

SURVEY OF NORTHEASTERN NEW MEXICO ROCK ART

by

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CHAPTER I

INTRODUCTION

Survey of Northeastern New Mexico Rock Art

Northeastern New Mexico is the scene of a rich, albeit poorly understood, cultural heritage beginning at least as long ago as 11,000 years. This portion of the High Plains lies between the physiographic sections of the Southern Rocky Mountains to the west and the Southern High Plains to the east (Fenneman 1931:37-47) (Figure 1). Movements of peoples over the millennia resulted in the encounter and exchange of ideas and culture traits that make for a compelling history of a land and its inhabitants.

The culture history of northeastern New Mexico is complex, perhaps as a result of its geographic location between the Great Plains to the north and east and the Rocky Mountains to the west. The diversity of the two regions is well defined in terms of the ecological and the cultural environment. Intense social interaction between the Eastern Pueblos of the Rocky Mountains and the hunter-gatherers of the Plains is expressed in a complex trade network that developed during the late Prehistoric and early Historic periods.

Archaeological study in New Mexico has long benefitted from the attention of many scholars, and the ancient past is probably better known here in the Southwest than anywhere else in North America. But the northeastern portion of New Mexico seems to have escaped much of the scholarly attention it deserves, except for special foci of

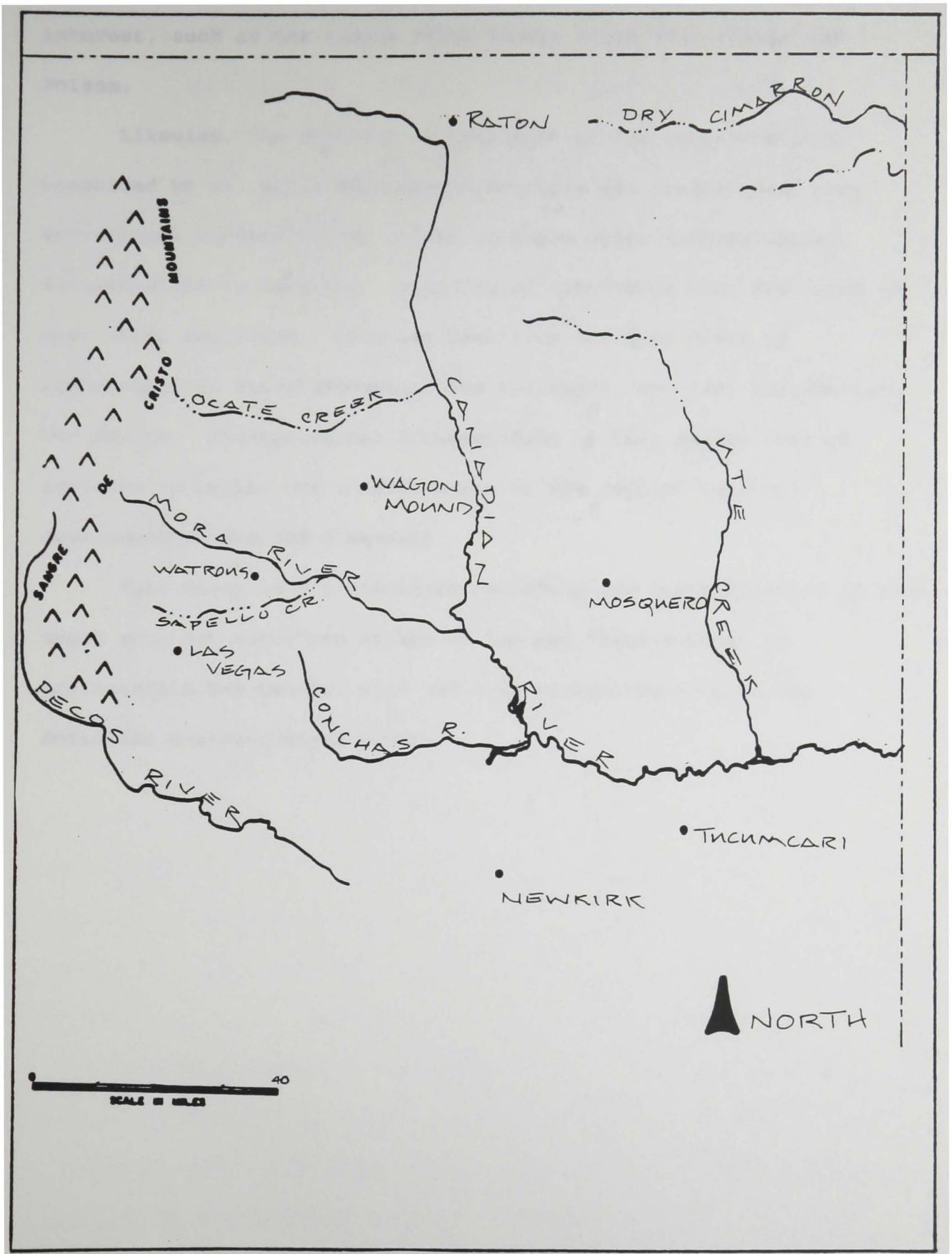


Figure 1. Northeastern New Mexico: The Survey Area

interest, such as the famous Paleo-Indian sites near Clovis and Folsom.

Likewise, the rock art of this part of the state has gone unnoticed by all but a few devoted scholars and professional and avocational archaeologists. Even in areas where archaeological documentation is adequate, recording of associated rock art sites is most often neglected. This has been true for many areas of archaeological study throughout the Southwest, not just northeastern New Mexico. Archaeological documentation of this region must be improved to better our understanding of the complex cultural developments here and elsewhere.

