PALO DURO ROCK ART:
INDIAN PETROGLYPHS AND PICTOGRAPHS

EMILY SORELLE UPSHAW

WEST TEXAS STATE UNIVERSITY

PALO DURO ROCK ART:
INDIAN PETROGLYPHS AND PICTOGRAPHS

A Thesis

Presented to

the Faculty of the Graduate School

West Texas State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

---

by

Emily SoRelle Upshaw

May 1972

ABSTRACT

This thesis deals with the problem of recording the petroglyphs and pictographs at nine sites in Palo Duro Canyon in the Panhandle of Texas. Photographs and drawings were made to give visual records of this truly American art and its current condition. Included is a comparative analysis of the styles, subject matter, possible meaning and purpose, as well as the tribes or peoples involved.

Background material considered pertinent includes a brief account of the history of early man in the New World, in the Great Plains region, and in this Llano Estacado area of the Southern High Plains. A review of rock-art studies in Europe, Africa, Australia and in North America gives further understanding of the importance of these examples of art of the American aborigine.

Even though examples of rock art in Palo Duro Canyon are not found in profusion, they do show an interesting variety of styles and expression. The two established regional styles represented are the Plains and the Puebloan. Petroglyphs are in the majority but two interesting pictograph sites were reported also.

Because these outdoor art galleries are so rare and vulnerable to destruction, all efforts should be made for detailed recording of each remaining example of rock art. This complex subject was selected and developed for its value to the history of art and to the study of anthropology.

APPROVAL

Emilio Caballero Chairman, Thesis Committee

Claudia Neeley Member, Thesis Committee

Jack T. Hughes Member, Thesis Committee

J B Roberts
Dean, The Graduate School
West Texas State University

ACKNOWLEDGEMENTS

I would like to express my sincere appreciation to Dr. Emilio Caballero, Dr. Jack T. Hughes and Miss Claudia Neelley for serving as my thesis committee. Without their interest, encouragement, guidance and professional knowledge this project could not have been completed. My thanks also to Mr. Bill Harrison, Mr. and Mrs. Ed Harrell, Mr. and Mrs. Hugh Currie, Mr. and Mrs. Melton McGeehee, Mr. Dick Carter, Mr. Joe Whittington, to my husband, and the many others who assisted me in many ways.

TABLE OF CONTENTS

LIST OF PLATES

LIST OF FIGURES

Chapter 1

INTRODUCTION

In the field of the history of art, the discovery of the great galleries of Paleolithic cave paintings in France and Spain has added a whole new dimension. Even though the rock art of the aboriginal peoples of North America is more recent and of a simpler order, it is no less important in the study of the prehistoric and the more recent peoples of this continent (Heizer and Baumhoff, 1962:1).

Many fine examples of this type of American Indian art have already been lost through erosion and other natural forces, through the building of highways and reservoirs, and through increasing incidents of vandalism. Most of the reported pictographs and petroglyphs in Palo Duro Canyon in the Panhandle of Texas have not been recorded at all, or only in a preliminary manner. It would be of value to the history of art and to the study of anthropology in this area for these sites to be recorded as completely as possible.

Problem

This thesis deals with the problem of recording the petroglyphs and pictographs at nine sites in Palo Duro Canyon and giving a comparative analysis of the styles, subject matter, possible meaning and purpose, as well as the tribes or peoples involved. In presenting this thesis it is necessary to give a brief account of the history of early man in the New World, in the Great Plains region, and in this Llano Estacado

area of the Southern High Plains. Figure 1, page 3, gives the geographical divisions of the United States (Fenneman, 1949:map; Loebeck, 1945: map).

The study of Indian rock art in North America has been active for more than a century, particularly in the West, and will be reviewed as being pertinent to this thesis.

Delimitations

It is impossible to know the exact meaning intended by the Indian artist at the time each of the petroglyphs or pictographs was executed (Grant, 1967:28). Therefore, interpretations as to meaning and purpose must be considered in the realm of possibilities. The location of the rock art, its style and its relationship to the people who probably occupied the area will be determining factors. All interpretations are based on research in the fields of American Indian art, archeology, ethnology, local history, Indian rock art, and the many subjects related to these fields.

The state of deterioration of the pictographs and petroglyphs in Palo Duro Canyon naturally influences the efficiency in recording them. Those located in sheltered spots away from wind and water erosion and away from frequent visits of hikers have remained in better condition than others which have been more exposed. The angle of the rocks on which the examples are located, the amount of light available and other factors of that nature determined the methods used in recording the various examples of Palo Duro rock art for this thesis. For the protection of the sites, and at the request of the land owners, a map showing exact locations will not be included. Most of the sites will be referred to only by a descriptive name and location letter. The site number assigned by

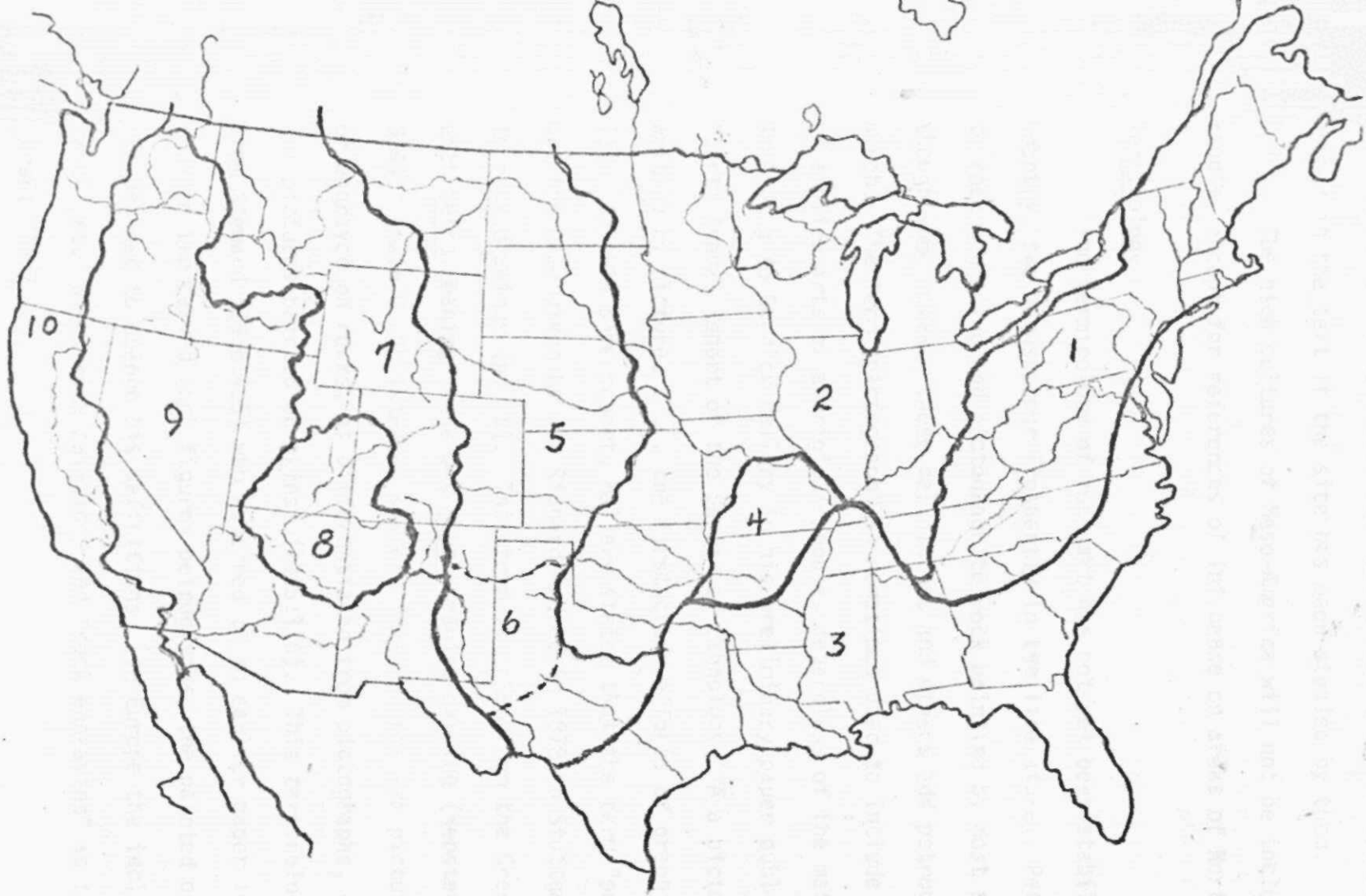


Figure 1. Geographical Divisions of the United States

1. Appalachian Highlands
2. Central Lowlands
3. Coastal Plains
4. Ozark Plateau
5. Great Plains Province
6. Llano Estacado
7. Rocky Mountain System
8. Colorado Plateau
9. Basin and Range
10. Pacific Mountain System

(Fenneman, 1949:map; Loebeck, 1945:map)

the Panhandle-Plains Historical Museum department of anthropology will appear in the text if the site has been studied by them.

The high cultures of Meso-America will not be included in these studies except for references of influence on areas of North America.

Terminology

The terminology of rock art has not yet been stabilized. In this country, two words occur frequently in the literature. Petroglyph refers to rock engraving and pictograph to rock painting by most authors, although some reverse these definitions and others add petrograph and pictoglyph. The term "pictograph" is sometimes used to include the whole field of applied arts of aboriginal peoples regardless of the materials involved. According to Garrick Mallery in his preliminary paper published in the Fourth Annual Report of the Bureau of Ethnology, "A a pictograph is a writing by picture. . . . the first crude efforts of graphic art" (1886: 13). In this same report, Mallery states that the term "petroglyphs" was the name given by Dr. Richard Andree in 1878 in Stuttgart, Germany, to rock drawings (p. 15). This term is taken from the Greek language with petro meaning stone and glyph meaning carving (Webster, 1949:630 & 354). Erwin O. Christensen states, "Petroglyphs are pictures painted or engraved on rocks, as differentiated from pictographs, a term reserved for pictures painted on skins" (1955:116). This terminology was taken from Steward (1936:405) who referred to an earlier paper in which he had "called the carved rock figures petroglyphs, the painted ones pictographs," but decided to change his definitions. In Europe the inclusive term is "rock art," with "rock painting" and "rock engraving" as the subdivisions (Grant, 1967:12).

For the purposes of this thesis the term "rock art" is used to include all techniques of applying art to cliffs, shelters, boulders or other large rock surfaces by aboriginal peoples. "Pictograph" is used in reference to a design or picture which was painted, and "petroglyph" used in reference to drawings which were pecked or incised into the stone.

The spelling of the various cultures, tribes, etc. is another area of confusing differences. The Native Americans by Spencer, Jennings, et al. (1965) is the reference used for this thesis, except for direct quotes by other authors using different spelling.

Dating

It is difficult, and often impossible, to arrive at an accurate date for many examples of American Indian rock art. Only a few areas have a fully developed style which can be definitely attributed to a tribe or culture on which there is enough information and evidence for pin-point dating. Many areas of rock art are not at sites showing habitation. In many other instances archeologists have not had the funds or physical assistance to do the necessary excavation and interpretation of layers of habitational debris in shelters or ruins to identify tribes or dates with the associated rock art. In areas where sufficient work has been done to identify styles of decoration on pottery and other artifacts, life-styles, etc., it is often possible to find direct association to the rock art of the area and thereby arrive at a fairly accurate date.

Often the subject matter of the drawings or paintings on stone gives a good indication as to its approximate date, or its relationship to the coming of white men. For example, Coronado and his expedition came to Palo Duro Canyon in 1541 and introduced horses, metal lances, Christian artifacts and many other items to the Indians of this area

(Bolton, 1949:266). This would eliminate the possibility that rock art of this area containing horses could be of an earlier date.

The condition of the work itself is very helpful in establishing dates or relative dates. Paintings deteriorate faster than incised or pecked designs even though they are usually found in sheltered areas. The hardness of the stone and weather conditions of the area have a direct relationship to the durability of petroglyphs and pictographs.

Placing his own art over that of his predecessors seems to have been a trait of mankind for thousands of years. Just as initials and other graffitti of today's people covers and often ruins many examples of Indian rock art, designs of more recent Indians are superimposed over the drawings and paintings of more ancient people. This fact does, however, aid in establishing the relative age of many specimens.

Much work has been done in the past thirty years in re-translating and re-evaluating historical documents from early Spanish and French explorations and from the establishment of missions and colonies. Additional attention has been given to first-hand information from early settlers, traders, and remaining Indians of this country. Our government agencies at all levels are beginning to realize the necessity of acting quickly to salvage and record all traces of our American heritage before more sites are destroyed by highways, reservoirs, industrial plants and vandals. There has also been a revival of interest in the plight of the remaining American Indians, their heritage, art, crafts and all other aspects of man's progress in the New World. The compilation and coordination of facts from all these related fields of interest gives much additional light on the ethnographic occupation of certain areas and the dates involved.

Methods of Recording

Several field techniques for recording rock-art sites have been used, and methods have become somewhat standardized during the past thirty years or more. Heizer and Baumhoff recommend making a sketch map of the site area to scale as the first step (1962:273). This map would include significant details of the terrain as well as the exact location of all surfaces which bear rock art. Numbers would be assigned to specific rock areas for cross-reference purposes and a survey record sheet of information filled out for each number (Ibid:276). Each photograph should have a scale or ruler showing, and large areas of rock art should be laid out carefully with a grid system. Accuracy of size and the placement of design elements in their proper relationships to one another is assured when recording is approached in this manner.

Campbell Grant also discusses this topic very interestingly and thoroughly in his excellent book, Rock Art of the American Indian (1967: 68-73). He gives photography as the most successful method of recording. Black and white photographs are needed to illustrate reports and to be included in field record books. For him, color slides are indispensable for painted surfaces or where the natural color of the rock is an important factor. Most of the figures in Grant's book were traced by projecting color slides onto his drawing paper or board.

Photographs of petroglyphs often show that the figures have been chalked to make them show up clearly. A somewhat distorted and inaccurate version of the figures often results. This practice does little actual damage to an exposed petroglyph but is not in accordance with the Antiquities Code passed by the Legislature of Texas in 1970. The Code applies legally only to State property, but the preservation of all sites

is important and consideration of the owner's property is paramount. Oil-based paints or crayons should never be used under any circumstances. Pictographs should never be chalked because this ruins the design, and it is impossible to remove the chalk without damaging the painting. Distilled water may be applied with a spray device to make calcareous deposits over paintings transparent temporarily and to bring out colors without damaging the paintings. There are many instances, however, where it is not possible to get good photographs of Indian rock art because of its condition or location.

Many rock-art sites have been recorded by free-hand drawings and paintings. W. W. Newcomb, Jr. gives much credit to Forrest Kirkland's "speed with which he could paint an exquisite watercolor or produce a meticulous drawing of complex industrial machinery" as a boon when he turned his attention to recording many of the rock-art sites of Texas (1967:5). Even though much of Kirkland's work was free hand, he accurately measured the area to be recorded, the main figures, and their location in relation to one another. Most of his watercolor recordings were finished on the spot and much attention was given to original colors used, colors at the time he found the pictographs, and the color of the rock. "Forrest Kirkland, not surprisingly, found scale copies to be the best technique for recording rock art. He attempted to make his copies as faithful as was humanly possible, and he succeeded admirably" (Kirkland and Newcomb, 1967:19). There are always differences in what really is seen when several people record dim or intricate drawings or paintings in this manner, no matter how careful the artists are to be accurate. Often any omissions or alterations are only in minor areas and not of great significance.

Direct tracings can be made by taping tracing paper or cloth or special plastic over the area and duplicating the designs with paints, crayons or pencils. Rubbings can be made in a similar manner when recording petroglyphs if all conditions are right. The roughness of the rock often makes it difficult to distinguish the designs, however, unless the lines are wide and deep.

Latex molds can be made of petroglyphs which are clearly pecked or incised into the rock. This is a rather time consuming method, but very effective plaster casts can be made from the molds.

Descriptions of various methods can be found if a rather accurate graphic reproduction or simulation of an actual rock area is desired (Grant, 1967:68 & 69; Kirkland and Newcomb, 1967:7, 19-22).

Palo Duro rock art is made up of pictographs and petroglyphs of various styles and in a variety of locations on the rock surfaces at the sites. Photographs and free-hand drawings were both employed whenever possible in the recording of these sites. Due to the limitations of the various copying machines available, the decision was to make a separate set of drawings of the rock art for each copy of this thesis. Light brown "text" paper with a pleasing texture was chosen. Watercolor and tempera paints of appropriate colors were spattered onto the paper to give a visual feeling of rock and colored pencils used to heighten this effect. Micro-point fiber tipped pens were used in delineating petroglyphs and colored pencils used for pictographs. An improvised light table was very helpful in tracing the figures onto the finished drawings. Certain particular methods of recording some sites will be discussed in Chapter 4.

Chapter 2

THE PROGRESS OF MAN AND HIS ART IN AMERICA

"Art is an essential function of man, indispensable to individuals and communities alike . . . There can be no art without mankind, and perhaps, too, no mankind without art." These statements by René Huyghe (1957:11) might appear too dogmatic without deeper investigation and reflective thought. Even the crudest daubing with color or scratching of designs, the selection of stone and fashioning of tools and weapons sets man apart from the lower animals and gives evidence to the beginnings of art. As stated by André Leroi-Gourhan in his excellent book, Treasures of Prehistoric Art, "Art is not unrelated to the rest of life" (1947:32). Man's environment directly influences his life-style and is reflected in the art and artifacts he produces. Archeologists rely heavily on these important differences and similarities of artistic styles and techniques in identifying the various tribes and migrations of early inhabitants. "The beginnings of art in America reach back over thousands of years that passed before the dawn of history in the New World" (Dunn, 1968:2).

Prehistoric Era

Most anthropologists agree that America's earliest inhabitants were Mongoloid immigrants from Asia who crossed the Bering Strait into Alaska during the Pleistocene epoch. An unknown number of migrations over obscure millennia and of various Asian origins continued to populate

the New World. Even though this was a period of heavy glaciation of vast areas, there are geological evidences that several routes were open into the Great Plains and down the west coastline. The intervals of glaciation themselves are thought to have been contributing factors in these migrations of people, perhaps following animals on which their livelihood depended. Siberia and northern Europe were affected by these same Ice Ages. When such tremendous amounts of the earth's water supply were concentrated into vast ice sheets, the level of the oceans was lowered and a land bridge was exposed into this continent. The last of four great ice ages was named the Wisconsin, and its glaciers are known to have advanced and retreated no fewer than four times. Geologists have established that these ice sheets did not always cover the same areas, especially along the edges, and left different routes open at different times. Man's existence in North America during the later stages of the Wisconsin glacial age is no longer debated. These closing phases covered roughly the last 15,000 to 30,000 years (Spencer, Jennings, et al., 1965: 18).

It must also be kept in mind that the appearance of this continent was much different in those early times than it is now. The Ice Ages were accompanied by periods of very heavy rains and with resulting vegetation which would be necessary to sustain the mammoth and other huge animals. The Great Basin area of Nevada, California, Utah and Oregon was an inland sea and all rivers were many times their present width. Pluvial periods alternated with very hot, dry ones over the intervening millinnia as the earth's climate became more stable (Spencer, Jennings, et al., 1965:54).

The Great Plains Province is that vast geographical area of North America between the Mississippi River and the Rocky Mountains, reaching into Canada on the north and to the Gulf of Mexico on the south. As a culture area it is more limited to the grasslands on which the great herds of bison or buffalo roamed. Figure 2, page 13, gives the locations and boundaries of the rock-art areas according to Grant (1967:80). "These areas coincide in the most general sort of way with the natural and cultural regions and rock-drawing stylistic areas" (Ibid:79).

Archeological research in the Plains area has played a crucial role in expanding our knowledge about American prehistory. In fact, among the first sites giving undeniable evidence of man's association with Pleistocene animals are several here in our own Llano Estacado area of the Southern High Plains Section.

The earliest of the named cultures is called the "Clovis" after the famous location near Clovis, New Mexico (Spencer, Jennings, et al., 1965:23). There are several sites located on Blackwater Draw between Clovis and Portales. The best known of these was discovered in 1932 during a gravel pit operation. Between 1933 and 1937 extensive excavation was undertaken by the University of Pennsylvania Museum and several associated institutions. Sellards (1952:17) suggested the name "Llano" for this culture complex as an all-inclusive one covering similar artifacts wherever they are found. The most distinguishing artifact type is the fluted Clovis dart point. Many of these were found in close association with extinct mammoth bones and were dated approximately 10,000 B. C. These elongated leaf-shaped points were chipped from chalcedony, jasper, chert, and flint from the Alibates flint quarried in the northern Panhandle of Texas (Hughes, 1971:personal interview). Clovis points are

Figure 2. Rock-Art Areas of North America

1. Far North
2. Northwest
3. Columbia-Fraser Plateau
4. Great Basin
5. California
6. Southwest
7. Great Plains
8. Eastern Woodland
9. Northern Woodland

(After Grant, 1967:80)

from 2 1/4 to 4 1/4 inches long and the width is usually about one-third the length. Much knowledge and skill is shown in the designing and chipping of these points which were probably fitted to a lance or spear and thrown with an atlatl which, in effect, extended the length of the man's arm and gave more force to the weapon.

Only a few years prior to the establishment of the Llano culture, a find was made near Folsom, New Mexico, which started the total re-evaluation of archeological finds and anthropological thinking. Between 1926 and 1928 paleontologists and archeologists collaborated

> . . . and demonstrated to the scientific world that distinctive man-made weapons, the fluted Folsom dart (or lance) points or knives, were in undeniable association with 23 deeply buried skeletons of a now extinct long-horned bison (Bison antiquus), and that man's life-span on the continent extended back to the terminal phases of the Wisconsin glaciation. This discovery was one of the most exciting ever made in American anthropological research (Spencer, Jennings, et al., 1965:19).

One of the Folsom points was actually embedded in the matrix between two ribs of a great bison. ". . . the fragile, leaf-shaped point attested that Folsom Man made tools of livelihood which were inadvertantly works of art," according to Dorothy Dunn in her fine book entitled American Indian Painting of the Southwest and Plains Areas (1968:3). The Lindenmeier site near Fort Collins, Colorado, was excavated in 1934 and established the Folsom complex. A wider range of stone and bone tools showing additional refinement is identified with the Folsom culture than with the earlier Llano culture and is dated about 8,000 B. C. Pieces of sandstone with red pigment on them were found in the Folsom layer at the Lindenmeier site. This might indicate that Folsom man found pigment necessary to his way of life (Ibid:5). Folsom sites near Lubbock and Lipscomb are among those located in Texas.

Another archeological discovery in this locality and of particular interest is the discovery of a large bison-kill site within the city limits of Plainview, Texas. Fossil remains of approximately one hundred of the giant Bison antiquus were uncovered in Running Water Creek. Eighteen flint points were found in the bone layer, along with several sharp-edged scrapers or knives. These Plainview points are similar to some found at the Lindenmeier, Blackwater Draw and other sites and located just above the Folsom layer, indicating a slightly later date of approximately 7,000 B. C. The Plainview site is important not only for the clear association of animals and artifacts but also as evidence of the antiquity of the "kill" as a favored method of hunting large animals. This method of stampeding animals off a cliff was still in use in the Plains as late as the 1850's (Spencer, Jennings, et al., 1965:31).

Other sites with their related points and other artifacts of Paleo-Indian occupation on this continent are of great interest and wide distribution but not as spectacular as the Clovis, Folsom and Plainview discoveries. Figure 3, Page 16, illustrates these prehistoric projectile points. It should be noted, however, that Clovis points have been found in nearly all parts of North America even though the greatest concentrations of them are in the Great Plains culture area. The Folsom complex and components of the more obscure Plano culture which followed are more localized within the general boundaries of the Great Plains.

