal coin was basically the value of the gold or silver in it, such value being more stable than it is now. Silver coins of Spain, Mexico and the United States were the principal specie in use in the Republic.
- (c) Paper banknotes issued by banks in the United States circulated in Texas. They fluctuated wildly in value as did
- (d) Bank notes of the Republic, which were based on the credit of the Republic, which owned land populated by howling redskins, not blue chip collateral. The Republic had as assets real estate taxes and customs duties which backed up the currency, but these were of speculative value. Occasionally the Treasury issued hard scrip, that is, certificates entitling the bearer to unsurveyed land, at a value of 50 cents per acre.

One problem created by this instability is that sums of money mentioned as consideration in letters, deeds, etc. during the period of the Republic may represent very different values. A specified amount of \$6000 paid for a lot, for instance, may have been paid in currency valued 10 cents on the dollar, or may have been in specie and thus the sum represents a "true" value.

There were attempts by Mirabeau Lamar and others to establish a sound paper currency; the attempts foundered on seas of ignorance and greed.

The world awaits a full-length book on Republic of Texas money problems, but the waiting is so far not very restive. A complete treatment of the subject would prove valuable, no doubt, as a drugless soporific.

Surveying Problems

Surveyors' instruments are inherently inaccurate (everything is at least a millionth of a millimeter off) and older instruments were, of course, more inaccurate than those now used. Compasses point to magnetic north, which is not the same direction as true north. The north magnetic pole is not fixed and has moved significantly in the past 150 years. As to units of length, ropes stretch, metal chains wear at the ends of the links and are different lengths according to how hot or cold it is. Longer distances were often measured by counting the revolutions on the wheels on a buggy, which never moved in a straight line. Counts depended on meticulousness and sobriety, both scarce commodities in early Texas. Consequently, measurements in old deeds should be considered approximations, especially measurements of long distances.

Much early surveying was done in varas, which is a Spanish unit of length corresponding to our yard. There was considerable but minor variation in the length of the vara. The Congress of the Republic set it at 33 1/3 inches and that is probably a good average length for the archeologist to use in recreating old measurements.

Brick, Shell and Stone

There is no stone in the Houston area hard enough to do anything more than give a pretty good bottom to a ford. Consequently, substitutes for native stone were used.

There was and still is suitable clay for bricks and there was ample pine timber to fire kilns. The early bricks seen by this writer have usually been a red-orange color, and the bricks are softer than modern bricks, much as Mexican brick is softer than Texas brick. This is because the bricks were fired at lower temperatures than are now used. Brick were occasionally broken up and used as aggregate in concrete. Oyster shell was used both for shell roads and as aggregate in making concrete. The shell roads were and are dusty, but the shells crumble into lime and make a sort of cement. Occasionally clam and mussel shells are found; they come from the bayous and were usually dredged out when bayous were deepened or straightened. Shell was mined (or dredged) from reefs in Galveston Bay and shell middens along its shores. This practice has only recently ceased.

Stones were imported, usually as ballast or as a cheap cargo. Most Texas exports were heavy and bulky, such as cotton, hides and tallow, and the imports of manufactured goods were few and light. Consequently, many things were imported that were of small value because there was room on the boat that would have otherwise been wasted. Examples of such imports are paving stones and cheap dinnerware from the English Midlands.

Courtyards

In many of the "downtown" blocks, that is, the blocks on which stores or office buildings were erected, structures did not reach to the back of the lot. The principal street lots were 100 feet deep; in many cases adjoining portions of one of the key lots were included, which had the effect of making the lots 50 by 125 feet. The buildings might be 70 feet deep, leaving space on the lot which connected up with the empty spaces on the others. These open spaces contained privies, wells, perhaps shacks for tools and living quarters for shop laborers. A few of these courtyards still exist and others are covered by buildings but are mainly intact.

The spaces were connected to the streets through the stores, of course, and also through alleys. Some of the alleys still exist as alleys or as tiny, narrow stores between buildings on Main Street and some of the side streets. These alleys were usually 6 to 8 feet wide.