This study is a preliminary recording and classification of some known rock art sites and styles of the Las Vegas Plateau in northeastern New Mexico, with the hope of contributing to the deficient archaeological record.

CHAPTER II

ENVIRONMENTAL SETTING OF NORTHEASTERN NEW MEXICO

The plains and mesas of northeastern New Mexico contain the record of a vast and much varied cultural history beginning, as far as we know, around 11,000 years ago. Its environmental history is nearly as variable and complex as is the history of its human occupation. This study is focused on the physiographic subsection in northeastern New Mexico known as the Las Vegas Plateau (Fenneman 1931:37-47). This plateau is the physiographic counterpart of the Chaquagua Plateau in southeastern Colorado and of the Llano Estacado in eastern New Mexico and western Texas (Figure 2).

To effectively understand the human response to the environment of northeastern New Mexico and surrounding regions, the basic ecology must be established for each cultural horizon in question. The Llano Estacado is a specific geographic region within the Southern Plains which has received the most thorough study in regard to an environmental history. More is known of its environmental evolution than any other geographic area within the Southern Plains. The data from these studies is used to best establish the environmental setting of the geographical regions that are foci in this study.

The Llano Estacado, or Staked Plains, is a vast plateau situated within the Southern High Plains; the two terms are frequently used interchangeably. The Llano consists of some 20,000 square miles of short grassland prairies, bounded on three sides by an escarpment of caprock cliffs. These escarpments were formed by the Pecos River on