The oldest human fossil remains yet reported with any degree of authenticity were found in a sandy "blowout" area near Midland, Texas, in 1953. These fragmentary female skull and other bone pieces found in association with long-extinct animal bones have caused much investigation and controversy, but have placed the age of "Midland Minnie" conservatively

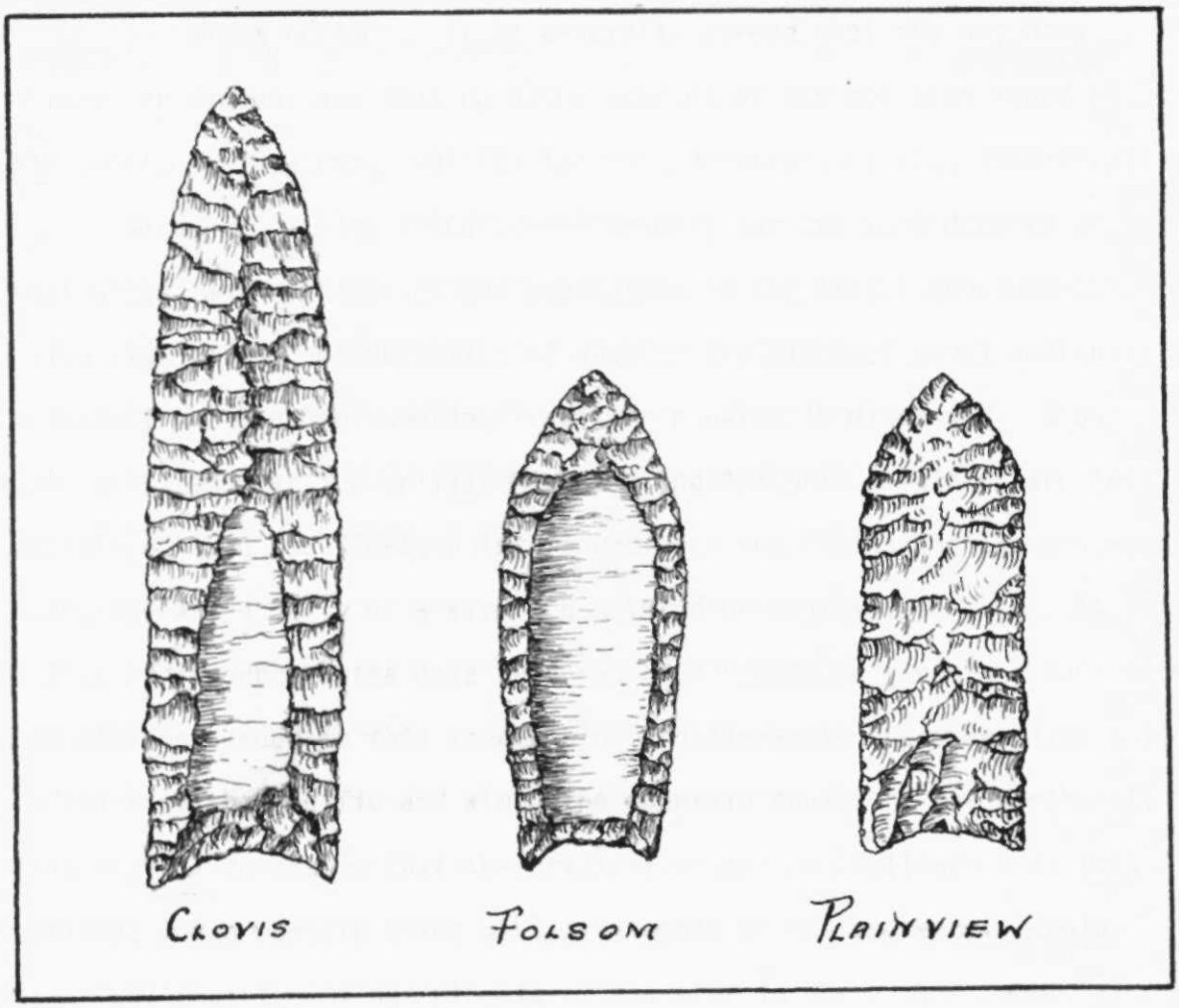


Figure 3. Prehistoric Projectile Points

(After Wormington, 1957:35, 82 & 264)

within the Folsom horizon. It is generally agreed that she was Homo sapiens, or modern, and that no older species of man has been found on this continent (Newcomb, 1961:12; Spencer, Jennings, et al., 1965:20-23).

Gordon R. Willey (1966:69-74) briefly surveys work done by archeologists, anthropologists and geologists in the Arctic and Subarctic giving rise to the possibilities of another tradition of equal antiquity to that of the Big-Game Hunting tradition previously discussed. Stone implements found at the British Mountain and Anangula complexes are less specialized than the Clovis points found over the Plains and Eastern Woodlands, and are usually of a simple bipointed or leaf-shaped form. As yet, no firm radiocarbon dates have been recorded for these finds and much more work will be needed in this area. Old Cordilleran is the name given this tradition of the Pacific and along the mountain chains of the Northwest. It is logical to assume that the original routes man followed into this continent would contain sites giving evidence of his presence. Geologists feel that the milder climate of the area in those times would also invite some south to north wanderings or migrations which would explain finding projectile points and a few other artifacts of the Plano complex.

As early as 8,000 B. C. the Great Basin and parts of the Southwest were taking on their arid or desert-like characteristics. The Archaic stage of hunting and gathering then began to overlap the Lithic, or big-game hunting stage, which was still in effect in the Plains and other areas of this continent. By 5,000 B. C. the continent was blanketed by this more universal and generalized stage of cultural development known as Archaic. This long formative period of hunting-fishing-gathering peoples continued "to as late as 1,000 B. C., and even until the arrival of the white man in marginal areas" (Spencer, Jennings, et al., 1965:39 & 57).

Distinctive regional specializations appeared along with a larger assortment of stone, bone and shell tools and ornaments and some crude articles of plant fibers. Some of the older petroglyphs of the Great Basin could possibly fall within the Archaic stage, especially a few simple linear designs under layers of travertine (Steward, 1936:417).

Kroeber (1939:32-55) indicates that the Basketmaker culture which originated in the Great Basin, and grew out of the older Desert culture, was the forerunner of the highly developed Pueblo cultures of the Southwest as well as the different, though distinctive and localized, culture of Central California. An examination of Hopi and Apache basketry exhibited in the Panhandle-Plains Historical Museum gives clear evidence that the skill and artistry involved must have developed over many generations. This is true also of the beautifully constructed and decorated Puebloan pottery and the kiva wall paintings even more familiar to this part of the country.

> One of the most interesting styles of painted petroglyphs seems to have originated with the Basket Makers, . . . These are simple anthropomorphic figures with triangular bodies and squarish heads, usually in red, and generally occurring on the walls of caves known to have been inhabited by the Basket Makers (Pl. 4A). . . . The modest figures were enlarged and elaborated to become the finest petroglyphs north of Mexico. . . . at present we can only know that they all belong to the same general culture, a culture which had its roots in the Basket Maker customs but was influenced by the subsequent Pueblo peoples . . . Often whole canyon walls are covered with galleries of regal and unearthly beings which may be gods or men (Steward, 1936:Pl. 3, 4 & 5:421).

Grant (1967:115-119) attributes the huge anthromorphic figures painted in Barrier Canyon, Utah, and the complexes of pecked petroglyphs near Vernal, Utah, depicting life-sized, elaborate ceremonial figures, to the Fremont culture. This culture shared many traits with the Anasazi (Basketmaker-Pueblo) and was widespread in eastern Utah and western

Colorado until about 1150. Examples of both painted and pecked shield figures are found in the Fremont area, also.

The three great cultures which stemmed from the Desert Archaic were the Mogollon of southwestern New Mexico and adjoining areas of Arizona, the Hohokam of the Salt and Gila river areas of Arizona and northern Mexico, and the Anasazi of the Four Corners area of New Mexico, Arizona, Colorado and Utah. All three developed agriculture, housing, pottery and a way of life designated as Puebloan between 300 B. C. and 1350 A. D. The Great Period for the Anasazi was between 1050 and 1300 A. D. and was manifested in all cultural activities at Mesa Verde in Colorado. The famous black-on-white pottery was but one of their great achievements. Severe drought and pressure from Athabascan groups of Navaho and Apache from the north began taking their toll on the non-warlike Pueblo people of the Fremont area of southern Utah as well as the Mesa Verde area during the last century of this period. By 1300 the northern pueblos and towns were abandoned. "The descendants of the Anasazi still reside in these areas at Hopi, Zia, Taos and other modern villages" (Spencer, Jennings, et al., 1965:98). The Anasazi also created great complexes of rock art throughout their area.

> During the Pueblo period, designs reached a maximum complexity. There is more pecking than painting and typical designs are the flute player, mountain sheep and elaborate blanket or pottery designs (Grant, 1967:118).

There is still much debate as to the possibility of direct Asian influences, possibly by later migrations, on the cultures which grew out of the Eastern Archaic. Whether from outside stimulus, or as a development out of the local Archaic, Early Woodland pottery did appear by 1500 B. C. or earlier in the eastern part of this continent. These vessels were crude in appearance, cord-marked for more efficient absorption of

heat, tempered with crushed rock or coarse sand, wide-mouthed, and conoidal to fit into fire pits for cooking or into soft dirt or sand for serving. From this beginning grew the beautifully shaped and decorated pottery and figurines representative of the Adena-Hopewell cultures. Mound building and decorative pieces of grave furniture were identified with these cultures also. Their influences are thought to have come to the Plains regions by way of the Caddo Indians and other tribes affiliated with the rich Mississippi culture. There was also a Plains Woodland culture identified with the Central Plains, especially in Nebraska. This culture did not seem to advance, however, and did not persist archeologically into historic times (Spencer, Jennings, et al., 1965:69).

Texas archeologists recognize the long and almost continuous occupation of Palo Duro Canyon by aboriginal peoples representing all cultural stages. "Hundreds of sites have been discovered and recorded, but only a few have been excavated and published" (Moore, 1966:35). Clovis, Folsom, Plainview and other types of Paleo-Indian points and artifacts are found in camp and kill sites on the canyon rims, in the playa lake beds near by, and buried in the higher alluvial terraces along the canyon floors. During the Meso-Indian Stage, or Archaic, from about 5,000 B. C. to 1000 A. D., various groups of hunting and foraging nomads roamed the canyon area. Traces of their occupation are numerous and several foci are known. A site in the Little Sunday tributary has been studied and defined as the type-site for these Archaic artifacts and other evidences of cultural traits. Some petroglyphs in Palo Duro Canyon may also be attributed to the peoples of this cultural stage.

In the Texas-Oklahoma panhandles an interesting hybrid culture developed from the combining of Plains Woodland traits with the Pueblo

culture from New Mexico (Spencer, Jennings, et al., 1965:80). This Panhandle Aspect is identified by the Antelope Creek Focus in Texas and the Optima Focus in Oklahoma. Antelope Creek is a tributary of the Canadian River in the northern Texas panhandle, near the Alibates flint quarries, and contains several sites with multi-room, one-story houses of stone slab and adobe construction. Tools and storage pits indicate the combination of agriculture and hunting as the means of subsistence. Sherds of utility pottery of Woodland influence were found along with those of decorated trade pottery from the Pueblos. Several excellent specimens of the large cooking pots and Puebloan pottery are on exhibit in the Panhandle-Plains Historical Museum. Many single unit slab and pit houses are identified with this Panhandle Villager culture also. "Palo Duro Canyon contains a few of their house ruins, and many camp sites. . . . They quarried flint on a large scale in Palo Duro as well as along the Canadian River" (Moore, 1966:36). These people may be responsible for some of the Palo Duro rock art also. The Panhandle Aspect sites were abandoned about 1450 A. D., probably because of severe drouth. Dr. Waldo Wedel stated in a lecture in Amarillo (1970) that culture complexes in central Kansas grew out of the earlier Panhandle Villager culture of the Antelope Creek, Washita, Optima and other sites. In a lecture on the campus of West Texas State University (1970), Dr. James Gunnerson, authority on Apache cultures, said that evidence grows stronger as more excavating of Apache sites is done that these Panhandle Aspect people were very likely the forerunners of the Plains Apaches. Apacheans moved into the nearly depopulated Plains as buffalo reappeared after the period of severe drouth and seemed to have freedom of movement over a very large area. Plains Apaches did limited amounts of farming and considerable

amounts of hunting. They traded buffalo and deer hides and meat to the people of the Taos pueblos for pottery, additional grain and other needs while making their winter homes nearby.

The Northwest, with its bold and massive examples of carved and painted wood; the Southwest, home of the Pueblo culture and the more recent Pueblo-influenced Navaho and Apache cultures; the Southeast culture, or Mississippi, showing traces of Middle-American civilizations, and the Northeast Woodland culture seem to be the ones most incorporated into the Plains culture. The Southwest and Southeast were unlike in many respects, but did seem to have certain fundamentals in common (Dunn, 1968: 10-12). The exact routes, directions and methods used in the diffusion of culture traits may never be known, but then, as now, people were quick to borrow ideas from one another and adapt them to their own life-style. Figure 4, page 23, shows American culture areas and directions of influence according to Miguel Covarrubias in The Eagle, the Jaguar, and the Serpent - Indian Art of the Americas (1954:70). This excellent book gives many convincing comparisons of art styles common to Asia, the Pacific Islands and various parts of the Americas.

The Coming of Coronado in 1541

"Francisco Vasquez de Coronado left Mexico City in 1540 with 300 Spaniards and a large body of Indian allies," according to Herbert E. Bolton in the preface to his interesting book, Coronado - Knight of Pueblos and Plains (1949). This expedition went up the Pacific Coast through Sinaloa and Sonora, Mexico, and explored much of Arizona and New Mexico before spending the winter at the Pueblo of Tiguex. Bertha P. Dutton gives Mohi as the pueblo which Castañeda, chronicler for the Coronado expedition, called Tiguex (1963:4).

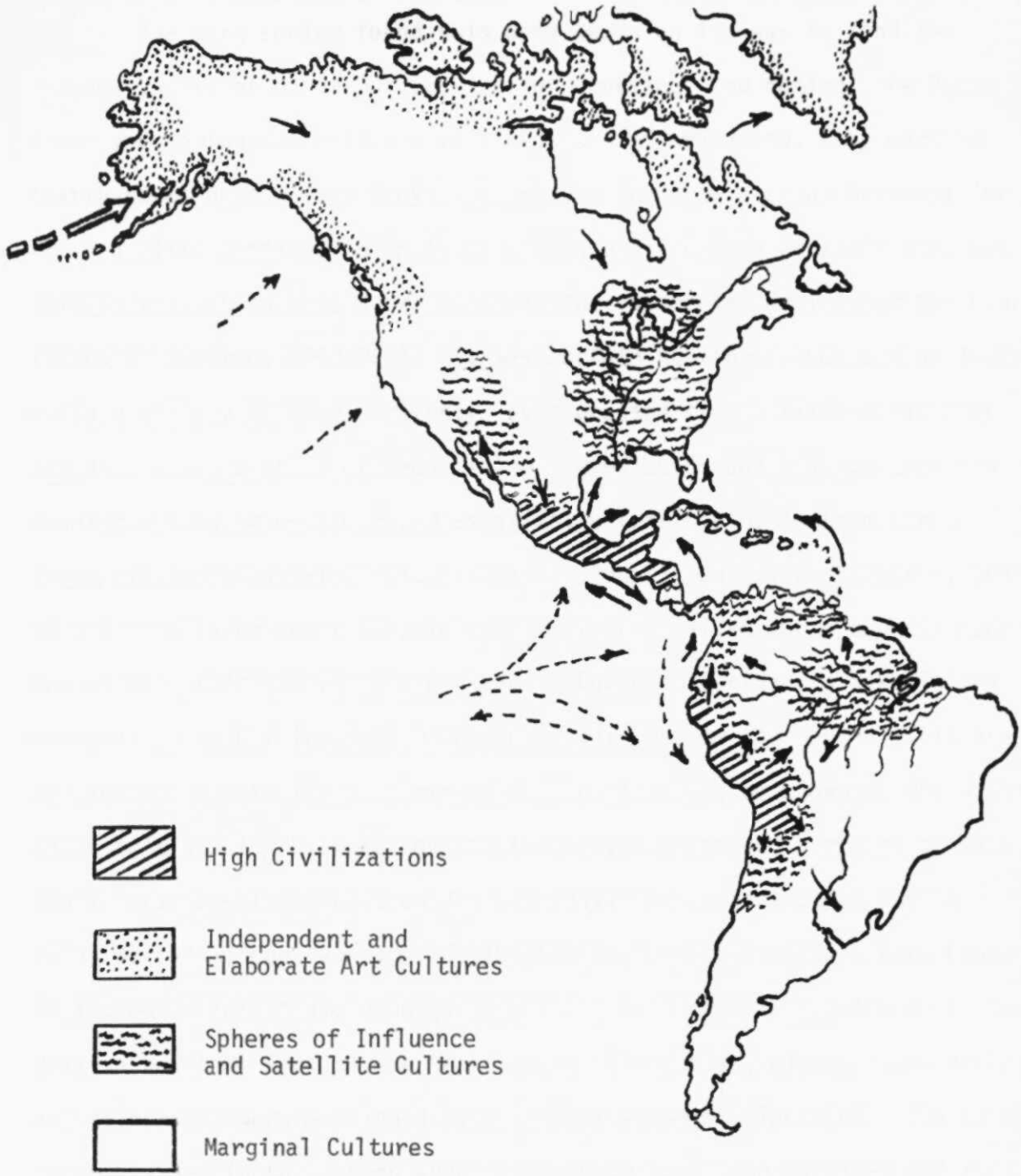


Figure 4. American Culture Areas

(After Covarrubias, 1954:70)

The next spring found this army again on its way to find the legendary city of gold, Quivira. After crossing, and naming, the Pecos River and coming out onto the vast expanses of grassland, they marched thirty-seven days before they unexpectedly "came to a great barranca (or canyon) 'like those of Colima' . . . This barranca, as we shall see, was Tule Canyon, which cuts a deep gash in the eastern escarpment of the Llano Estacado" (Bolton, 1949:256). It was buffalo-hunting season and an Indian village of many tipis of friendly Teyas greeted them. After a misunderstanding about a stack of beautifully tanned skins and a large tipi the Spaniards thought were offered as gifts, a terrible hail storm struck. These difficulties, along with the admission of the guide, El Turko, that he had been lying about the riches of Quivira, called for a council meeting of the officers of the expedition. Coronado decided to take thirty mounted men to Quivira, which the Teyas said was to the north. This area of Kansas was actually the home of Indians later to be known as the Wichitas. Coronado's scouts returned and led the army to a second barranca to make final arrangements. Thus, on May 29, 1541, pre-history ended for the "Deep Barranca," or "Barranca de los Llanos," we know as Palo Duro Canyon (Ibid:266). This tremendous gorge was cut into the Llano Estacado by the Prairie Dog Town Fork of the Red River. Wild grapes, plums, nuts, turkeys and mulberries were mentioned by Castañeda as being plentiful. The main army remained in the canyon about a month to replenish supplies and rest before returning to Tiguex where Coronado and his mounted explorers were to join them after their trip to Quivira. All except a few priests and Indians then returned to Mexico exhausted and defeated in their intended goals.

Castañeda described the Teyas Indians of the Tule Canyon as having tattoo marks around their eyes and chins (Bolton, 1949:260). This practice is known to be common in the Wichita tribes, and their name for themselves was "racoon-eyed people" (Newcomb, 1961:251). Many writers believe the Teyas were of a group known as Jumanos. "Teya" is a word of greeting in the Caddoan language, however, and might suggest other identification (Hughes, 1970:class lecture). The Querechos which Coronado met on the Canadian River on his way to Quivira are thought by most anthropologists to have been Lipan Apaches. In any case, the coming of Coronado with his helmeted and armored men on horses did have a great impact on the aboriginal occupants of the Southern Plains as well as those of the pueblos of New Mexico.

Other Spanish expeditions into New Mexico were made in 1581 and 1583, and Oñate took colonists up the Rio Grande in 1598 (Dutton, 1963: 7-14). La Villa Real de Santa Fe became the third, and permanent, location of the capital of the colony during the winter of 1609-1610. The church and state came to a violent breach of relations at this time. These differences increased and gave trouble throughout the Spanish domination of New Mexico. Life for the Indians became increasingly difficult under the rivaling factions and with the steadily increased missionary activities of the church. The Spanish colony eventually weakened itself with internal conflicts and frequent governmental changes. The Pueblo Rebellion was fomented and a well-planned revolt was initiated on August 11, 1680 (Ibid:17). "The Apaches from the Plains threw themselves into the welter of revolt" (Hyde, 1959:19). With the Spaniards gone, the Pueblos began warring against one another with Apache help. When the Spanish army returned in 1692, they fought Apaches all the way up the Rio Grande,

and found the pueblos all in sad condition. "The Apaches of the Southern Plains had reached the high tide of their career as rulers of these plains" (Hyde, 1959:20). Evidence of the extent of Apache power to the east was manifested in the number of Caddoan, or Pawnee, prisoners they brought to the pueblos to trade as slaves in return for horses, grain and Spanish metal weapons. Some Caddoans, however, were obtaining horses and metal weapons from the French and were beginning to fight back.

Development of the Plains Culture

Many tribes came to the Plains to hunt buffalo in the spring and in the fall each year, even though their permanent homes were in bordering areas. Various factions of a number of cultures seemed to prefer the nomadic life of the Plains even in pre-horse times. This accounts for the number of different languages among Plains Indians.

The various bands of Apaches each had their own dialect of the Athabascan language which is also spoken by the Navaho and many tribes of the western sub-arctic and the Pacific Coast. Uto-Aztecan influenced much of the Plains and western areas as the language of the Shoshonean tribes, Snake, Ute, Comanche, Hopi and the Aztec civilization of Meso-America. From the same base language of Aztec-Tanoan comes the language of the Kiowa and the Tanoan-speaking Pueblo Indians of Tewa, Tiwa, Towa and Taos. Algonquin (Algonkin) is the language of many tribes of the Northeast and East, as well as the Blackfoot, Cheyenne, Arapaho, Shawnee and others. Caddoan speakers include the Caddo tribes, Wichita, Arikara and Pawnee. This language seems also to be related to the Hokan-Coahuiltecan or Hokan-Siouan base language and includes a broad spectrum of internal linguistic relationships (Spencer, Jennings, et al., 1965: 100-111). Among the Siouan-speaking tribes of the Plains are the Crow,

Dakota and various bands of Sioux Indians. With all of these relationships and many others not listed, it is surprising that the Plains culture developed with a fairly unified appearance. Sign language was used as one means of communication. Walter Prescott Webb calls this a communication of distance, however, and not primarily one which was used because of the differences of language (1931:73-84). Plains Indians also used signal systems of communication based on smoke, blankets, horses and mirrors.

In addition to the profusion of languages among the natives of North America, the Spanish, French and British explorers, traders, missionaries, and settlers of many nationalities gave different names and different spellings when referring to the various tribes. Wichita and Pawnee-Pict, Sioux and Dakota, Apache and Padouca are a few of the interchangeable names familiar to this part of the country.

The accounts given by Coronado (1541), Oñate (1601), and others seem to be in agreement that the various bands of Apache Indians had control of the majority of the Plains area for most of the sixteenth and seventeenth centuries. As they acquired horses from the Spanish and the Pueblo Indians, the Apaches became even more powerful. They copied many items of horse trappings from the Spanish, including armor made of raw hide for their protection in battle. As the chase became swifter in battle and in hunting, more elaborate feathered head gear, shields, fringes, and other decorations became identified with the Plains.

> . . . the clothes and ornaments of the Plains Indians, particularly the great war bonnets of eagle feathers and ermine, . . . were made as mobiles, to be seen in motion as blown by the wind of the prairies or agitated by the gallop of the horses . . . (Covarrubias, 1954:294).