To be continued.

HAS Historic Note Number Seven

Alan R. Duke

1965-1966

Officers for 1965-66 were as follows:

Chairman - William Fullen

Sec.-Treas. - Shirley Thompson

Directors - Alan R. Duke, William Caskey, Donald R. Lewis

Newsletter Editor - Alan R. Duke

Site survey work by HAS members, begun in 1964, continued in the Livingston Reservoir area. Lou Fullen continued to serve as coordinator. The Houston Archeological Society, under the direction of Burney McClurken of the Texas Archeological Salvage Project (TASP), excavated site 41SJ19. HAS members received valuable training and instruction on salvage archeology during the course of this excavation. HAS members participated also in the removal of burials from site 41PK8 that TASP was excavating.

Wallisville survey work continued under the direction of coordinator Bill Caskey. In addition, excavation of site 41CH32 was started in February 1966 under the direction of Lawrence Aten and Harry Hartman, with Dick Ambler acting as TASP representative. Two additional Chambers County sites (41CH52, 41CH14) also were being excavated by TASP and HAS during February to April 1966.

Members of HAS, accompanied by TASP representatives David Eng and Bill Harrison, visited a number of archeological sites in the Amistad Reservoir area.

The Wallisville Reservoir area survey by TASP and HAS had yielded a total of 63 sites as of August 1966. A. R. Duke was named the new coordinator of the HAS survey. TASP crews were working in a race against time on a number of the sites previously located.

Eleven HAS members attended the TAS Field School at the Dunlap Site west of Ozona, Texas.

1966-1967

Officers for 1966-67 were as follows:

Chairman - Lawrence E. Aten

Sec.-Treas. - Frank J. Brezik

Directors - Alan R. Duke, Lou Fullen, Bill Caskey

Newsletter Editor - Alan R. Duke

Wallisville and Livingston Reservoir surveys remained active under the direction of Alan Duke and Lou Fullen, respectively. Safety considerations dictated limited participation in these surveys until the end of hunting season.

The Houston Archeological Society hosted the First Annual Gulf Coast Archeological Symposium on April 29, 1967 at Rice University. The following program was presented:

1. Welcome to Rice Dr. Frank Hole
2. Coastal Archeology - Past, Present and Future Dr. T. N. Campbell
(Dr. Campbell discussed also his recent study of coastal
Indian groups identified in historical documents.)
3. A Survey of the Archeology of Jefferson
and Orange Counties in Southeast Texas Dr. Charles N. Bollich
4. Texas Archeological Salvage Work in
Chambers County Dr. J. Richard Ambler
5. Archeology in Harris and Galveston Counties Mr. Alan R. Duke
6. A General Review of Archeology in Brazoria County Mr. Raymond Walley
7. Archeology in Jackson, Victoria, Calhoun,
Refugio and Kleberg Counties Mr. Cecil Calhoun
8. Archeology in San Patricio, Nueces and
Aransas Counties Mr. James E. Corbin
9. A Site in Cameron County Mr. Frank Weir

Attendees at the meeting included visitors from Colorado, Beaumont, Corpus Christi, Lake Jackson, Port Lavaca, Bishop, Austin and, of course, the Houston area. Many questions were raised and much information passed out. A few "dragons" were trotted out but none were slain.

Under the guidance of Dig Director C. K. Chandler, HAS members conducted excavations on site 41MQ14 at Honea Reservoir west of Conroe in April 1967. The site was selected by TASP. Lab sessions were conducted on the materials from the site and the results reported to TASP.

Eleven HAS members attended the TAS Field School at Pittsburg, Texas and twelve HAS members attended a second TAS Field School at San Juan de Capistrano at San Antonio, Texas.

Preparations were under way for the Texas Archeological Society Annual Meeting to be hosted by the Houston Archeological Society on November 3-5, 1967 at Rice University.