Early in the eighteenth century the Ute Indians were involved in more trading and raiding at the Taos pueblos. About 1707 the Utes brought their poorer cousins of the Comanche tribe and introduced them to the wealth of the Pueblos. The Comanches ranged even farther east and acquired guns from French traders and Caddoan Indians. As the Spanish would not allow their Apache allies to have guns, the increasing advantage was to the Comanche. Guns and horses were acquired for Comanche relatives to the north, the Snake and Shoshone bands. The Comanches, however, stayed in complete control and dropped old alliances with other tribes as they were no longer needed. The Kwahadi (Quahadi) band, "Antelope Eaters," was the best known of the Comanches in this area (Hyde, 1959: 59-61). The Kiowa migration south seems to have been after 1742, and they appear to have been north of the Black Hills of South Dakota until after 1750 (Ibid:137-140). The Gatakas (Apache) were associated with one Kiowa band in the Black Hills and moved into the Southern Plains as Kiowa-Apaches. The Cheyenne and Arapaho tribes also joined with the Kiowas as they moved south from the Black Hills.

In 1780 a smallpox epidemic broke out among Spanish settlers in Texas and spread to one Indian tribe after another, killing great numbers, including Comanches. It caused over 5,000 Pueblo Indian deaths and forced the Spanish to abandon several missions in New Mexico (Hyde, 1959:164-165). Indians of the Northern Plains were hard hit also. "The great smallpox epidemic of 1780-81 may be taken as the <u>event</u> that presaged the dawning of modern times in the Plains" (Ibid:171).

The Pueblos were ruined by disease and the constant raiding of the Comanches. The Apaches could no longer exert power. Increasing pressures of European occupation forced more tribes, or remnants of tribes,

into the hunting and raiding life of the Plains. The Plains culture is the one best known to most people all over the world, and to many is representative of all American Indians even though only a small portion of the total Indian population was involved. Figure 5, page 30, shows the location of Plains Indian tribes in 1832 according to Ewers (1939:Pl. 1).

The last battles subduing these native peoples were fought here in the Llano Estacado. The very last one was in Palo Duro Canyon in late September of 1874 (Carter, 1935:473-496). Scattered groups and bands of various tribes gave themselves up, or were captured, over a period of several months, ". . . but the last band to arrive, Quanah Parker's Quahadi, did not come in until June 24, 1875" (Newcomb, 1961:362). Displays in the Panhandle-Plains Historical Museum show many articles used by Kiowa and Comanche chiefs in that last desperate effort. Other tribes involved in these final battles were the Cheyenne, Arapaho, and Kiowa-Apache.

Many fine examples of beautiful quill work, bead work, feather and leather work in all museums attest to the Plains Indian's love of beauty and art in all phases of life. Most designs used in beading and painting on leather for clothing and household articles were of a geometric nature. These items were usually made by women. A definite distinction was made in Plains Indian art. Realistic designs were done by men and geometric by women, and the two styles were seldom used in the same piece of art work. The art of hide painting was a tradition with Plains Indians and many beautiful examples can be found. Numerous paintings, especially by Sioux and Apache artists, were rather involved compositions which compare favorably with those the world over. Garrick Mallery (1886:Pl. VI & pp. 89-146) goes into great detail in describing

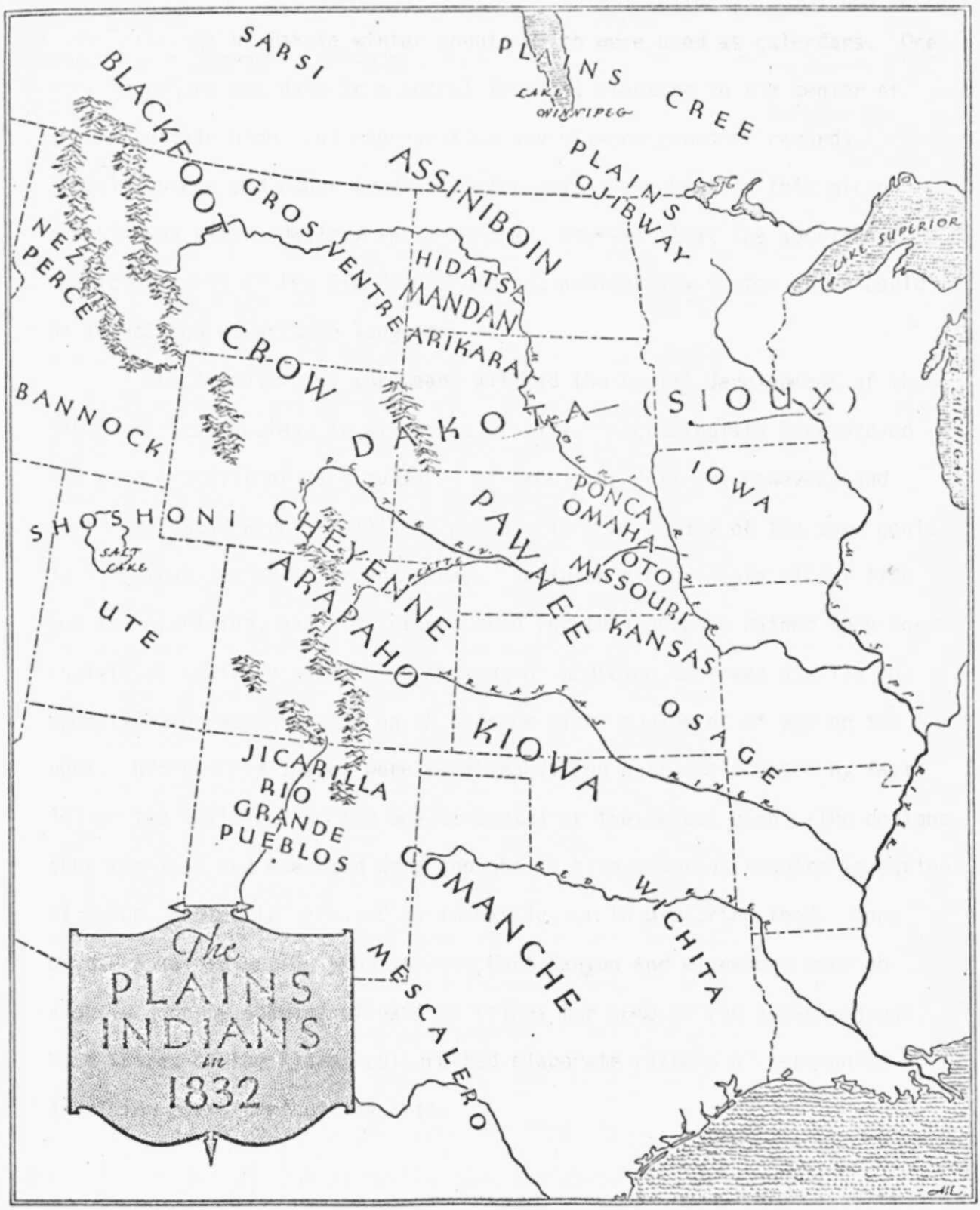


Figure 5. The Plains Indians in 1832

(After Ewers, 1929:Pl. 1)

hide paintings of Dakota winter counts which were used as calendars. One very large one was done in a spiral fashion, starting in the center of a huge buffalo hide, and representing seventy-one years of records. Tribal rosters and other types of information were kept in this pictographic way also. Mallery was convinced, however, that the aboriginal Americans north of the Rio Grande did not achieve any system which could be identified as written language.

The intrusion of Europeans altered the normal development of the North American Indians in all areas of life. Archeologists have proved the rise and fall of many cultures of prehistoric times, however, and know that these were intelligent human beings with many of the same goals in life that are still sought today. Religion did permeate all of life for the aborigine, and his art was used for this purpose rather than for individual self-expression. A shaman, or medicine man, was usually responsible for designs used on shields or other equipment of war or the hunt. Often these images were received during a trance induced by fasting or the influence of the peyote cactus or the mescal bean. The designs thus received and executed were thought to have powerful results in curing diseases, protection or success in battle, or in procuring food. Many pictographs and petroglyphs in Palo Duro Canyon and elsewhere were obviously done by shamans of various tribes for some of the above reasons. Most tribes of the Plains culture had elaborate rituals or ceremonies involving many forms of the arts.

Chapter 3

ROCK ART AS ART

Apart from painting, and perhaps tattooing of the human body, rock art is probably the most ancient of the graphic arts and has been widely practiced by man on all continents (Kirkland and Newcomb, 1967:14). The study of rock art has, however, not been given much serious attention before this century. "The first discoveries of prehistoric works of art were made in the Maghreb and the Sahara at a time when the origin of mankind was still in fierce dispute and no one dreamed of the existence of prehistoric art," according to Henri Lhote (1961:99). This was in 1847. The entrance to the cave of Altamira in Spain was not discovered until 1869, and the paintings inside not for another ten years. "At the Congress of Anthropology and Prehistoric Archaeology held at Lisbon in 1880 the Altamira paintings were dismissed as forgeries and were soon once again consigned to oblivion" (Breuil and Berger-Kirchner, 1961:15). Only after many other discoveries of caves containing similar art work, some coated with deposits proving their age, was the authenticity of these great cave paintings of Spain and France accepted. Franco-Cantabria designates the area in which these examples of Ice Age art were found. The great cave of Lascaux, in France, was not discovered until 1940, and Rouffignac (Dordogne) in the summer of 1956 (Breuil and Berger-Kirchner, 1961:16). In addition to having been hermetically sealed for untold millinna, the paintings in Lascaux have added brilliance because they are

over a layer of shimmering deposit (Breuil and Berger-Kirchner, 1961: 19 & 36). There is no argument to the fact that the Franco-Cantabrian cave art is truly great art.

The terrain of the North American continent is quite different, and as yet no caves have been discovered which compare to those in Europe. The length of occupancy is accepted by most anthropologists and art historians as having much influence on the ultimate perfection of the Franco-Cantabrian cave paintings. Many millinna of continued occupancy by a people dependent upon hunting as a means of subsistence developed this tradition of rock art from the crude drawings found in underneath layers and superimposed with progressively more advanced styles (Ibid:19-25).

"The rock pictures of the Spanish Levant constitute the most vigorous works of art bequeathed by the prehistoric peoples of Europe" (Bandi, 1961:73). These examples of the rock art of eastern Spain are to be found in shallow rock shelters and niches of cliffs rather than in deep caves. The first reports of these active hunting scenes were received by Breuil in 1907. Tassili and many other areas of North Africa have great complexes of petroglyphs and pictographs of many styles. Some pictographs in Tassili are beautifully designed and executed compositions containing many figures of animals and people (Lhote, 1961:141). The Bushmen of South Africa and the aborigines of Australia are still living their primitive way of life which includes the continuation of their rock-art traditions. In his introduction to a beautiful volume entitled Australia - Aboriginal Paintings - Arnham Land, Sir Herbert Read claims "These Australian drawings, like their prehistoric prototypes, deserve the name art for at least two reasons" (1954:5). These reasons are: spontaneous composition, equated to an intuitive sense of form and a

feeling for harmony, and a sensuous quality expressed similarly by modern artists such as Braque, Kleé, Giocometti and Wilfredo Lam. This comparison of aboriginal art and modern art was stated by Kirkland (1938:27), "Modern art is a revolt against the impressionistic paintings of the past generation, and a renewed interest in the simple art of primitive man."

Many examples of highly acclaimed rock art from Australia, Spain, Tassili, the Sahara and other areas of the world are very similar to many in this continent. This is not to indicate direct outside influence, but to state that the aboriginal inhabitants of this continent developed their art in much the same way as mankind in all other areas of the world. Not all rock art, however, can be considered as art. Some must have been idle doodling, and some can be seen as records or tally marks.

Many writers concerned with art and anthropology, including Covarrubias, question the popular usage of the term "primitive art" (1954: 90). The term has generally come to mean

> . . . the art of peoples whose cultures fall outside the complex of Western civilization or the great cultures of the Orient; in the best cases it is understood to mean a simple and undeveloped form of a subsequently highly developed art.

The arts of the American Indians are usually the result of a long process of selection, stylization and tradition. Distinctive differences are very evident in the more advanced art of each country of the world and in each region of North America, but the more elementary examples everywhere show much of the same approach.

> Painting in America evidently followed the universal course of formative art which led through the initial use of color and elementary drawings to an eventual development of regional forms, techniques, and styles" (Dunn, 1968:15).

The Study of North American Rock Art

Serious study of rock art in North America was begun little over a hundred years ago, although reports of isolated sites were given by early explorers, missionaries, traders, cavalry men and settlers. Artist George Catlin visited nearly all the tribes of the Great Plains area between 1830 and 1836, and recorded all aspects of their culture in his paintings and detailed notes. Two large volumes, including 360 engravings Catlin made from his paintings, were published in 1857. Henry Schoolcraft was the better politician, and received a large Congressional appropriation in 1842 to write a survey of Indian culture in North America even though his studies were by no means as thorough and accurate as those of Catlin (McCraken, 1959:206). Garrick Mallery, however, is given credit for the first really scientific study of American Indian rock art. His preliminary paper of 256 pages was entitled Pictographs of the North American Indians and was included in the Fourth Annual Report of the Bureau of Ethnology published in 1886. Mallery's Picture Writing of the American Indian was published in the Tenth Annual Report and covered 822 pages. His research included pictographic representations on hides and all other media as well as rock art. "Petroglyphs of the United States" by Julian H. Steward dealt with rock art only and was included in the Smithsonian Institution Report for 1936. A number of regional studies of rock art have been published, often in anthropological society publications and other journals of that nature. Many art historians are now including the study of North American Indian rock art in their writings, but the subject is still little known to the general public. Campbell Grant did an admirable job in synthesizing present knowledge on the subject in his Rock Art of the American Indian published in 1967.

The first comprehensive survey of Texas Indian rock art was made by A. T. Jackson and published in 1938. This is an interesting and scientific approach including the classification of design elements. Forrest Kirkland, assisted by his wife, recorded all Texas rock-art sites known to him between 1934 and 1941. His beautiful drawings were accompanied by an interesting and well documented text by W. W. Newcomb, Jr. and published in 1967 under the title of The Rock Art of Texas Indians. The Panhandle-Plains Historical Museum has on exhibit several plaster casts of petroglyphs of this area, and information on file concerning rock art and other pertinent subjects.

Techniques and Distribution

Techniques used in the execution of rock art can be identified from the discussion of terminology in Chapter 1. This gives little appreciation, however, for the development of techniques needed in relation to types of rock or to the enormous amount of work involved in preparing the paints required for pictographs where the figures are as much as nine feet tall (Kirkland, 1938:16). The clays or oxides used for pigments had to be located, mined, refined, often baked, finely ground, and mixed with a thin glue, animal fat, or other type of binder. Whether the binder used was of plant or animal origin, a considerable amount of labor was involved in the making of it. Mixing enough paint for the many large figures, or large areas of smaller figures, and applying it to rough surfaces required work and ingenuity.

The hard basaltic rock of the Great Basin and some other areas could not be scratched nor carved effectively, so it was necessary to peck the design out by striking the surface of the rock with a sharp piece

of harder stone, or by using a stone chisel and pounding it with a hammer stone (Grant, 1967:12). Many very large petroglyphs have been created in this manner. When petroglyphs are pecked into sandstone or other soft rock it is usually because the technique of pecking was a tradition among the people who created the rock art. The sandstone of the Plains areas was soft enough to be incised or carved easily with a sharp piece of flint or other hard rock. Consequently, most petroglyphs done by Plains Indians were done in this manner.

There are four main concentrations of rock art in North America (Grant, 1967:15). These are in California, the Columbia Plateau, the Great Basin region, and the Southwest. Southwestern Texas and northern Mexico are included in the Southwest. Only nine states, however, have no recorded rock art and all of these are in the extreme South and East. It is not surprising that rock-art sites are not found as frequently in the Plains as in some other areas. The traditional use of hides for Plains Indian art and the scarcity of large areas of rock account for this. Both pictographs and petroglyphs usually occur in most areas, but one form or the other is predominant.

As a whole, petroglyphs are the most common form of rock art in America and appear by the thousands in the Great Basin and the Southwest. The great majority of all rock-art sites are west of the Mississippi River (Ibid:16 & 17), but much more recording and reporting is needed to complete a true picture of distribution. The Four Corners country of the Southwest, Chumash territory in southern California, and the Pecos River area of West Texas contain most of the outstanding examples of polychrome pictographs on this continent.

Styles

Art forms generally evolve from naturalistic, through stylized, to abstract. "Any major deviation from this pattern is usually due to a strong new influence coming from outside" (Grant, 1967:18). Often the abstracted representations become symbols for a certain group of people. Later the meaning of the symbols may be lost and the designs used merely as decorative designs. This pattern of development has been noted all over the world, and for all media. Rock art is no exception. The naturalistic style is used by people who depend on hunting and food gathering as their means of subsistence. When some agriculture is added and people group together in small villages, some leisure time becomes available for further development of art and other cultural advancements. "The finest rock art was developed by Indians at this culture stage" (Ibid: 41). By the time a culture has developed into a sophisticated village or pueblo life-style, better and more convenient surfaces are used for artistic efforts, and with better results. Rock-art styles are often identified with the pottery, kiva wall paintings, ceremonial paraphernalia, and other artistic attributes known to be those of a nearby people. Figures and designs are often simplified, however, as their execution on hard, rough rock surfaces is difficult.

The wide range of styles found in North American rock art can be condensed into eleven generally accepted categories, five for pictographs and six for petroglyphs. This classification is based on the findings of Campbell Grant and expressed in his chapter concerning styles (1967: 18-27). These styles are as follows for pictographs, or painted examples:

1. Naturalistic
2. Naturalistic polychrome
3. Stylized polychrome

4. Abstract polychrome
5. Abstract linear

The remaining six styles are for petroglyphs:

1. Pecked - Naturalistic
2. Pecked - Stylized
3. Pecked - Abstract curvilinear
4. Pecked - Abstract rectilinear
5. Incised - Naturalistic
6. Pit and Groove - Abstract

There are a few instances where color apparently was added to petroglyphs, especially when the body area of a figure was pecked or abraded within the main outline. Polychromes are usually in red, black, white, yellow and brown. Occasionally greens and blues are added. Animal forms tend to remain naturalistic in style even when used in combination with stylized anthropomorphic figures.

Naturalistic monochromatic pictographs are found in regions dominated by a nomadic hunting economy, and are usually simple and rather crude representations of men and animals. The major concentrations are in the lake and river areas of the Northern Woodland, though the style continues westward to the Columbia Fraser Plateau. This style is also found in several areas of Texas, especially in the later art of the Pecos River area of West Texas. Red is the color most frequently used, but black or white appears occasionally in monochromes.

Naturalistic polychrome paintings are found in the Canyon de Chelly, northeastern Arizona, and in an area of eastern New Mexico and western Texas. Those of Arizona are thought to have been done by the Navaho and the others by the Apache tribes.

Incised naturalistic petroglyphs represent the common rock-art style of the Northern Plains in earlier times, and of the Plains culture of historic times.

Pecked naturalistic petroglyphs, especially of mountain sheep, have been recorded in all mountainous regions of the West and in a few Eastern Woodland sites. Animals other than mountain sheep, human figures and some birds are depicted in this manner in basaltic rocks and sandstone.

Painted stylized polychrome rock art is confined to the Southwest, with the best examples found in the Four Corners region. The most characteristic figures are the square-shouldered, triangular-bodied kachina figures and designs used on Anasazi textiles and pottery as well as in pictographs. Many of the figures represent supernatural beings important in religious ceremonials of Puebloan peoples and others influenced by them. Under this general heading, but quite different in appearance, is the Pecos River style of the area around the junction of the Pecos and Rio Grande rivers in West Texas. Val Verde county contains the majority of the shelters and other sites containing this distinctive and internally developed style (Kirkland and Newcomb, 1967:37-80). Many of these figures also represent shamans or other beings involved in religious ceremonials, probably of the mescal bean or peyote nature.

Pecked stylized petroglyphs are found in the Southwest in many of the same areas as the stylized pictographs described above, and containing many of the same design elements. The "shield" figures found throughout the Plains, Southwest and Great Basin are usually done in this manner also. The other area containing examples of pecked stylized rock art is the Northwest. A characteristic design of this area is the human head without an outline and showing only eyebrows, eyes, nose and mouth. Some Eskimo tribes have adopted this style also.

The painted abstract polychrome style of rock art is concentrated in the Santa Barbara-Kern-Tulare region of California.

> Basically simple designs like concentric circles are elaborated in the most extraordinary and diverse ways. The main device is to put multiple outlines of contrasting colors around shapes. There is much use of dotted outline, both by itself and to add complexity to already complex figures. There are many fanciful anthropomorphic and zoomorphic creatures (Grant, 1967:23).

Abstract rectilinear designs are found painted on isolated boulders and in small shelters in the coastal ranges south of Los Angeles. These are in red, and the design elements are mainly zigzags, chevrons, diamonds, and occasionally hand impressions. A few sites along the western edge of the Great Basin have curvilinear designs consisting of concentric circles, rows of short lines, connected circles and bisected circles. The best examples of this style are found near Hermosillo, Mexico.

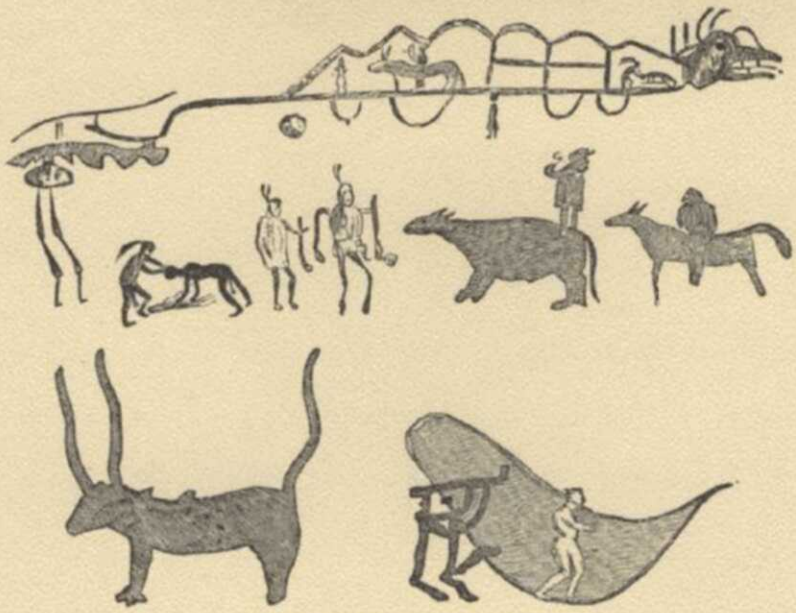
Pecked abstract curvilinear designs are found in the western and eastern parts of the United States and in Mexico. The greatest concentrations of this style of petroglyph, however, are in the Great Basin. A sort of aimless meandering line characterizes this style. Concentric circles, suns, dotted patterns, clusters of circles, etc. are common also. Representations of mountain sheep and of atlatls are often found in association with this pecked style of petroglyph.

Pecked abstract rectilinear drawings are usually found in association with the above curvilinear style in the Great Basin and Southwest. These straight-line elements include rake and ladder shapes, textile designs, grids, various geometric shapes, humans, and bows and arrows. Naturalistic representations of mountain sheep are often found in association with these pecked abstract designs.

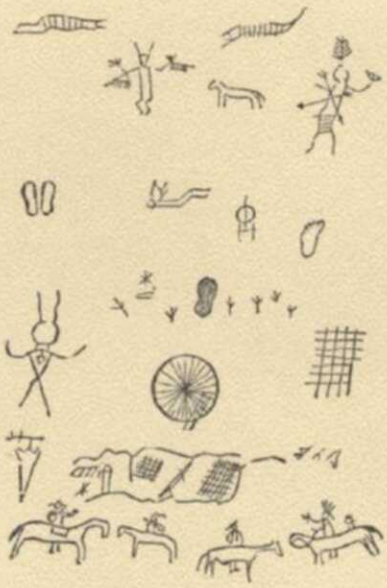
The abstract pit and groove markings lack any feeling of pattern and may not be classified as rock art in the usual sense. They are circular pits, from one to two inches in diameter, and seem to be pecked or worn into the rock at random. Sometimes a groove is worn to connect two or more of these pits, and occasionally other simple design elements are found on surfaces between the pits. This style commonly occurs on isolated large boulders and are thought by some to be a part of certain fertility rites. Sites are most concentrated in west central California, but have been reported on up into Alberta, Canada.

As Texas was inhabited by a wide variety of peoples and was crossed by others going to and from Mexico, many styles of rock art are represented. In the Panhandle, the Rocky Dell site near Adrian is probably the best known and contains a wide variety of pictographs and petroglyphs showing both Pueblo and Plains occupation. The greated plumed serpent, guardian of the water, is thirteen feet long and the most impressive of the figures. This pictograph is attributed to the Pueblo system of mythology. Similar figures are found in many areas of the Southwest. Reports of visits by Pueblo Indians to this large shelter site in the 1850's have been recorded (Kirkland and Newcomb, 1967:203-207). Some of the pictographs and petroglyphs are thought to be prehistoric, while others can be identified as late historic. Plate I is a reproduction of drawings from Whipple's Journal (1886:Part III:Pls. 29 & 30) showing several examples of rock art at Rocky Dell.

According to Newcomb, some of the state's most fascinating historic petroglyphs are located on Mujeres Creek, another tributary of the Canadian River about fifteen miles west of Rocky Dell (Ibid:208). These, as well as petroglyphs at Brown's camp on the Matador Ranch and many in



Pictographs at Rocky Dell creek.



Inscriptions at Rocky Dell creek.

Plate I. Reproduction of Inscriptions at Rocky Dell

(Whipple, et al., 1856:Part III:Pls. 29 & 30). Reproduced by Henry E. Hertner, Chairman, Potter County Historical Survey Committee.

Palo Duro Canyon are incised and naturalistic in style and contain subject matter typical of the Plains culture. A site on Alibates Creek on the Canadian River and near Alibates Flint Quarry contains petroglyphs of the pecked naturalistic style. Many of these sites in the Panhandle were recorded by Kirkland and discussed by Newcomb (1967:203-216).

Though not classified under the usual definitions of rock art, a number of painted pebbles have been found in various caves and shelters in the lower Pecos River country in West Texas. These are smooth, rather flat, stream-worn rocks and would range from 2" to 6" or more in length, according to Kirkland's scale in recording them (Ibid:106-108). Designs are usually of an abstract linear style, but a few shown are stylized depictions of human figures. Black is the color used most often, but red occurs also. Their purpose is not known, but some appear to have been used to stir paint. Three of these stones, along with balls and bits of paint, were found inside one of the medicine bundles removed in excavating rock shelter occupational strata (Butler, 1948:71-74).

Design Motifs

The hand, the bear track, and the thunderbird are found in almost every major rock-art area in North America (Grant, 1967:54). Local variations of style and technique adapt these motifs to suit the traditions of the peoples involved in each locality. The mountain sheep possibly occurs next in range of distribution. The shield figure, the plumed serpent and the humped-back flute player have a more restricted range.

The hand motif was perhaps the earliest to occur, and is found in the paleolithic cave paintings of Spain and France and all other rock-art areas of the world. Positive prints are shown even in early western

and Indian paintings by Catlin, Russell and Remington in the manner of brands on Plains Indian horses, and as painted decorations on the faces and chests of some Indians. This seems to be a natural and universal development not restricted by time or space. Some representations of hands are stylized to the point of abstraction, especially in the art of the Southeast (Fundaburk, 1957:Pls. 38 & 113). Others are printed by the hand itself, often showing evidence of mutilation or loss of fingers. Some positive prints are impressed with white paint on the smoke-blackened walls of various shelters and areas of paint scraped off when dry to give a skeletal or otherwise designed print. Negative hand prints have a wide distribution also. Many appear to have been done by using the hand as a stencil and blowing the paint by mouth to cover the area around it, giving the effect of a modern "air brush" painting (Grant, 1967:54). A. T. Jackson has classified the hand prints found in Texas Indian rock art as follows:

1. Positive prints:
   (a) Impressed
   (b) Impressed and with painted background
   (c) Mutilated and impressed

2. Negative prints:
   (a) Painted background
   (b) Etched or scraped background

3. Limned hands:
   (a) Realistic
   (b) Conventionalized

Jackson's definition of limned hands are those drawn without placing the hand against the wall, or free-hand drawings (1938:376). Most are exaggerated or conventionalized, and even the realistic ones have telltale features proving that they are not actual hand imprints. Conventionalized foot prints are usually found as petroglyphs and do not occur with anywhere near the frequency of hand prints. Several quite exaggerated foot

prints are pecked into dolomite at a site near the Alibates flint quarries in the northern Texas Panhandle (Kirkland and Newcomb, 1967:212 & 213). Plaster casts of some of these are on exhibit in the Panhandle-Plains Historical Museum.

The bear track was used by many North American Indian tribes as a symbol of strength and courage (Grant, 1967:55). No higher badge of courage could be gained by a warrior than a necklace of grizzly bear claws. The grizzly and black bear are widespread in this continent and played a major part in tribal ritual and mythology. Bear tracks appear on shields, clothing and tipis as well as in rock art. They are often in association with shield figures, especially in the Northern Plains. East of the Mississippi the bear track is usually in association with tracks of other animals or birds, and all possibly were depicted in connection with hunting magic.

The plumed or horned serpent is depicted often by native artists of Mexico and Central America as well as by Puebloan artists north of the Rio Grande. They are also found in the art work of the Mississippi culture. Rock art, kiva wall paintings, pottery and ornaments give much importance to this legendary guardian of springs and streams (Ibid:56-58).

The thunderbird is a supernatural being well known in many areas of North America. Its association is with thunderstorms and at times it is depicted with additional lines from its eyes signifying lightning. Rock-art representations of thunderbirds range from naturalistic in the Southwest to highly stylized in the Northwest and Eastern Woodlands (Ibid:58 & 59). Some Plains tribes believed that the thunderstorm was due to a contest between the thunderbird and a huge rattlesnake or water

monster. The Hopi and some other tribes used the motif as a clan symbol.

Rocky Mountain sheep, and others closely related, appear in Indian rock art in all mountainous regions of western North America from British Columbia to northern Mexico. "Styles range from crude scratched drawings on basalt boulders in southeast Oregon to superb life-sized pecked renderings in the Great Basin region of southeastern California" (Grant, 1967:59). A wide range of styles can be found, but they are all naturalistic enough to fall in that general category even when they appear in association with other figures which are highly stylized. Some very old petroglyphs show mountain sheep in association with atlatls, or spear throwers, which preceded the bow and arrow. These animals are usually shown in profile but occasionally just the head is shown full-face. Pecked petroglyphs account for most representations of mountain sheep, but a few pictograph sites in far West Texas have been recorded (Jackson, 1938:402).

Another figure associated with Puebloan mythology is the humped-back flute player and is found in the Southwest from the Four Corners area into northern Mexico. He appears in rock art, on pottery and in dances and is generally known as a symbol of fertility for humans and crops (Ibid:60 & 61).

The shield figure is a design motif identified with the Rocky Mountain region of the Southwest and the Northern Great Plains regions. The drawing technique for these figures is the same as the prevailing rock-art technique of the region. A few even appear in kiva wall paintings of some pueblos. In the Great Plains area, the shield figures are usually crudely incised into soft sandstone. The origin of these figures

and the directions of their diffusion has not yet been determined (Grant, 1967:61-65). Tribes of the Northern Plains did use larger shields at one time than those associated with the horse-oriented Plains culture. Three large buffalo hide shields decorated in abstract designs were found in a cave shelter near Torrey, Utah, and radiocarbon dated as being made between 1650 and 1750, or just prior to the beginning of the Plains culture. Shield drawings at sites of known Anasazi occupation suggest that these Puebloan people were under considerable pressure from warlike newcomers.

The origin of the mysterious "Minoan Maze" design found in Arizona has been discussed by many on a world-wide basis and has been proved variously according to the line of reasoning and theories used. It is an interesting design and intricate enough to raise legitimate questions as to the possibility of its being developed independently in various parts of the world and at widely separated ages of time. This design has been found only at a few sites and none of them is in the Plains area.

A number of curious design conventions appear as details on rock-art figures and are distinctive enough to be traced from one area to another. Some of these are the weeping eye, the heart-line, and the speech motif. These occur occasionally and independently in examples of Plains Indian rock art. The names given these motifs are self explanatory and the details easily recognized when found, but do not occur frequently in this area.

Meaning and Purpose

As stated in Chapter 1 under Delimitations, it is impossible to know the exact meaning or purpose intended by the Indian artist at the

time each of the petroglyphs or pictographs was executed. It is known, however, that the vast majority of aboriginal rock art is of a magico-religious nature in origin. Shamanistic rituals connected with the hunting of deer, antelope, and mountain sheep are widely practiced throughout the Great Basin (Heizer and Baumhoff, 1962:11). Many petroglyphs in that area are not located near sites containing habitational evidences, but have been proved to be on migration routes of the animals which were hunted. It seems that the ceremonial creation and viewing of an image of the animal being sought had much to do with the success of the hunt as far as most aboriginal peoples were concerned (Kirkland, 1938:24). It also seems that animals plentiful in supply were not depicted as often as those which were scarce or elusive. Visions of various animals were often received and the images duplicated in hopes of supernatural powers or protections from these animal spirits (Grant, 1967:29). Many Plains tribes had elaborate systems of associating meanings for good or evil with different animals or birds. These were not necessarily the same for all tribes, but bears usually signified courage. For various reasons having to do with related superstitions, Plains tribes did not eat birds, fish, coyotes and certain other available foods unless driven by extreme hunger.

Puberty and fertility rites are indicated in the rock art of some areas. Tally marks and tribal symbols are also noted in the rock art of some routes to water or salt supplies. Fertility and rain symbols are very important in Puebloan kiva paintings and rock art because of their dependence on corn for food. Many other ceremonially created examples of rock art can be identified with various religious beliefs, including practices and paraphernalia concerning the mescal bean and peyote cults.

Preparations for battles and all other important occasions were marked with ceremonials which often included the creation of rock art.

Many examples of rock art can be identified as records of battles, visits of important persons or the introduction of unusual and impressive objects or customs. Horses are depicted often in Plains Indian rock art because of their importance in all phases of the historic Plains culture. Human figures with hats or other features distinctive of white men, mission churches, flags, guns and other items introduced by whites occur in many areas of Indian rock art.

Chapter 4

ROCK-ART SITES IN PALO DURO CANYON

Nine sites in Palo Duro Canyon will be described in this chapter and accompanied by drawings and photographs. Locations shown, Figure 6 on page 52, are only approximate for the protection of the sites. Additional information is on file in the Anthropology Department of Panhandle-Plains Historical Museum. Three sites are in Randall County and six in Armstrong. An additional site is noted for Armstrong County by Jackson (1938:313) but no records were found pertaining to it.

It is highly probable that many more sites existed in Palo Duro Canyon than could be located now. Protective ledges have broken off and exposed the rock art to deterioration by weather and vandals and the soft sandstone of the canyon is easily eroded. Sites reported in Tule Canyon by early settlers were totally eraced by cattle and other livestock penned in particularly suitable areas (Wilbanks, 1959:12 & 13). The same is probably true concerning sites in the Palo Duro. There may still be sites undiscovered as the rock art is often located in protected and secluded spots and is easily overlooked. Many people do not realize the importance of Indian rock art and may not have reported sites which they discovered. Discovery is often accidental since there seems to be no set pattern as to location. Palo Duro rock art often is near, but not in direct association with, areas of habitation. Many areas showing habitation have no traces of rock art nearby. Two shelters, however, do have rock art and habitational evidences.

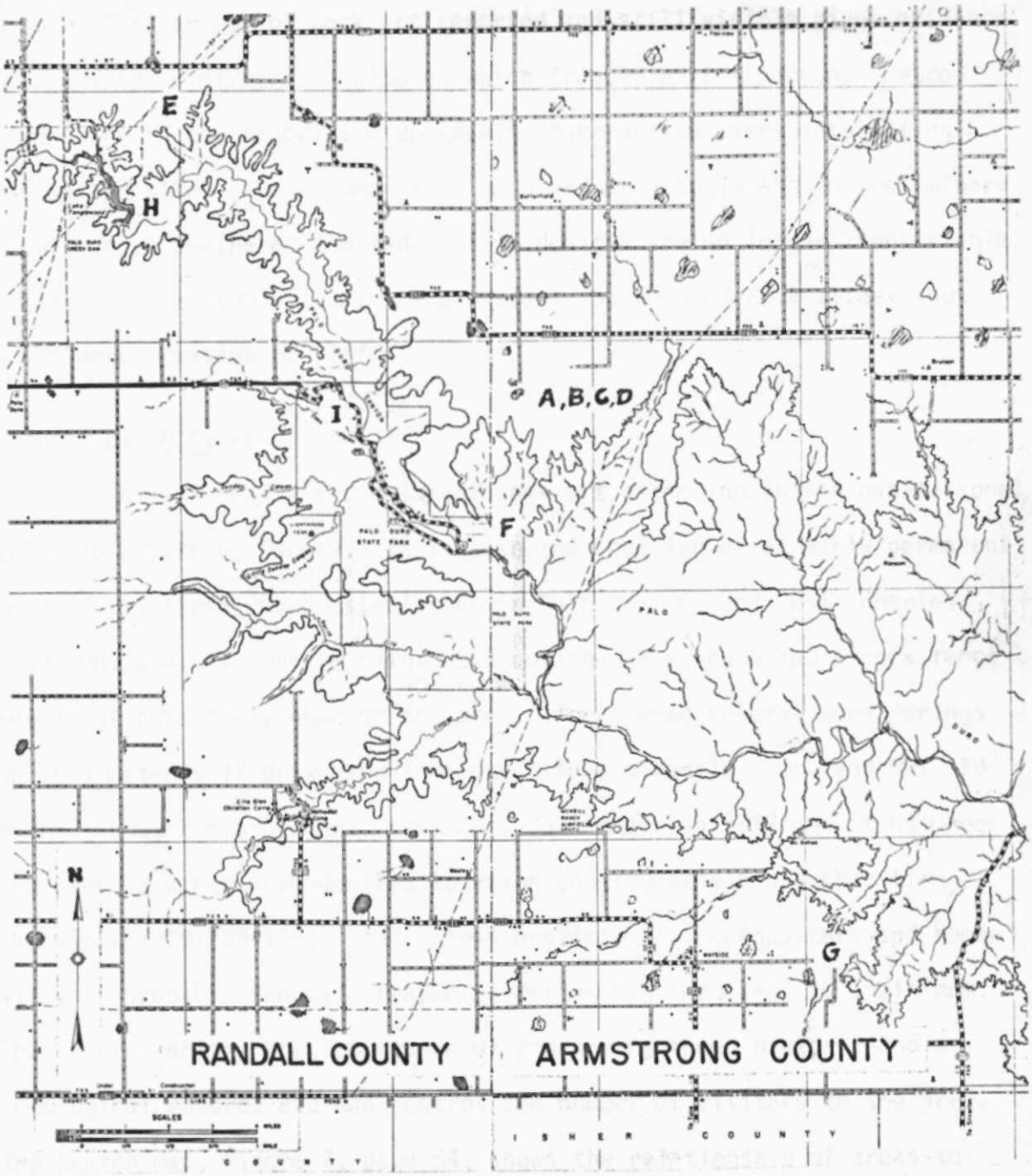


Figure 6. Approximate Location of Sites in Palo Duro Canyon

The variety of rock art reported and still visible gives evidence to a number of different cultures which frequented the canyon. Petroglyphs are in the majority even though there are two very interesting pictograph sites also. Some sites recorded previously and in preliminary reports have weathered and faded until designs are no longer identifiable. Other sites are now virtually inaccessible because of rock slides and other deterioration of cliffs.

Harrell Ranch Sites

This is really a complex of rock-art sites and Indian habitational areas in Armstrong County. It is also the location of an early permanent camp of the first ranch established in Palo Duro Canyon, Col. Charles Goodnight's J. A. Only a faint rock outline of a house and a rock fence remain of this early home of the area. There were several good springs in this network of draws and some still seep steadily. Mr. and Mrs. Ed Harrell bought the property from Mrs. John Adair in 1917 and it has been the Harrell Ranch Headquarters location continuously since that time (Warwick, 1969:173-175). This close proximity to headquarters and homesites is probably the main reason vandalism has been kept to a minimum. The owners realize the importance of preserving these historic and archeological records and can control the number of visitors to the area. The sketch map, Figure 7, page 54, shows the relationship of areas to one another.

Mortar holes in the area, many chips of flint and other debris indicate much habitation over a long period of time. It is known that many tribes were in the area at various times and remnants of several tribes banded together for the last battles before going to reservations. The last battle was in this general area of Palo Duro Canyon in 1874.

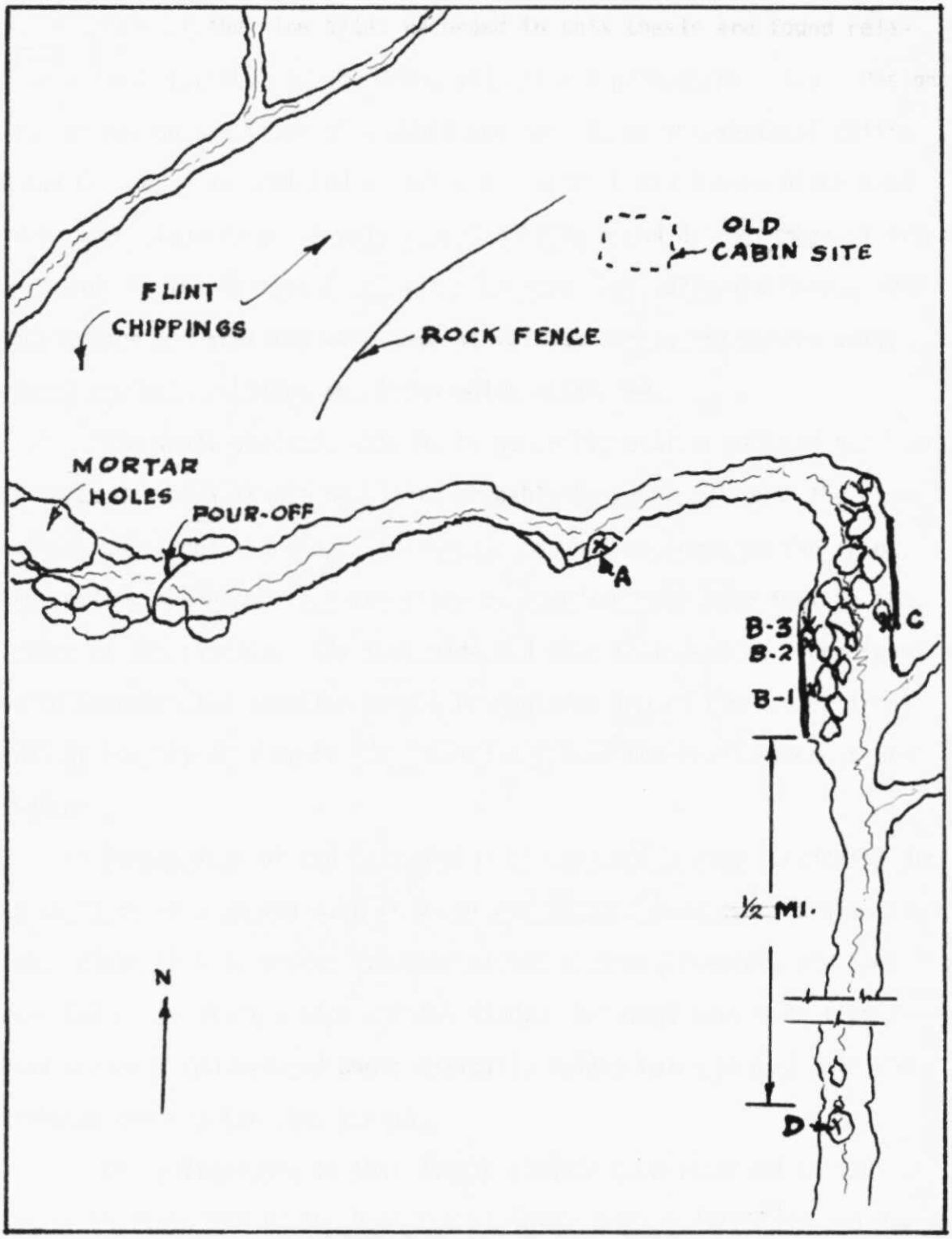


Figure 7. Sketch Map of Harrell Ranch Complex

Four of the nine sites recorded in this thesis are found relatively close together in one draw, and all are petroglyph sites. Designs are incised on the floor of a small shelter, A; on two vertical cliffs, B and C; and on an isolated boulder, D. Sites C and D were discovered while investigating previously reported sites A and B. A number of trips were made to the Harrell Ranch sites between May, 1970, and March, 1972. Photographs and sketches were made at various times, the owners interviewed and some rubbings and latex molds attempted.

The small shelter, site A, is generally oval shaped and has been hollowed out of a sandstone cliff, probably by water action. The floor has a gradual outward slope and forms a convenient apron at the front. The ceiling arches up from the floor to approximately four feet in the center of the opening. Six feet wide and nine feet deep at floor level would describe the interior axes. Petroglyphs are on the center front area of roughly four by five feet with a few on the front apron of the shelter.

Photographs of the petroglyphs here were not very successful due to the lack of a camera with super wide-angle lens and special side lighting. Plate II-b is of the interior of the shelter, however, and some figures can be identified with careful study. Drawings were made from freehand sketches and reduced photostatically before being traced onto the finished drawing for this thesis.

The petroglyphs in this little shelter were recorded in 1941 and appear as Plate 157 in The Rock Art of Texas Indians (Kirkland and Newcomb, 1967:212). Permission to reproduce Kirkland's drawing, Figure 8, page 56, is greatly appreciated and aids in completing records on the site. In comparing this drawing with my more recent one, Plate III, it is easy to

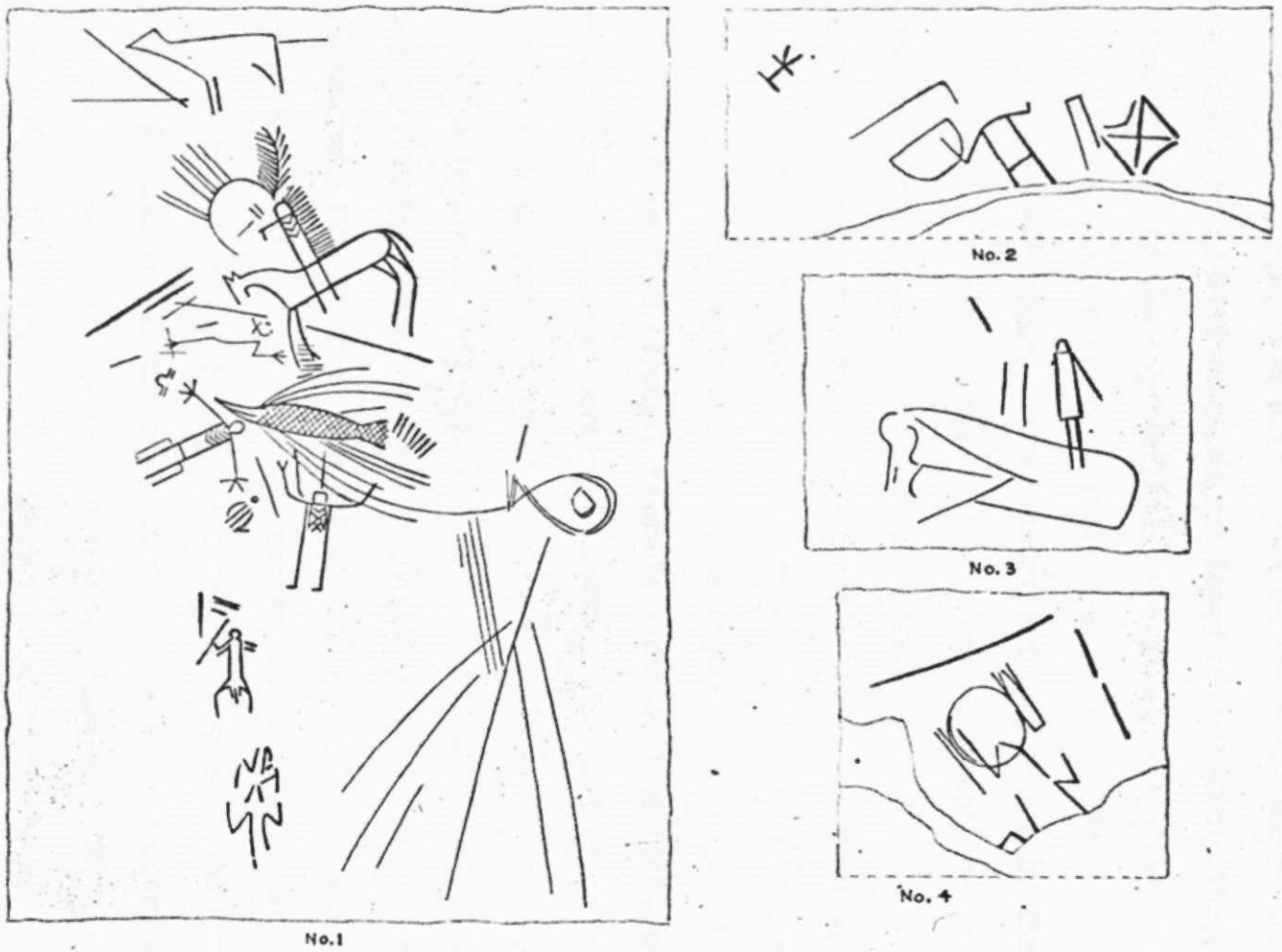


Figure 8. Reproduction of Kirkland's 1941 Drawing of Harrel Ranch Site A (Kirkland and Newcomb, 1967:Pl. 157:p. 212). Permission granted by W. W. Newcomb, Jr.

see that many lightly scratched or incised lines and some deeper ones at the front of the shelter have worn away to the extent they are no longer recognizable. The petroglyphs on the left side of the shelter may have been covered with sand and not found by Kirkland. The conventionalized animal and two intersecting lines at the top of his drawing have been obliterated by a set of initials and a date, 1942.

One human figure can be identified as a shaman by the feather fan and rattle in his hands and other items of paraphernalia known to be used by shamans. Another human figure seems to be in a prone position in relation to the shaman. The decorative fish, referred to by Kirkland as a thunderbird and that identification questioned by Newcomb, could be considered together with the two human figures mentioned. The body, snout and tail of the fish strongly resemble those of a garfish, even though the fins are much longer and more flowing. The jaws of garfish were often used by Wichita Indians in their peyote and mescal ceremonies. The young men being initiated into the cult were scraped with these sharp, jagged jaws to test the degree of their unconsciousness at certain times (Kirkland and Newcomb, 1967:65-75). The debate concerning the relative length of use of the mescal bean versus the peyote cactus is still not settled. Both plants are native to approximately the same area and remains of both have been found in habitational debris with early radiocarbon dates (Campbell, 1958, Amer. Anthro. 60:156-160; Howard, 1957, Amer. Anthro. 59:75-87) claims mescal bean societies pre-date the peyote cults and gives the Wichita tribes credit, along with the Pawnee, for perfecting and diffusing the cult to more northern tribes. LaBarre (1957, Amer. Anthro. 59:708-711) disagrees with Howard on many counts but states that the peyote rite was formulated in the Southern Plains, possibly by Kiowa and

Comanche tribes, before Siouans borrowed it. If this interpretation of the relationship of these three reasonably naturalistic figures is used, it could mean they were done by Wichita tribesmen, or it could mean that the Wichita paraphernalia influenced the ceremonials of other tribes to a great extent. In this area it is more likely that Kiowa or Comanche tribesmen were the artists. Exhibits in the Panhandle-Plains Historical Museum show beaded pouches containing the sacred peyote buttons and other paraphernalia of the cult. These had belonged to Comanche and Kiowa chiefs defeated by Col. Mackenzie's troups in Palo Duro Canyon in 1874.

The vertical marks to the right of the tail of the garfish might concern the number of times the figures were used as a part of ceremonial activities. It is also very possible the original artist had some quite different meaning in mind, or that the figures were not intended as a related composition. They do, however, have the same style of execution and show the same skill of workmanship.

Regardless of the meaning, fish are very rarely depicted by Plains Indians as they were taboo as a food. Another fish is shown in Kirkland's drawing in very light lines which have all disappeared. The crosshatching of the figure referred to as a garfish is similar to that used on a thunderbird and other figures recorded by Kirkland at Paint Rock Springs, southwest of Junction, and in the Pecos River area (Kirkland and Newcomb, 1967:90, 91 & 162). One figure in Kirkland's Plate 114 seems to be the same as one in Jackson's Figure 217 (1938:253). Jackson mentions it as a "hatched and rayed triangle" and as being "like those on a painted buffalo robe captured from Comanches in North Texas in 1860." This robe is shown as Jackson's Plate CCXLI on page 341. The older and more fully developed Pecos River Style of pictographs used many fine lines for

crosshatching, fringe, rain, repeated motifs, etc. (Kirkland and Newcomb, 1967:62 & 63). These may have influenced the later Comanches and other Plains Indians in their hide painting and rock art. Other petroglyphs containing designs of the same general appearance are found at Rocky Dell, Mujare [Mujeres (Whipple, 1886:Part I:37)] Creek and other Panhandle sites (Kirkland and Newcomb, 1967:206-209). The chevron design found on the chest of the figure in prone position and the chief on a horse is also found on male figures depicted in other Plains Indian sites. It is generally considered to be quill or hair-pipe bone breast-plates worn by Comanche, Kiowa and other Plains warriors.

The figure on horseback is evidently that of a chief or mighty warrior, judging from his headgear. If the arrow he is shooting from his bow is aimed at the prong-horn or goat on the left side of the shelter, it could indicate a magico-religious ceremony concerned with a hunt. The semi-circle, dots and lines above the chief's head might have some time relationship while the large arc above the animal may or may not be used in quite the same way. The other figures in this shelter seem a little less related to one another and more vague as to any particular interpretation.

The largest area of identifiable figures is downstream and around a bend from the little shelter and is designated as site B in this complex. It did have an overhanging rock protection which, according to the owners, broke off about ten years or more ago. The main area at this site, B-1, is a vertical sandstone wall roughly 16 feet long and 4 feet high. To the right of it is a smaller, slanted surface, B-3, with figures on it, and two sets of isolated figures, B-2, higher on the rock wall between the two areas. All of these petroglyphs had been chalked

a.

b.

Plate II. Photographs at Harrell Ranch Site A

a. Entrance to little shelter b. Interior of little shelter

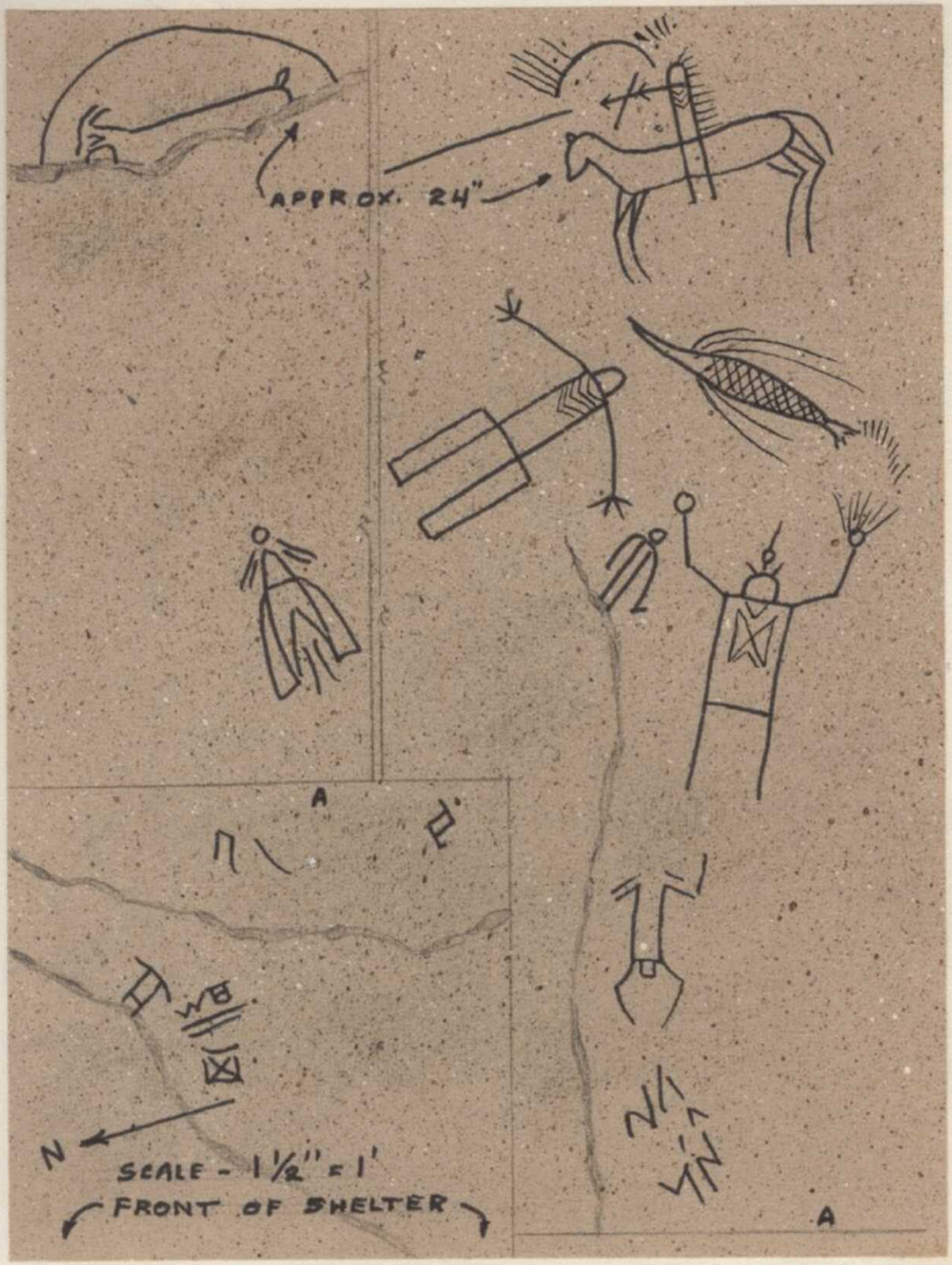


Plate III. Drawing of Petroglyphs at Harrell Ranch Site A

several years ago, but the four isolated figures are the only ones with much chalk left on them. They are more protected by a remaining overhang than the other petroglyphs.

The deposit of dirt, sand and plant growth is rather deep and was not excavated to try to find artifacts. One area under the slanted rock, site B-3, showed that a fire had been built close to the wall. Smoked, hardened clay was found, but only as a natural deposit.

These petroglyphs photographed best in the winter months while the stronger south light gave the incised lines more depth, and shadows from leaves were not a problem. The half shade of late morning gave clearer pictures than the stronger light of early morning. For this site it was easier and more accurate to locate the main figures from slides projected onto tracing paper. Details and less definite figures were added at the site or from photographs of details. The figures were then traced onto the finished drawing.

Most of the figures are clearly and deeply incised into the sandstone wall with a broader tool than was used at the little shelter. They consist of humans, both male and female, a variety of horses of typical Plains rock-art style, turkey tracks, a deer, a few geometric designs or symbols, and an interesting x-ray view of a man in a house, or possibly a floor-plan view of an Indian lodge and attached storeroom. A number of figures overlap others but all appear to be approximately the same age. This group of petroglyphs, Plate VIII, even more than others, gives a feeling of relationship to modern paintings by Kleé and Miró.

Across the stream and higher on the bank is an even larger sandstone cliff with faint lines to indicate it had once been covered with petroglyphs. This is designated as site C and shown on Plates XI and XII.

Large boulders below indicate a tremendous overhang protected it at one time. Three figures are all that can still be identified, however. A large juniper tree has grown in front of them and apparently protected these figures from wind and water erosion, but the branches have rubbed some fan shaped grooves into the cliff. This site photographed best in the strong afternoon sunlight of winter. Two elaborate figures are those of shamans or chiefs and are finely incised with a pointed tool. The third design is larger but less distinct.

One more very faint petroglyph was found during the investigation of the reported Harrell Ranch sites. It is on an isolated boulder in the stream bed about one-half mile downstream from sites B and C. The conventionalized figure is that of a man, site D on Plate X. It is very similar to some at site B and was evidently of the deeply incised type also. It did not photograph acceptably, however.

The presence of horses indicates the rock art in this complex of sites to be historic in age. Renaud (1936:7) states that the more finely incised petroglyphs are of a later historic date than those which are more deeply and broadly incised. This may be true of these sites, or it may be that the more finely incised and more detailed figures were done by artists with more skill and experience than those who did the simpler designs. It would be easy for a novice to imagine these rock-art sites as three meeting places for the men of almost any Plains tribe. The peyote cult could have claimed the isolated little shelter (A) for its secret meetings; with the chiefs and warriors using the once larger and higher shelter (B), and the young men and older boys meeting in the shelter (C) with the more simply done figures.

Most figures in this complex of sites are generally considered naturalistic in intent, but are actually rather conventionalized in style. Five of the human figures are of the square-shouldered type common to the Plains. There are forty-two conventionalized human figures, most of which approach the "stick figure" category. Most of the horses and other animals are long, slender, squarish and lacking in detail. Four horses are mounted, twelve unmounted and there are seven partial or unidentifiable animals. One each of deer, fish, prong-horn or goat are represented also. Design elements representing human workmanship includes one each of projectile, bow, and house or lodge; five feather headdresses; four feather fans or rattles; six chest decorations, and six other fringe or feather decorations. There are also thirteen turkey tracks, five equal arm crosses or X forms and five other geometric or symbolic designs. This makes a total of one hundred twenty design elements still visible at this complex of sites.

Pour-Off Site E

Information on this site, A 370 in the records of the Panhandle-Plains Historical Museum, was obtained from field notes of January 10, 1959, by Dr. Jack T. Hughes; from photographs by Bill R. Harrison, Curator of Anthropology at Panhandle-Plains Historical Museum in Canyon, Texas; from photographs and a sketch by Roberta Currie, amateur archeologist and photographer; and from personal interviews at various times with each of the three informants.

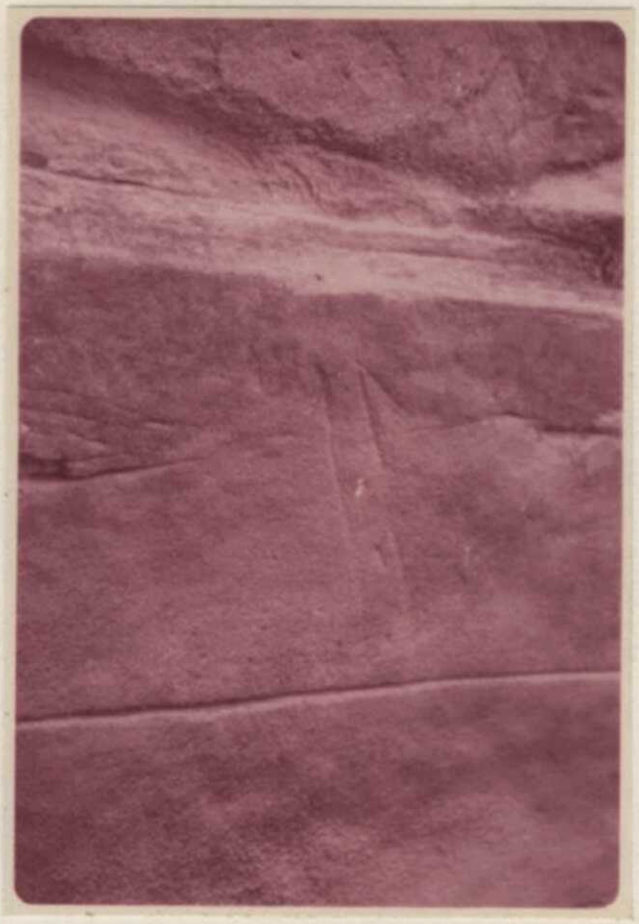
This rock-art site, map location E of Figure 6, is in a Randall County draw of the Palo Duro where pour-off water has formed a huge cauldron-shaped area. A preliminary survey above and below the pour-off shows habitation of the area to have been quite extensive over a very

a.

b.

Plate IV. Photographs at Harrell Ranch Site B-1

a. South end of Site B-1 b. North end of Site B-1 Photographs by Joe Whittington.



a.

b.

Plate V. Photographs of Details at Harrell Ranch Site B-1

Photographs by Joe Whittington.

a.

b.

Plate VI. Photographs of Details at Harrell Ranch Site B-1

Photographs by Joe Whittington.

a.

b.

Plate VII. Photographs of Details at Harrell Ranch Site B-1

Photographs by Joe Whittington.

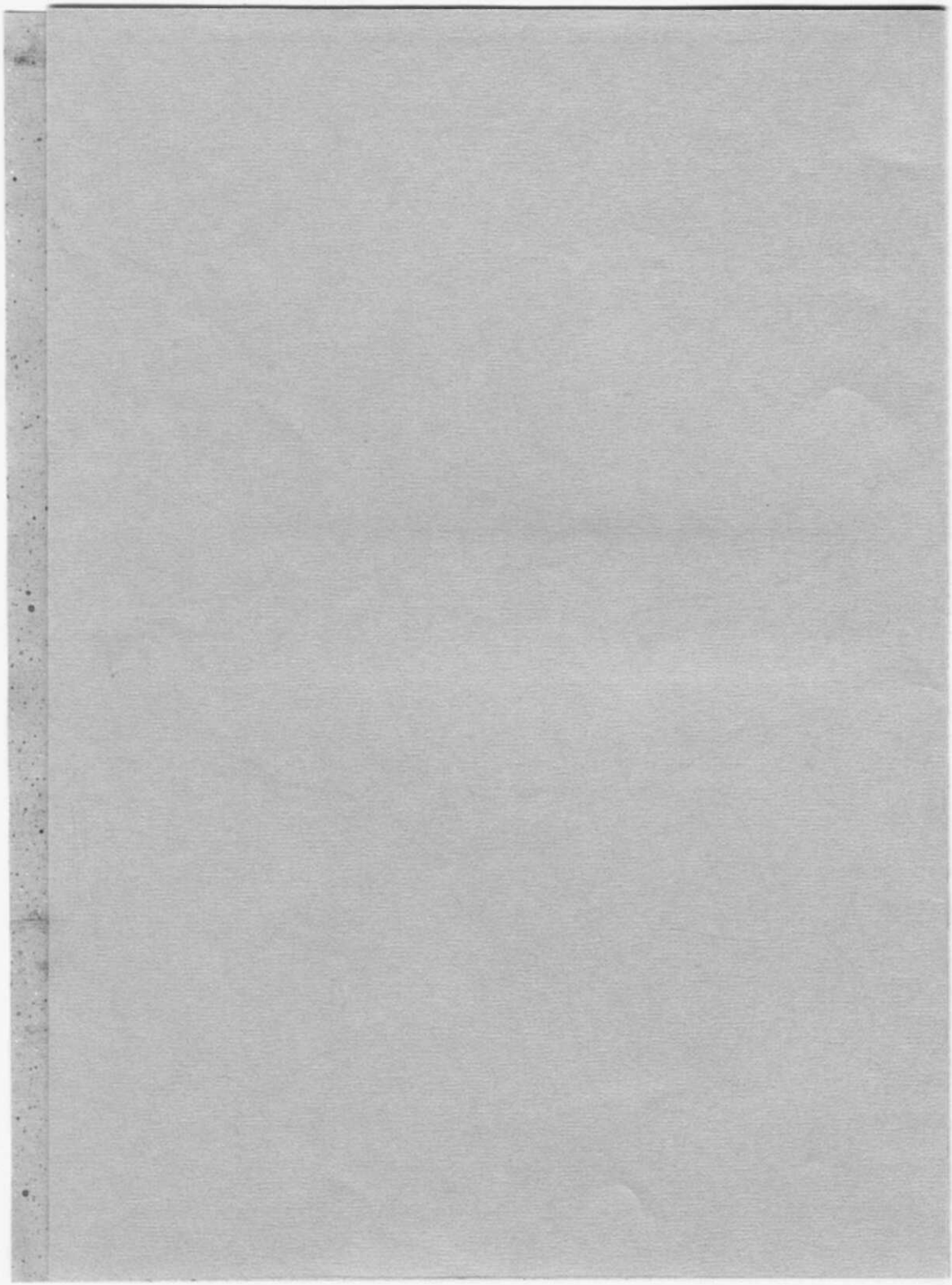


Plate VIII. Drawing of Petroglyphs at Harrell Ranch Site B-1

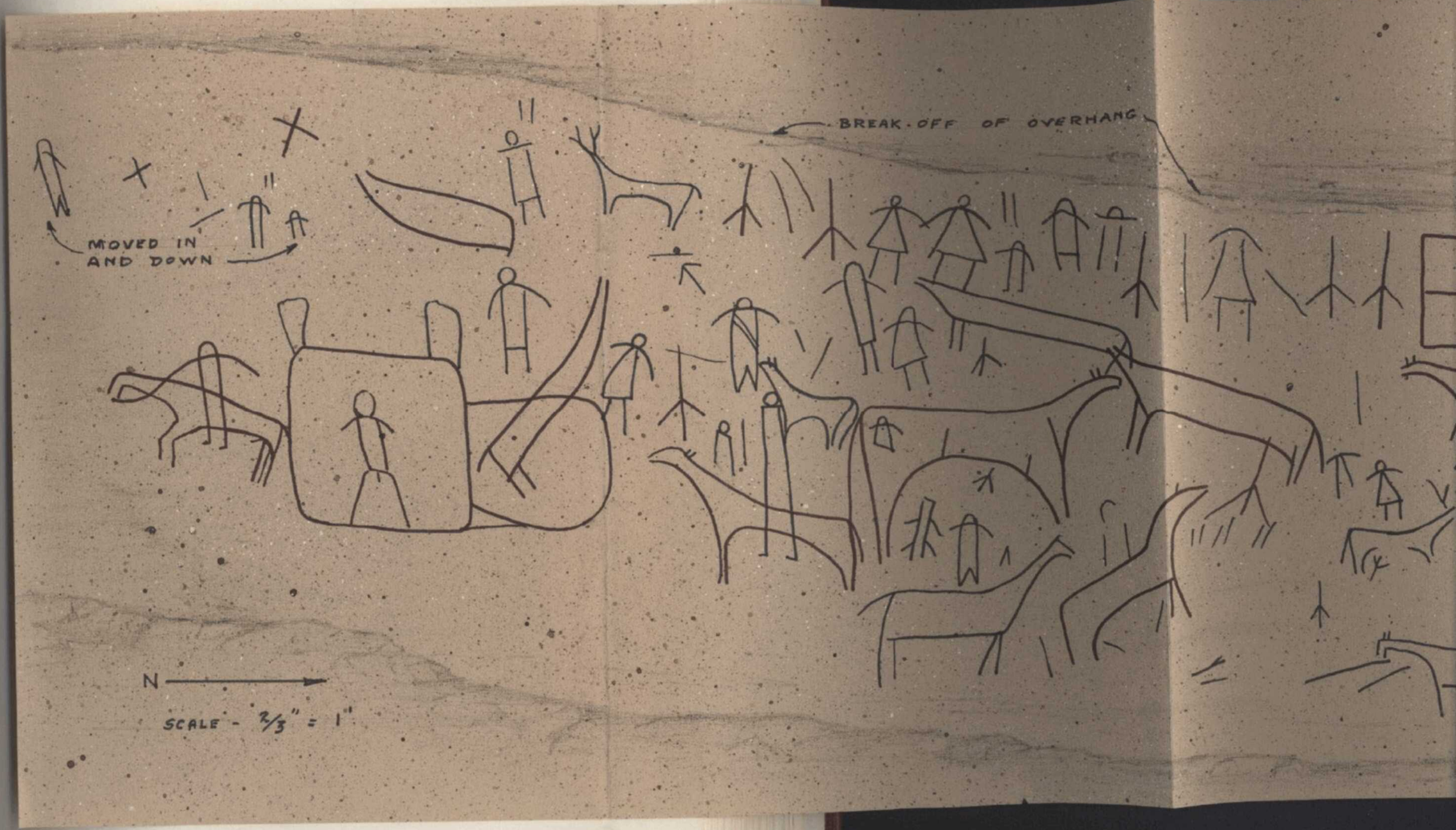
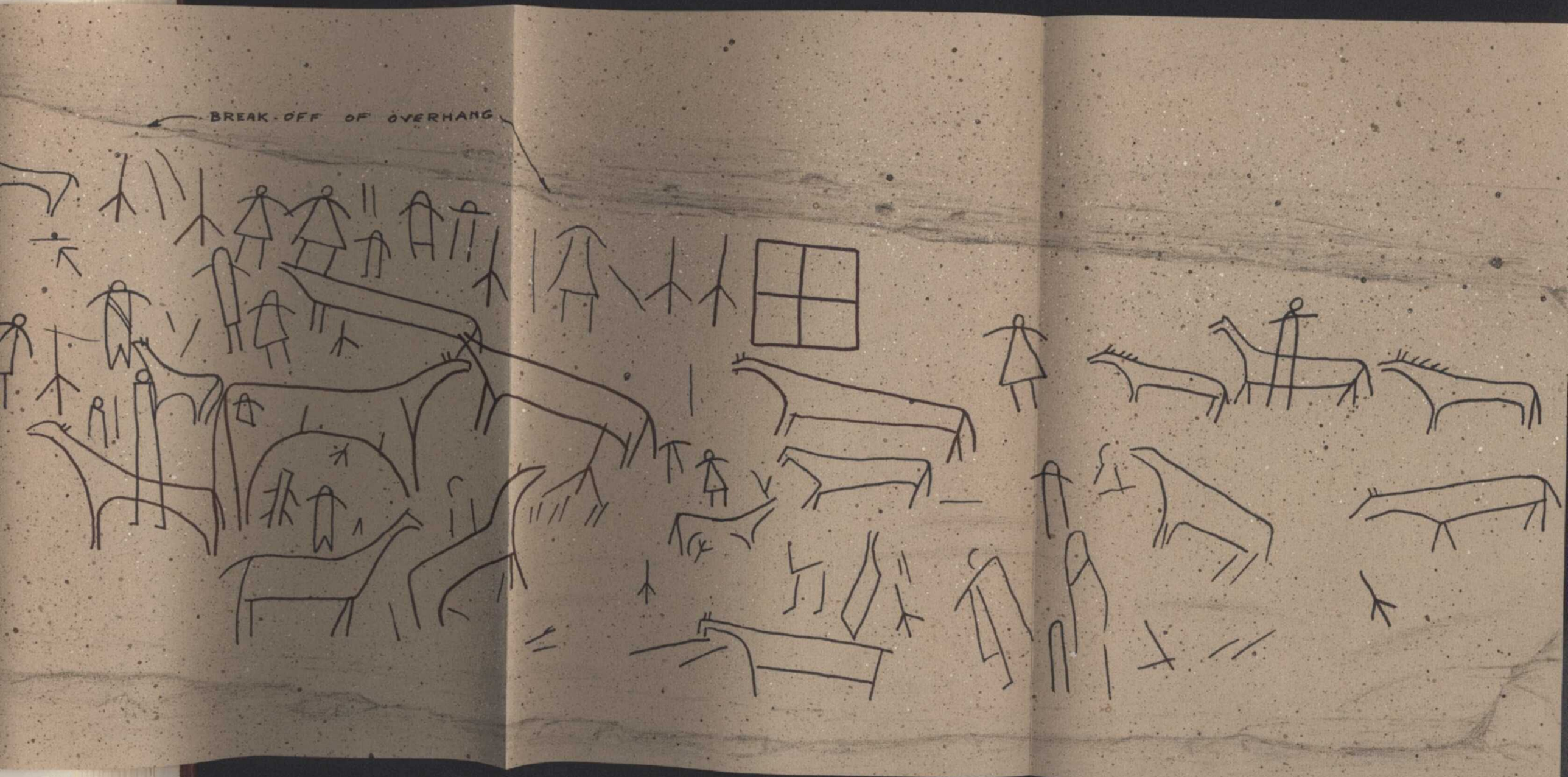
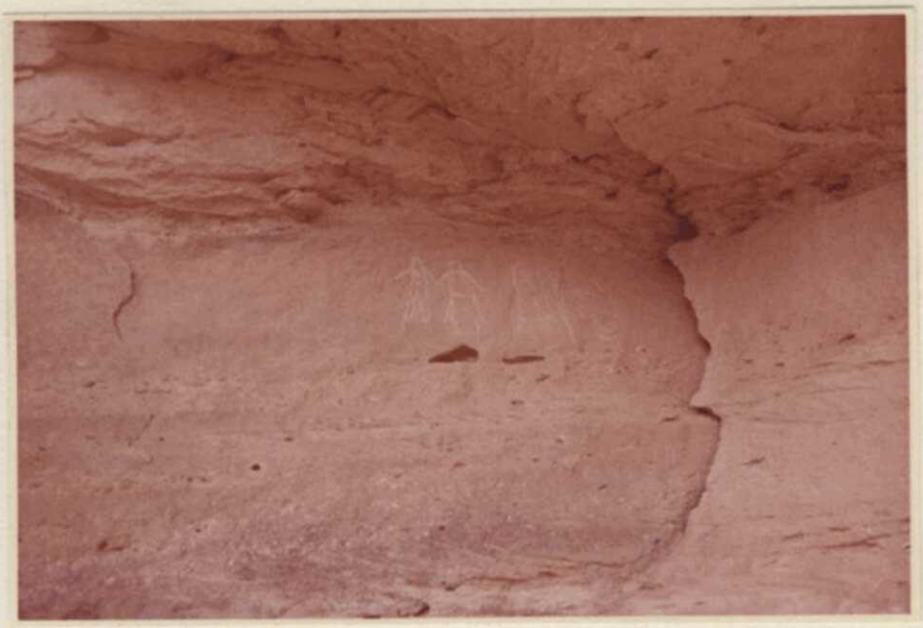


Plate VIII. Drawing of Petroglyphs at Harrell Ranch Site B-1


BREAK-OFF OF OVERHANG



a.

b.

Plate IX. Photographs of Harrell Ranch Sites B-2 and B-3

a. Chalked petroglyphs at Site B-2 b. Petroglyphs at Site B-3
Photographs by Joe Whittington.

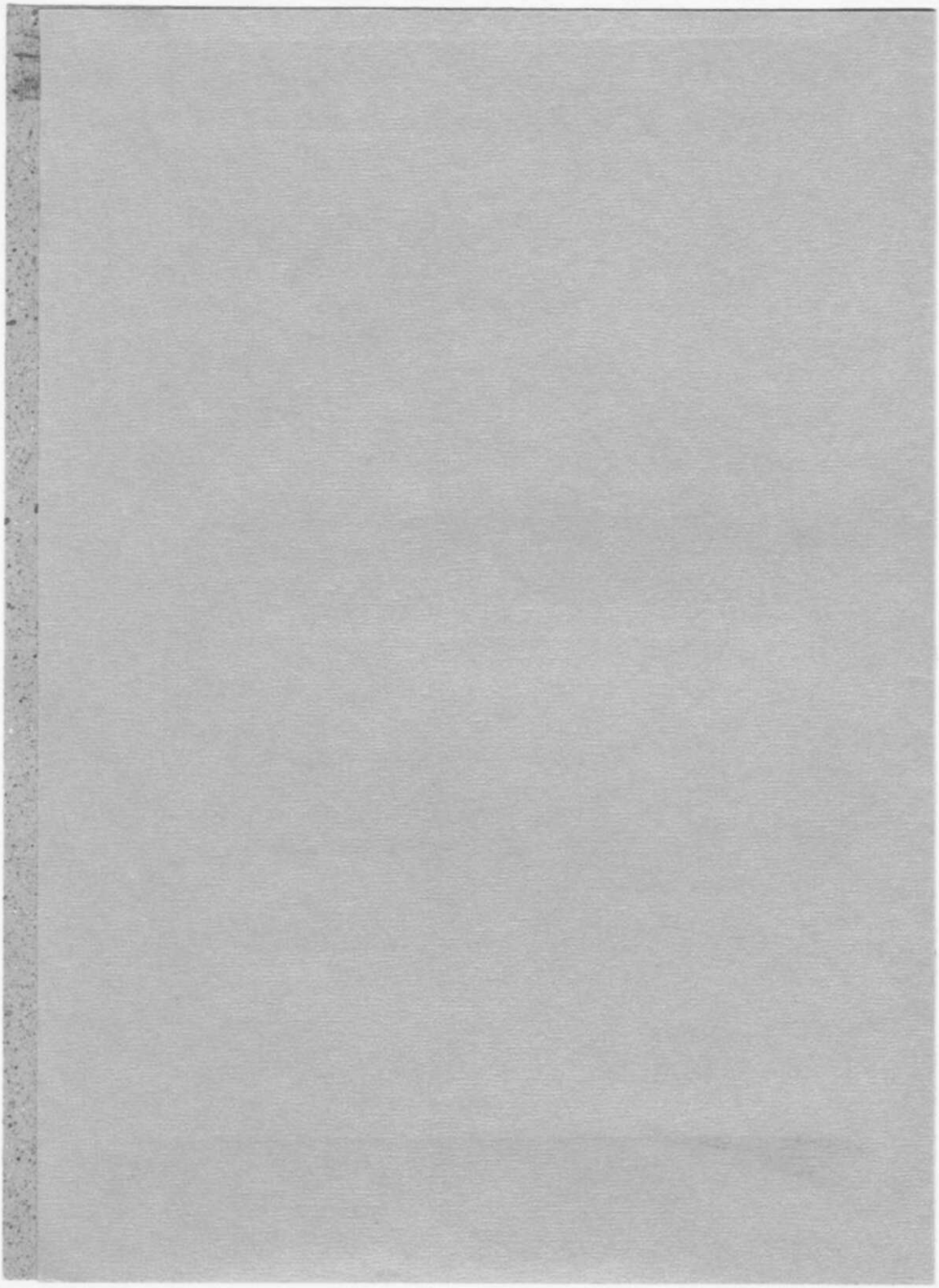


Plate X. Drawing of Petroglyphs at Harrell Ranch Sites B-2, B-3 and D

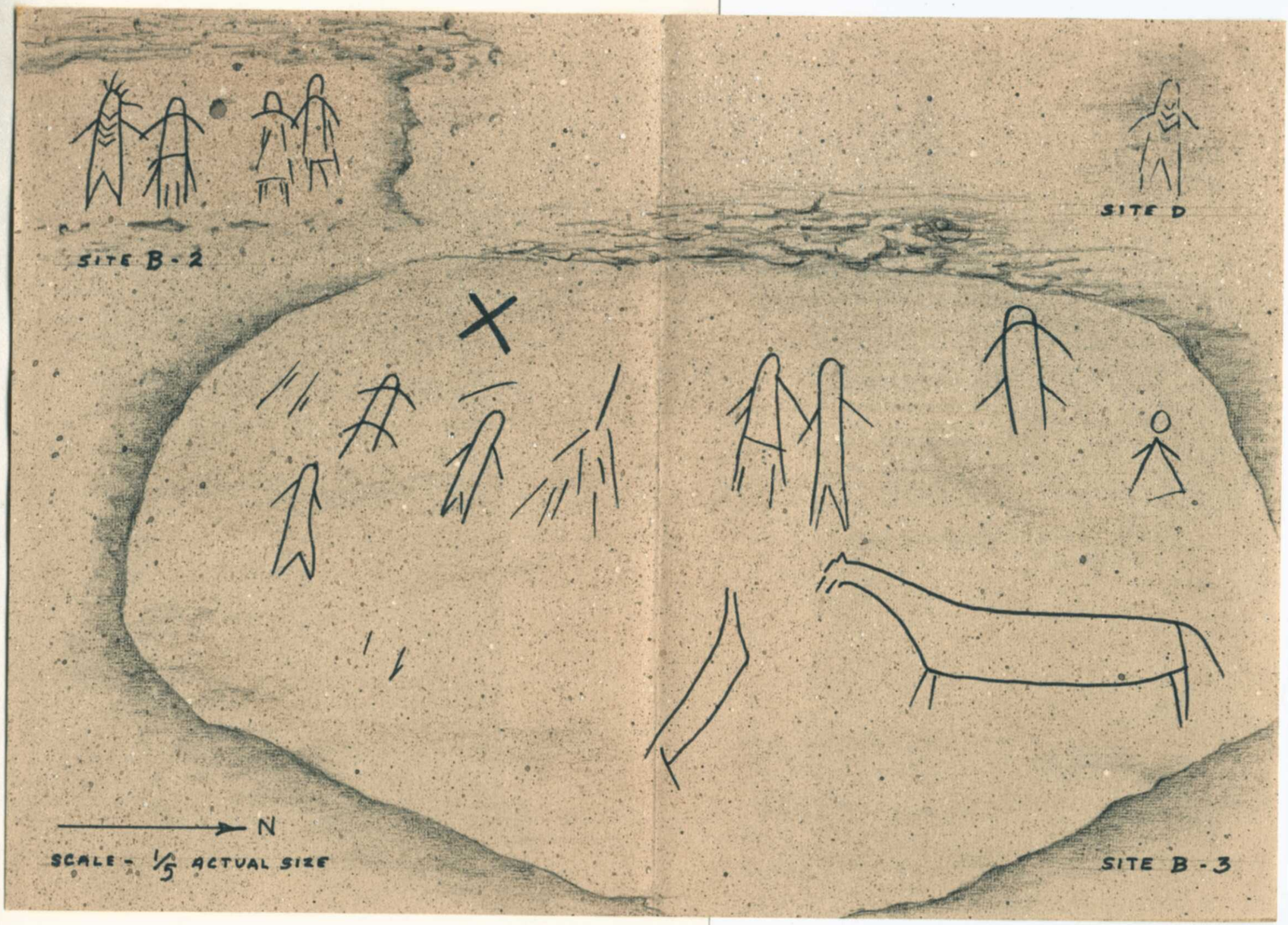


Plate X. Drawing of Petroglyphs at Harrell Ranch Sites B-2, B-3 and D

a.

b.

Plate XI. Photographs at Harrell Ranch Site C

a. Cliff b. Detail of petroglyphs Photographs by Joe Whittington

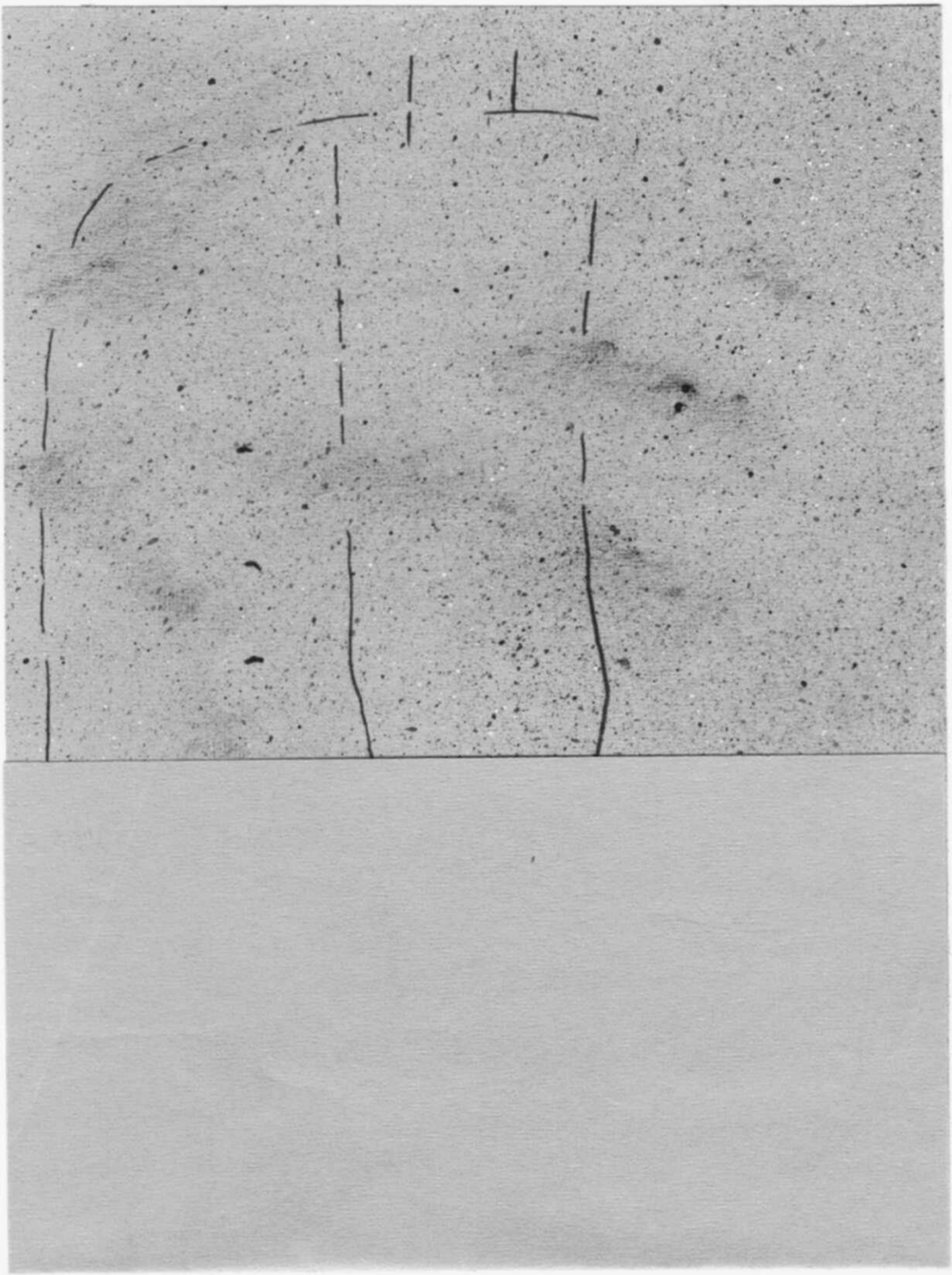


Plate XII. Drawing of Petroglyphs at Harrell Ranch Site C


N
SCALE - 1/2 SIZE

long period of time. Constant seepage under the massive caprock layer maintains a permanent pool of water. At the base of the cliff, and about fifty yards to the southwest, the sandstone slopes sharply back to form a shelter area. The petroglyphs and one area of faded pictographs were found on these rocks. A large rock fall may have destroyed additional Indian art at this site.

Most figures depicted here, Plate XX, are much more representative of the Puebloan style of rock art than that of the Plains Indian style. Many examples of similar figures were recorded by Kirkland at Hueco Tanks near El Paso and some at Rocky Dell near Adrian in Oldham County (Kirkland and Newcomb, 1967:176-207). This Puebloan, or Southwestern, influence is given by Newcomb as being close to the Jornada Branch of the Mogollon civilization (Ibid:173). Some figures recorded at Hueco Tanks can be recognized as the same symbolic representations found on several layers of wall paintings in a square kiva of tremendous Kuaua Pueblo which was excavated near Bernalillo, New Mexico (Dutton, 1936:126-161). This and other square or rectangular kivas were attributed to Mogollon peoples while the round kivas of this pueblo were said to have been used by people of the Anasazi culture (Ibid:19-27). Careful study of pottery sherds and glazes gives 1475-1680 A. D., or until abandonment, as the time of greatest Mogollon occupation at Kuaua Pueblo. It should be remembered that 1680 is the date of the Pueblo Revolt against the Spaniards and a time of general upheaval of Puebloan and other Indians of the entire area. It is also known that Mescalero and other Apache tribes were associated with Pueblo Indians over a long period of time and borrowed many cultural traits from them (Kirkland and Newcomb, 1967: 175-203).

Coronado encountered bands of Querechos, believed to be Apache, along the Canadian River hunting buffalo for their own use and for trade at the pueblos (Bolton, 1949:245-247). Lieutenant A. W. Whipple tells of contact with Teguas Indians from Santo Domingo Pueblo for several days of his journey along the Canadian River in the Texas Panhandle (1856: Part I:33-37). He was surprised at the extent of trade between Puebloan peoples and Plains tribes of this area. Whipple recorded first-hand information given him by these Indians of Tiguex concerning much of the Puebloan style art at Rocky Dell. Figures recorded at Rocky Dell (Whipple, et al., 1856:Part III:36-39; Kirkland and Newcomb, 1967:206-207) do not bear any great resemblance to these at Pour-Off Site E.

It would take concentrated study to give positive identification to any of the figures at this Palo Duro site, if it is at all possible. There does, however, seem to be some similarity between the personage shown as Plate XVI-a, at this site and Figure 113, Yellow Corn Maiden, depicted and described in Sun Father's Way (Dutton, 1963:Pl. XVI:129 & 130). The head shown as Plate XIX-b is thought by Bill Harrison possibly to represent a helmeted Spaniard or an Indian with headdress on. There does seem to be a feather ornament to the back of the rectilinear elements, however. This would suggest an Indian wearing a headdress, perhaps a porcupine roach, as the more likely possibility. The two short lines at eye level may have some significance. Except for Plate XVI-b, which seems to depict a shield with an owl or racoon on it, and an isolated set of deer antlers or possibly plant forms, the figures are all human in form. Plate XVII-a may represent a head mask rather than a person or personage. An element of humor seems present in several expressions or attitudes of the figures. Most of these petroglyphs are deeply

and broadly incised into sandstone, and are basically naturalistic. Lack of horses and other European objects could indicate prehistoric date. Broadly incised lines, however, are said to be of the early historic period (Renaud, 1936:7). Fragments of pictographs found on one area near ground level are too faded to define any designs.

Design elements at Site E include thirteen human representations, six of them only partial or very dim. Of the human elements, there were two with arms upraised; one, or possibly two, with arms akimbo; two possible phallic representations; and two with heads only, and one of these may represent a head mask rather than a person or personage. Human workmanship includes one shield with design; four headdresses; possibly three masks; three body decorations, and two tassels on clothing.

Giant Boulder Site F

This site is near the Armstrong-Randall line but is in Armstrong County and is several miles downstream from Pour-Off Site E. The site number given this location in Panhandle-Plains Museum records is A 670. Field notes of February 2, 1968, by Dr. Jack T. Hughes and including a report by artist James Ivy Edwards, interviews with Bill Harrison and a trip to the site comprise the basic sources of information for this pictograph site. This is possibly Jackson's site No. 164 (1938:314) reported to him by Floyd V. Studer as being in Randall County, but in Palo Duro Canyon State Park. No drawings were given and no information could be found in the Studer files in Panhandle-Plains Historical Museum Library.

These pictographs are at the base of a huge, flat, sloping boulder with a protective overhang on the south side of it. Pairie Dog Town Fork of the Red River and the normally dry streambed of a canyon draw have created a rather smooth, triangular divide with a large area of

a.

b.

Plate XIII. Photographs of Pour-Off Site E

a. Shelter area at base of cliff is almost hidden by trees b. Looking out from Site E Photographs by Bill Harrison.

a.

b.

Plate XIV. Photographs at Pour-Off Site E

a. Kim Taylor inspecting site b. Roberta Currie Sketching petroglyphs Photographs by Bill Harrison.

a.

b.

Plate XV. Photographs of Details at Pour-Off Site E

Photographs by Bill Harrison

a.

b.

Plate XVI. Photographs of Details at Pour-Off Site E

Photographs by Roberta Currie.

a.

b.

Plate XVII. Photographs of Details at Pour-Off Site E

Photographs by Roberta Currie.

a.

b.

Plate XVIII. Photographs at Pour-Off Site E

a. Detail of eroded petroglyph Photograph by Bill Harrison.
b. Bill Harrison making rubbings Photograph by Roberta Currie.

a.

b.

Plate XIX. Photographs of Details of Pour-Off Site E

Photographs by Roberta Currie.

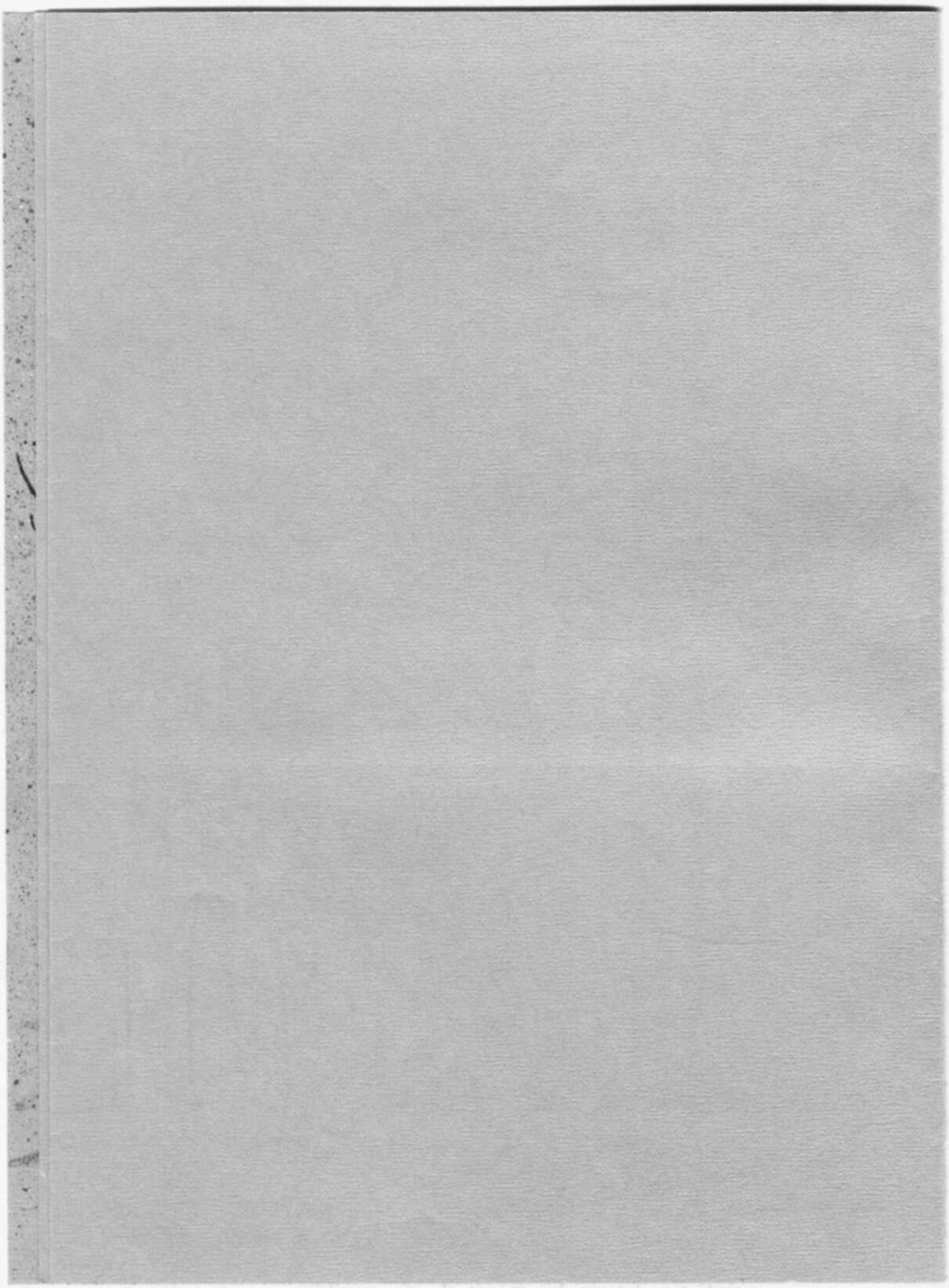


Plate XX. Drawing of Petroglyphs at Pour-Off Site E

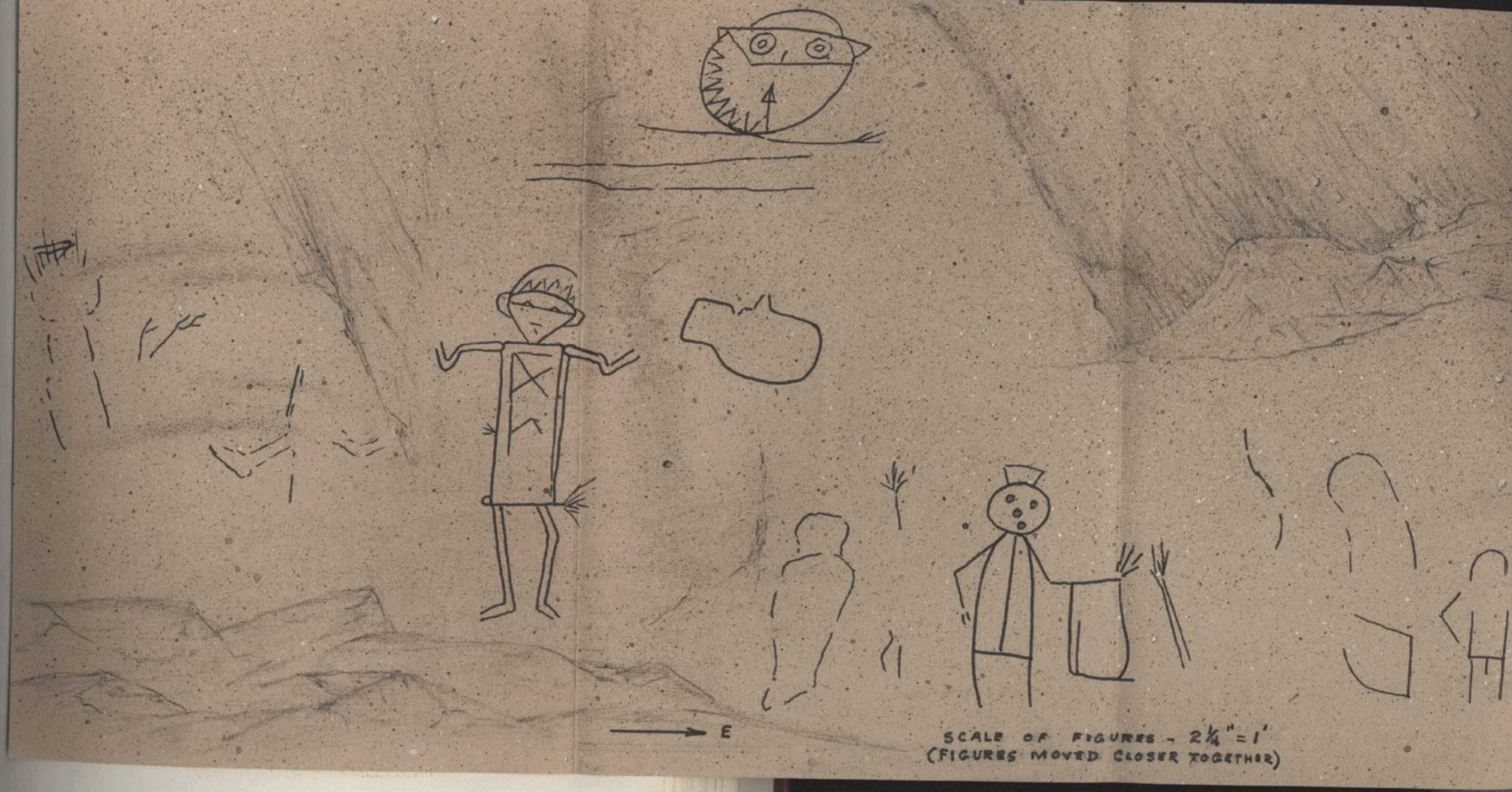
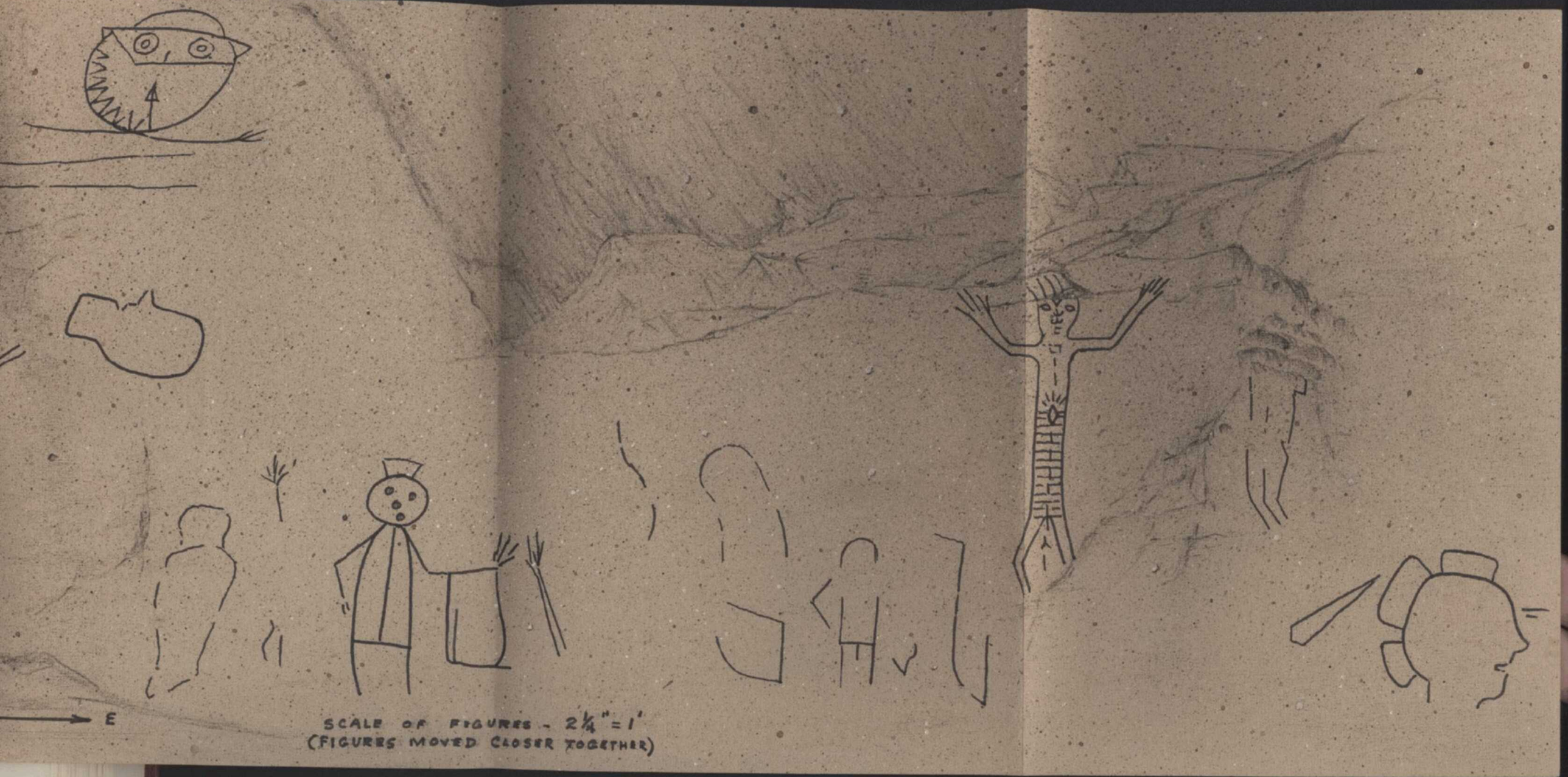


Plate XX. Drawing of Petroglyphs at Pour-Off Site E



E

SCALE OF FIGURES - 2¼" = 1'
(FIGURES MOVED CLOSER TOGETHER)

boulders leading up toward the canyon wall. The site is one of the first huge boulders at the lower edge of this area. The mortar holes and flint chippings shown on the sketch map, Figure 9, page 86, were not found by this writer, but their existence was verified by Mr. Harrison. Habitation, but not of an extensive nature, had been near the site.

The majority of this boulder is composed of porous material which is quite unsuitable for paintings. At the bottom is a stratum of hard, dense sandstone and several pictographs in red are on a triangular block. A solid area, or possibly several figures, seems to have been painted in red on a flat projection to the left of the identifiable figures. The area and several figures on the triangular block are too faded to delineate. Edwards indicated another faded figure above the triangular stone, but no trace of that pictograph remains. This site is very near public recreation areas, but is remarkably free of signs of vandalism.

> The first figure on the left is 13 5/8" tall and faces the right and has a decided hump to the back of the figure. The legs and feet are very light and much of the surface of the rock shows through but they are still distinguishable. . . . We speculated that the figure might have been animal (wolf or bear) or possibly a person dressed in animal skin, . . . (Edwards, 1968:3).

This is a very accurate description of the figure. However, it seems more probable that this is a depiction of the humped-back flute player which appears often in Puebloan influenced art of all kinds and is important in fertility rites (Grant, 1967:60 & 61). He is shown in many styles from light, dancing figures on Hohokam and Anasazi pottery (Covarrubias, 1954:221) to exaggerated phallic representations in rock art (Steward, 1936:415; Kirkland and Newcomb, 1967:179).

The second figure described by Edwards is "a quarter circle with two ears or flaps on the outside of the arc" and the third figure "a

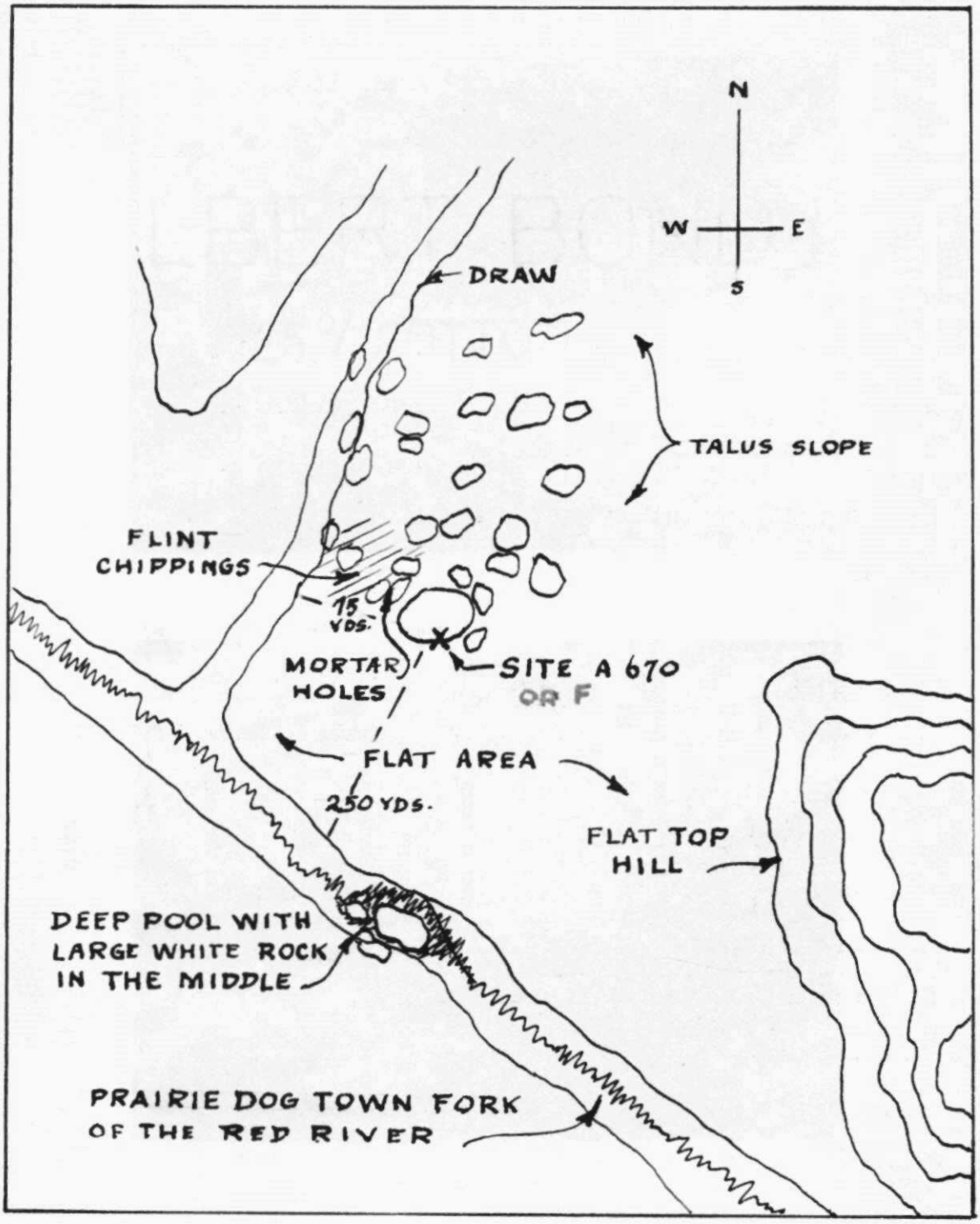


Figure 9. Sketch Map of Giant Boulder Site F

a.

b.

Plate XXI. Photographs at Giant Boulder Site F

a. Boulder b. Detail of pictographs at base of Giant Boulder

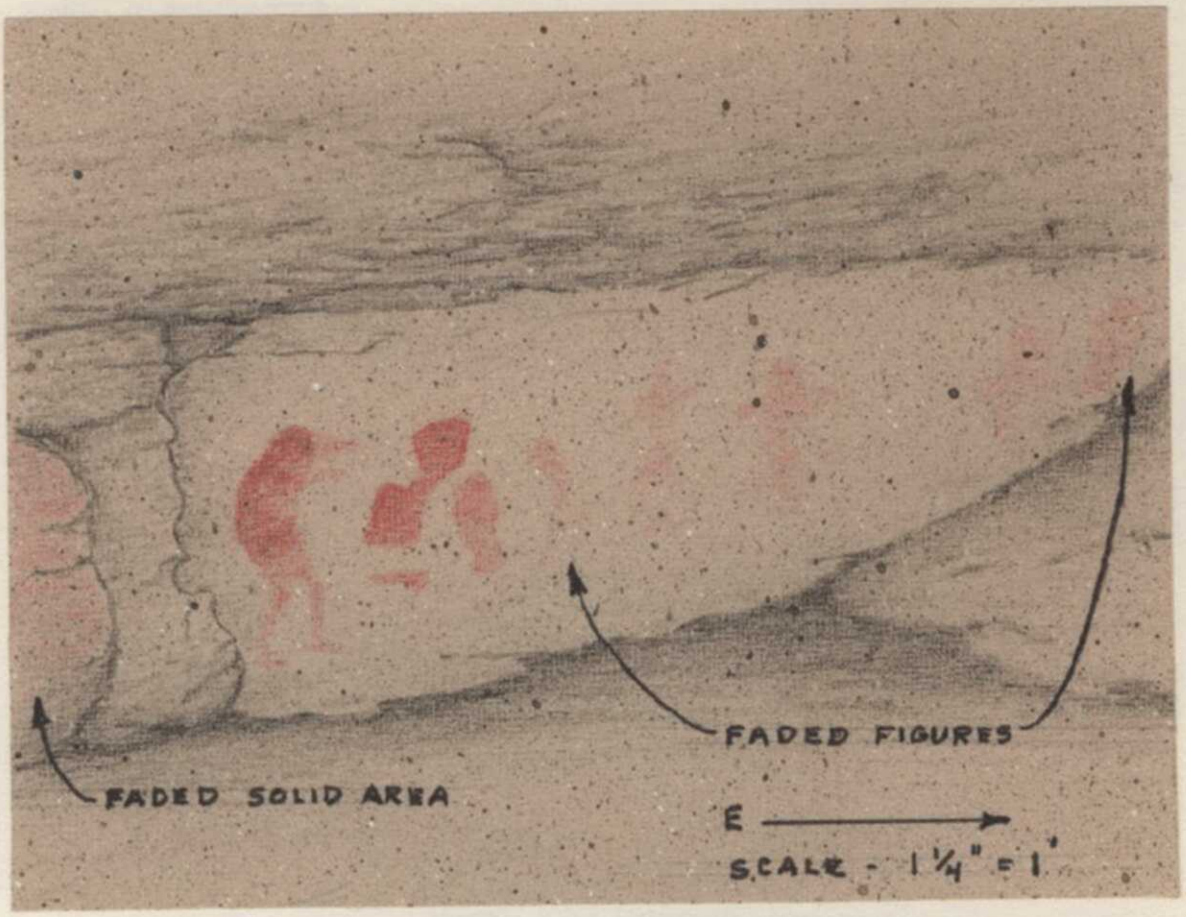


Plate XXII. Drawing of Pictographs at Giant Boulder Site F

moccasin print approximately 7 3/4" long." If these two figures are considered together, they may be a face, instead of a moccasin print, and a headdress similar to that on a petroglyph at Pour-Off Site E. Plates XXI and XXII are of this pictograph site.

Opal Cave Site G

This Armstrong County site is called Opal Cave by those who are familiar with it because of the beautiful common opal there. A 174 is the site number assigned this shelter in Panhandle-Plains Historical Museum records. Field notes by Dr. Jack T. Hughes, dated November 11, 1954, drawings by Clarence Kincaid, Jr., now Dr. Kincaid of Texas Tech University Art Department, interviews with Bill Harrison and a trip to the site furnished needed information.

Where the draw spills off the Caprock, a considerable north-south stretch of hard rock is bared and undercut to form a roomy shelter. It is boxed by cliffs except on the east, with great boulders in the bottom of the ravine. The shelter is dry and has an outward sloping dirt floor. A little pool of water was among the boulders. When the cave was excavated in 1957, artifacts found were mostly of the Panhandle Aspect variety and indicated the shelter was used mainly for over-night or hunting trip duration rather than for more permanent quarters. The roof is approximately ten feet above the present floor level.

The pictographs are on the ceiling about the center of the back part of the shelter. Drawings were made by Kincaid before the excavating was done, according to Harrison. The negative handprint in black with limned handprint in bright orange is of a style known to have been used often by Comanche tribes (Harrison, 1972:Interview). The oxide paint seems to be of a different composition than that used at Giant Boulder

Site F as it has a definite sheen to it and flecks of matter in it. The difference in the hardness and color of the rock surface could be a factor. The black pigment has the appearance of being "smoked on" rather than painted or sprayed on. It is used in a more controlled manner than seems possible if it were actually applied as smoke and is more permanent.

Most unusual is the beautifully drawn and rendered likeness of a Spanish bull, or possibly a buffalo with a longer than usual tail and a less pronounced hump. It has more similarity to the recorded cave paintings of Europe than to most rock art of American Indians. The shading of this animal does not appear to be accidental even though that is a possibility. Plains Indian artists traditionally used the convention of flat areas of color and did not attempt to achieve a third dimension even when the more convenient materials of white invention were obtained (Petersen, 1971:15-27). The ability of individual artists and the breaking from strict conventions in late historic times accounts for exceptions (Ibid:Pl. 15). This Palo Duro pictograph may have been another exception.

The same type of black pigment was used for the linear figures to the right of the animal. These seem to include a shield on a tripod and a person holding a spear and shield. This is not a typical shield figure found at some Plains sites, however.

Design elements at Opal Cave pictograph site are the one polychrome hand print in black and orange, and combining a negative and a limned print; one small human figure; one animal, either Spanish bull or buffalo; a spear; two shields, one on a tripod or with long decorations; and one small unidentified linear design. Except for the hand print all are monochrome pictographs in black.

a.

b.

Plate XXIII. Photographs at Opal Cave Site G

a. Looking southwest at Site G b. Interior from entrance

Plate XXIV. Photograph of Pictographs at Opal Cave Site G

Plate XXV. Drawing of Pictographs at Opal Cave Site G

Evidences of style, workmanship and condition indicate these are historic pictographs and not associated with the earlier Panhandle Aspect artifacts found in excavating. Plates XXIII, XXIV and XXV are of Opal Cave Site G.

Cliff Shelter Site H

Information for this Randall County site, designated as Site A 178 in Panhandle-Plains Historical Museum records, is from field notes by Dr. Jack T. Hughes dated February 26, 1955; August 16, 1960; May 30, 1961; and August 5, 1961; from a slide lecture, February 18, 1971, by Mr. Dick Carter, current president of the Panhandle Archeological Society; personal interviews with Dr. Hughes, Mr. Carter and Mr. Bill Harrison at various times.

From below, this shelter in a south-facing, massive sandstone cliff appears to be not much more than a large crack. It is about ten feet or more high along the opening, some twenty feet deep, one hundred feet long and quite roomy. The shelter is in a highly defensible place and has some steps carved into a steeply sloping part of the cliff, leading from the ledge up toward the cliff rim at the same place the ledge could be ascended from below. Access to the shelter is very difficult now due to further deterioration of the cliff.

Both old and new rock falls are scattered over the shelter floor, with pockets of very dry, loose sand and debris surrounding them. Some of the older slabs have a worn appearance. Two of them have numerous metate-like grooves, or "sharpening grooves," about 4 inches wide, 8 to 10 inches long and an inch or so deep and show clearly in the photograph of the shelter interior, Plate XXVI-c. The shelter is in an area of Randall County which was open to the public for many years. Names, initials,

and dates are carved and painted on the roof and on the floor slabs. Some Indian rock art was visible on exposed surfaces in 1955 and mentioned again by Dr. Hughes in his report of August 5, 1961. They were dim and difficult to delineate, however, and were not found by Dick Carter nor Bill Harrison when the shelter was excavated in the summer of 1961. Most habitational layers had been thoroughly disturbed and most relics removed by vandals. The artifacts and plant fibers which were found proved habitation of the shelter over a long period of time. Dr. Hughes states,

> This is doubtless the "basket-maker" shelter mentioned to me [Hughes] by Studer, since it is the only place I've heard of so far in this region having perishable Indian materials, and [the owner] mentioned Studer's referring to the site in this way (1955:6).

The only identifiable rock art found and recorded was one petroglyph on the sandstone floor toward the back of the shelter under a thick layer of sand. This crudely done human figure, Plate XXVI-b and Plate XXVIII, Site H, is broadly incised and is similar to one recorded at the "Castle Garden" site in Colorado by Renaud (1936:Pl. 8). A deer and individual symbols in this group of petroglyphs also show sexual representation and exaggeration. Plates 9 and 10 of Renaud's report show other figures at the same site which may have been important in fertility rites. Shoshone or Arapaho are given as the possible artists. Some of these Colorado petroglyphs may have been prehistoric (Ibid:14-16). The arms and hands of the Randall County figure are of a different style than is shown for the Colorado petroglyphs, but the figures as a whole are similar. Since the layers of habitational debris at Cliff Shelter Site H had been so disturbed, and no historic subject matter shown, there is no positive evidence as to the age of this petroglyph. Broadly incised lines

might indicate an early historic age for this figure which is naturalistic in intent (Renaud, 1936:7).

Sad Monkey Site I

Much publicity has been given this very deeply incised, almost sculptured and badly weathered, representation of a Plains Indian chief. Picture post cards of Palo Duro State Park, lectures on Sad Monkey Railroad trips and a geologic guide book (Matthews, 1969:6) state that "it is believed to have been carved by Indians." This is, of course, a possibility. The probability, however, seems greater that someone in the Civilian Conservation Corps was the artist. The CCC built the road into the park and made other improvements prior to the opening of the State Park (Ibid:7 & 8). The boulder on which this Indian is carved is suspiciously convenient to Sad Monkey Railroad and is not in a location where one would expect to find Indian rock art. The style of the work is not typical of the Plains Indians. Plates XXVII and XXVIII, Site I, show this rock carving.

Unknown Armstrong County Petroglyph Site

Jackson (1938:312-314) shows an additional petroglyph site for Armstrong County and gives it site No. 165. It was reported to him by Floyd V. Studer but no information on it is in the Studer files in the Panhandle-Plains Historical Museum Library. Dr. Hughes and Mr. Harrison lack any knowledge of the site and are unfamiliar with the designs in Figure 10, page 97 traced from Jackson's Figure 263 (p. 313).

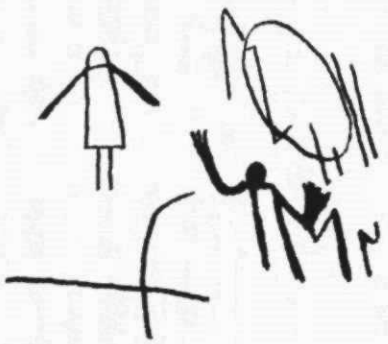
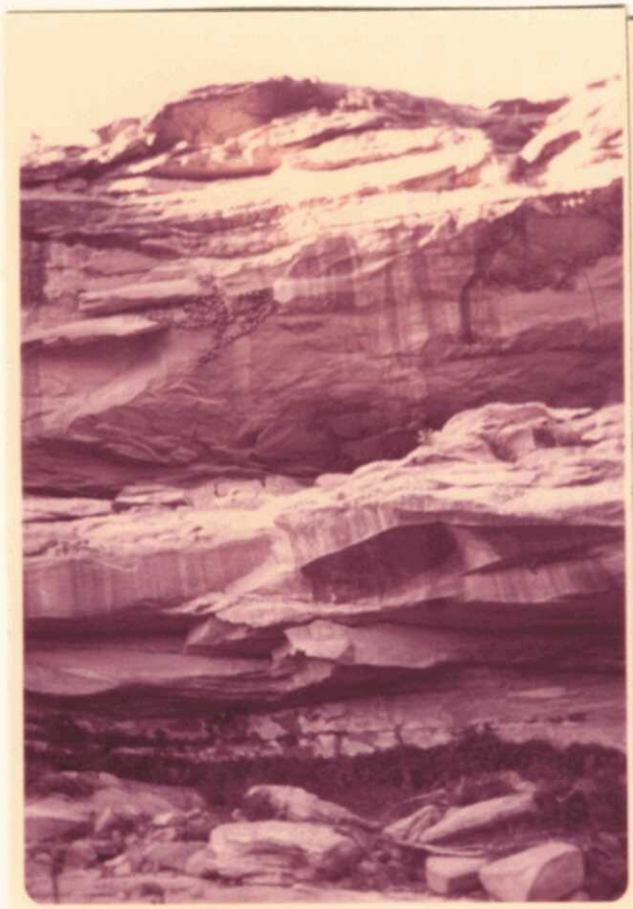


Figure 10. Designs at Unknown Armstrong County Petroglyph Site



a.

b.

c.

Plate XXVI. Photographs of Cliff Shelter Site H

a. Opening is near center of photograph b. Petroglyph on floor
c. Interior Photographs by Dick Carter.

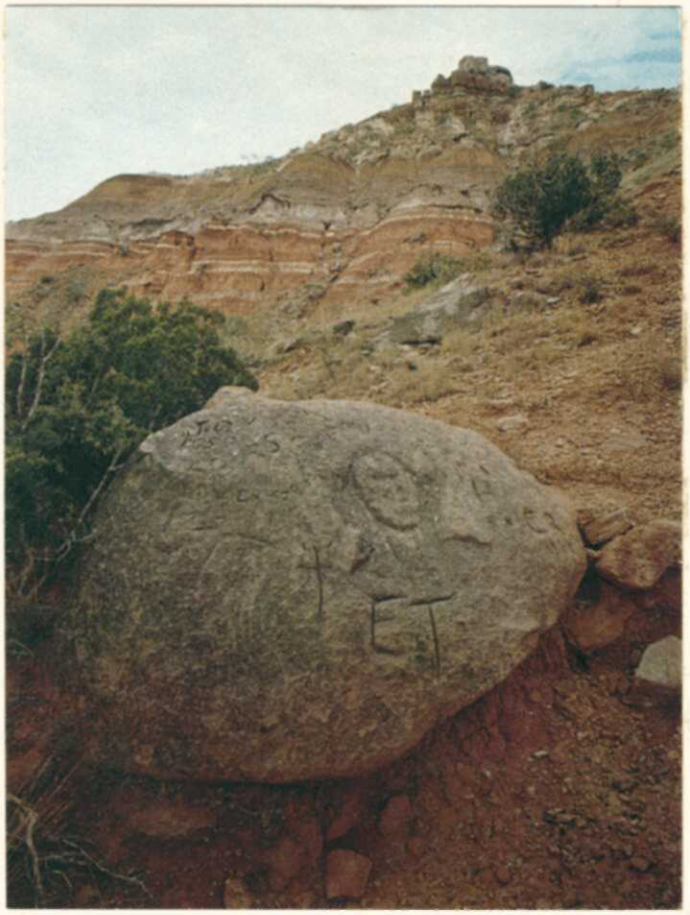


Plate XXVII. Reproduction of Sad Monkey Site I

Color by Leonard Raef. Published by Baxter Lane Company, Amarillo, Texas.

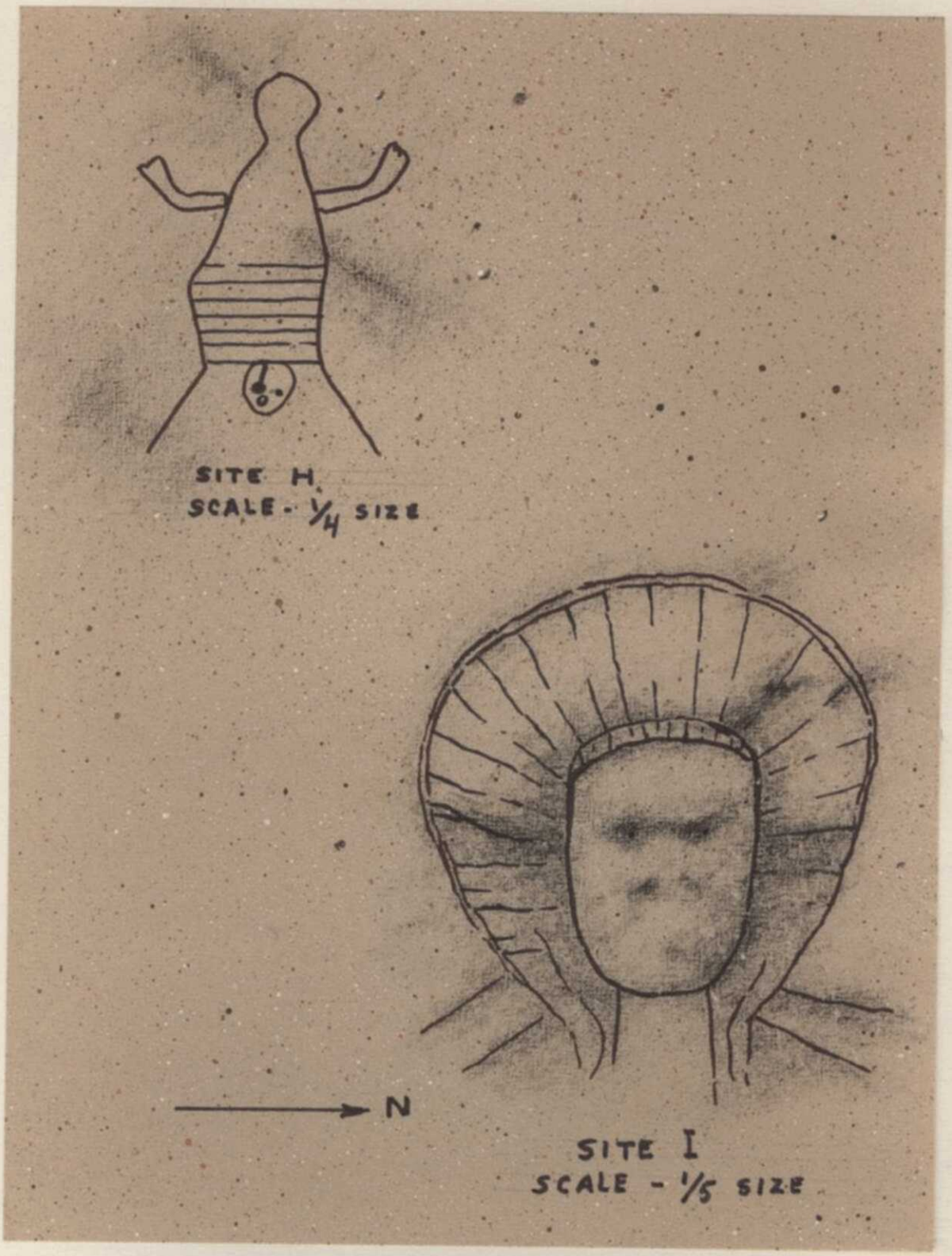


Plate XXVIII. Drawings of Petroglyph at Cliff Shelter Site H and Carving at Sad Monkey Site I

Chapter 5

CONCLUSIONS

Even though examples of rock art in Palo Duro Canyon are not found in profusion, they do show an interesting variety of expression. The two established regional styles represented are the Plains and the Puebloan. Their presence would naturally be expected as archeological evidence proves both cultures frequented this area from prehistoric times until 1874.

The sites exhibiting only typical Plains style of historic age are the petroglyph sites in the Harrell Ranch complex. All of these are incised into sandstone surfaces, some with a broader line, and others very finely incised and skillfully executed. The more conventionalized figures and geometric symbols were broadly incised and most of them were found at site B of this complex. Most of the finely incised petroglyphs obviously concerned magico-religious ceremonials. It would be impossible, however, to know the exact meanings intended. Much more intensive study might give proof of specific tribal origins.

Both sites showing Puebloan influence, Pour-Off Site E and Giant Boulder Site F, are of a peripheral nature concerning that style and are quite different from one another. The strong influence of the more sophisticated Puebloan life-style reaches from early prehistory to the present day and over a vast area of this continent. Whether these examples of rock art were done by Puebloan peoples themselves or by peoples with

Puebloan influence, possibly Apacheans, is not known. The Pour-Off petroglyph site has an especially interesting group of figures with a strong feeling of similarity to those shown in wall paintings from Kuaua pueblo in New Mexico. These petroglyphs were broadly incised and may be of an early historic age, or possibly earlier as no horses or other European subject matter is shown. Pictographs at the Giant Boulder Site are more simply done in red only and are probably much more recent. All of these figures of Puebloan influence could have been done for magico-religious or ceremonial reasons.

The other two sites considered authentic are not as closely identified with a definite regional style and share no similarities of style, technique or workmanship. The crudely done, broadly incised petroglyph at Cliff Shelter Site H may be of a relatively early historic date and of a Northern Plains origin. The hand print is a design element of world wide importance and is found consistently from paleolithic cave paintings of Europe to late historic rock art of the Palo Duro. An especially interesting negative hand print in black, with a limned positive hand in bright orange inside, is at Opal Cave. Here also is an unusually fine pictograph of an animal resembling a Spanish bull, or possibly a buffalo with a longer tail and less pronounced hump. Rendering or shading reminiscent of European cave art is evident whether it was accidental or not. Linear pictographs in connection with this animal are of more typically Plains subject matter and execution.

Several sites in Palo Duro Canyon probably have been obliterated by time, information apparently misplaced in one instance, and other sites possibly not discovered or reported yet. Each site recorded, however, does help establish a more definite pattern in the total study of art

history and anthropology. In art, as in other human endeavors, the outstanding and perfected examples of a culture are the ones which receive acclaim and are used as standards. Often the developmental stages, such as exhibited here, give much insight into the rise and fall of a culture.

Art for art's sake, or individual expression of ideas, was not traditional with aboriginal peoples. Most of their art concerned their religious beliefs and practices or recorded feats of bravery or events of historical importance. The figures or designs conventionally used needed to be understood by others of that time and place. Change, of course, is an inherent part of life and man's total environment is reflected in his art. Man has always borrowed ideas from his neighbors and adapted them to his own life-style. The skill of individual artists was recognized by fellow tribesmen and is apparent in some rock art recorded.

When seen in relation to the total study of art history, these examples of Palo Duro rock art remind us that the art of all cultures adhered closely to traditional forms and interpretations until relatively recent times. Composite features considered ideal at the time and place have been used instead of actual proportions in much of the world's art. National and cultural differences and similarities are considered basic knowledge for art historians, anthropologists, museum curators, art appraisers and others in similar fields. This is true of modern art as well as in the classification of antiquities.

Studies of this nature are particularly relevant in these swiftly moving times and in areas as recently developed as the Texas Panhandle. Understanding of the past and the universality of man through the ages, along with his individual uniqueness, should help solve some problems of the future.

Art and anthropology are particularly compatible studies and should be combined whenever possible. In most of the world, the study of rock art and other art forms of aboriginal peoples is conducted by renowned art historians. This is only beginning to become true in this country. In the meantime, many remaining examples of our only truly American art are being obliterated by time and vandals. Because these outdoor art galleries are so rare and so vulnerable to destruction, even the seemingly insignificant ones should be promptly reported to the proper authorities when discovered. All efforts should be made for detailed recording of each example of rock art with drawings, photographs, casts, and even placing rock surfaces containing the art in musuems when possible.

BIBLIOGRAPHY

Bandi, Hans Georg
1961 "The Rock Art of the Spanish Levant," The Art of the Stone Age. Art of the World (Ser.) New York: Crown Publishers.

Bolton, Herbert E.
1949 Coronado - Knight of Pueblos and Plains. Albuquerque: University of New Mexico Press.

Breuil, H. and L. Berger-Kirchner
1961 "Franco-Cantabrian Rock Art," The Art of the Stone Age. Art of the World (Ser.) New York: Crown Publishers.

Butler, Charles T., Jr.
1948 "A West Texas Rock Shelter." Unpublished M. A. thesis, University of Texas.

Campbell, T. N.
1958 "Origin of the Mescal Bean Cult," American Anthropologist, 60: 156-160.

Carter, Dick
1971 "Panhandle Prehistory," Slide lecture for W. T. Anthropology Club on the campus of West Texas State University, February 18.

1972 Personal interview on February 20.

Carter, Capt. R. G.
1935 On the Border with Mackenzie or Winning West Texas from the Comanches. Washington, D. C.: Eyon Printing Company, Inc.

Catlin, George
1857 North American Indians, 2 vols., Ninth Edition. London: Henry G. Bohl.

Christensen, Erwin O.
1955 Primitive Art. New York: Thomas Y. Crowell Company.

Covarrubias, Miguel
1954 The Eagle, the Jaguar and the Serpent: Indian Art of the Americas. New York: Alfred A. Knopf.

Currie, Roberta
n.d. Personal and telephone interviews at various times between January, 1971, and April, 1972.

Dunn, Dorothy
1968 American Indian Painting of the Southwest and Plains Areas. Albuquerque: University of New Mexico Press.

Dutton, Bertha P.
1963 Sun Father's Way, The Kiva Murals of Kuaua. Albuquerque: University of New Mexico Press.

Ewers, John C.
1939 Plains Indian Painting. Stanford: Stanford University Press.

Fenneman, Nevin M.
1949 Physical Divisions of the United States (Map). Washington, D. C.: Geological Survey.

Fundaburk, E. L.
1957 Sun Circles and Human Hands. (Privately printed: Luverne, Alabama.)

Grant, Campbell
1967 Rock Art of the American Indian. New York: Thomas Y. Crowell Company.

Gunnerson, James H.
1970 Lecture on West Texas State University campus on September 29.

Harrell, Ed
n.d. Personal interviews on numerous dates between March, 1970, and April, 1972.

Harrison, Bill R.
n.d. Personal interviews on numerous dates between January of 1971, and April, 1972.

Heizer, Robert F. and Martin A. Baumhoff
1962 Prehistoric Rock Art of Nevada and Eastern California. Berkeley: University of California Press.

Howard, James H.
1957 "The Mescal Bean Cult of the Central and Southern Plains: an Ancestor of the Peyote Cult?" American Anthropologist, 59:75-87.

Huyghe, René (ed.)
1957 Art and Mankind, Larousse Encyclopedia of Prehistoric and Ancient Art. New York: Prometheus Press.

Hughes, Jack T.
n.d. Field Trip Records on file in Panhandle-Plains Historical Museum, Canyon, Texas.

n.d. Class lectures and personal interviews on numerous dates between September, 1970, and April, 1972.

Hyde, George E.
1959 Indians of the High Plains. Norman: University of Oklahoma Press.

Jackson, A. T.
1938 Picture Writing of Texas Indians. The University of Texas Publication No. 3809. Austin.

Kirkland, Forrest
1938 "A Description of Texas Pictographs," Bulletin of the Texas Archeological and Paleontological Society, 10:11-39.

Kirkland Forrest and W. W. Newcomb, Jr.
1967 The Rock Art of Texas Indians. Austin: University of Texas Press.

Kroeber, A. L.
1939 Cultural and Natural Areas of Native North America, Berkeley: University of California Press.

LaBarre, Weston
1957 "Mescalism and Peyotism," American Anthropologist, 59:708-711.

Leroi-Gourhan, Andre´
1967 Treasures of Prehistoric Art. New York: Harry N. Abrams, Inc.

Lhote, Henri
1961 "The Rock Art of the Maghreb and Sahara," The Art of the Stone Age. Art of the World (Ser.) New York: Crown Publishers.

Loebeck, A. K.
1945 State of Texas from Physiographic Diagram of the United States (Map). New Jersey: C. S. Hammond and Company.

McCraken, Harold
1959 George Catlin and the Old Frontier. New York: The Dial Press.

Mallery, Garrick
1886 Pictographs of the North American Indian, Fourth Annual Report of the Bureau of American Ethnology. Washington, D. C.

1893 Picture-Writing of the American Indians, Tenth Annual Report of the Bureau of American Ethnology. Washington, D. C.

Matthews, William H., III
1969 The Geologic Story of Palo Duro Canyon. Bureau of Economic Geology. The University of Texas, Austin, Guidebook 8.

Moore, Ray
1966 "Archeology of Palo Duro Canyon," Geology of Palo Duro Canyon State Park and the Panhandle of Texas. Guidebook for 1966 SASGS Annual Field Trip. Prepared by West Texas State University Geological Society, Canyon, Texas.

Newcomb, W. W., Jr.
1961 The Indians of Texas, from Prehistoric to Modern Times. Austin: University of Texas Press.

Petersen, Karen Daniels
1971 Plains Indian Art from Fort Marion. Norman: University of Oklahoma Press.

Read, Sir Herbert
1954 Australia - Aboriginal Paintings - Arnham Land. New York: New York Graphic Society.

Renaud, E. B.
1936 "Pictographs and Petroglyphs of the High Western Plains," The Archeological Survey of the High Western Plains, Eighth Report. Department of Anthropology, University of Denver, Denver.

Sellards, E. H.
1952 Early Man in America. Austin: University of Texas Press.

Spencer, Robert F., Jesse D. Jennings, et al.
1965 The Native Americans. New York: Harper & Row, Publishers, Inc.

Steward, Julian H.
1936 "Petroglyphs of the United States," Annual Report of the Board of Regents of the Smithsonian Institution, Washington, D. C.

Warwick, Mrs. Clyde W.
1969 The Randall County Story. Hereford: Pioneer Book Publishers, Inc.

Webb, Walter Prescott
1931 The Great Plains. Boston: Ginn and Company.

Webster's New Collegiate Dictionary
1949 Springfield: G. & C. Merriam Company.

Wedel, Waldo R.
1971 Lecture for Panhandle Archeological Society meeting in Amarillo, Texas, on August 12.

Whipple, A. W., Thomas Eubank and William Turner
1856 Report upon the Indian Tribes, in Reports of Explorations and Surveys to Ascertain the Most Practicable and Economical Route for a Railroad from the Mississippi River to the Pacific Ocean. 33rd Congress, 2nd Session, Senate Ex. Doc. No. 78, Vol. III; Also House of Representatives, Ex. Doc. No. 91, Vol. III. Washington: Government Printing Office.

Wilbanks, Elsie M.
1959 Art on the Texas Plains. Lubbock: South Plains Art Guild.

Willey, Gordon R.
1966 An Introduction to American Archeology, Vol. I, North and Middle America. Englewood Cliffs: Prentice-Hall, Inc.

Wormington, H. M.
1957 Ancient Man in North America, 4th ed. Popular Series, No. 4. Denver: Museum of Natural History.

PALO DURO ROCK ART: INDIAN PETROGLYPHS AND PICTOGRAPHS

UPSHAW