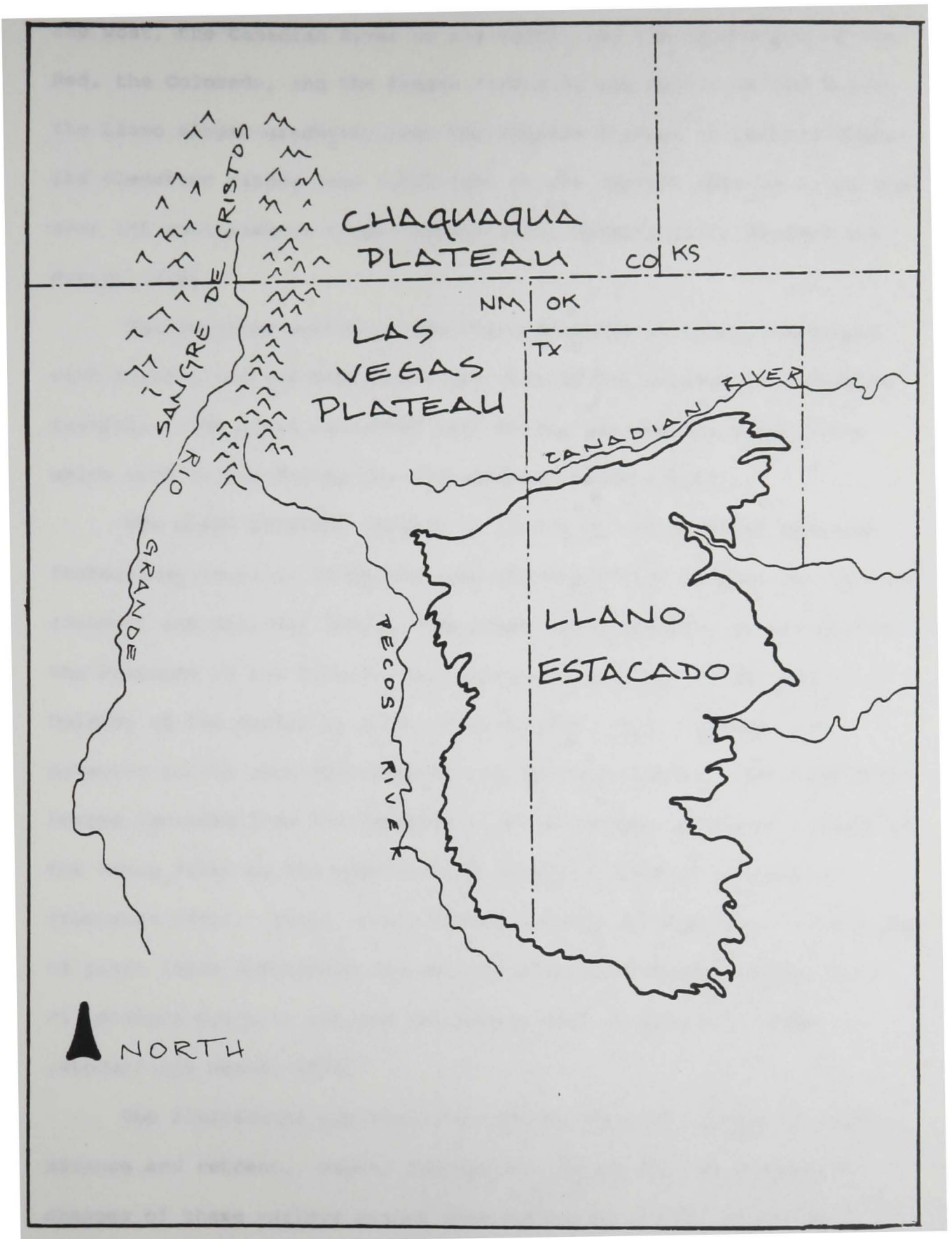


Figure 2. Geographic Zones in Survey Area

the west, the Canadian River on the north, and the headwaters of the Red, the Colorado, and the Brazos rivers on the east. On the south, the Llano slopes gradually into the Edwards Plateau in central Texas. Its elevation ranges from 4,800 feet on the western edge to 2,700 feet near its southeastern slope (Antevs 1955, Wendorf 1961, Wendorf and Hester 1975).

The drainage system on the Llano Estacado is poorly developed with shallow valleys carrying water only during periods of excessive rainfall. The plain is dotted with mostly impermanent playa lakes which were formed during the Pleistocene (Wendorf 1961).

The Llano Estacado (Figure 2) is one of the flattest and most featureless areas in North America, and one of the largest of its kind (Johnson and Holliday 1986). The Llano was originally formed during the Pliocene by the alluvial deposits carried from the Sacramento Uplands of New Mexico by slow, wide streams. When drainage was diverted to the west and north in the early Quaternary, the vast plain became isolated from its dependable water sources, bordered instead by the Pecos River on the west and the Canadian River on the north (Fenneman 1931). Today, small rivers, scanty springs, and a multitude of playa lakes constitute the readily available water sources; the Pleistocene Ogallala aquifer was tapped only in historic times (Wendorf and Hester 1975).

The Pleistocene was characterized by numerous stages of glacial advance and retreat. Beyond the margins of the ice, the climatic changes of these various stages were reflected in what are termed pluvial intervals of cooler temperatures and increased precipitation.

Primarily through pollen analysis, it has become possible to reconstruct the vegetation, temperature, and precipitation values for many regions in North America during the Pleistocene and the Holocene epochs (Wendorf 1961:12).

The first known human occupation of the plains and plateaus of this region dates to 9500 B.C., during a period of the last Wisconsin pluvial in the Southwest. The climate and ecology then was generally wetter than at present with cooler summers and supported a lush plant community reflecting such favorable conditions. The fauna that utilized this abundance of forage material is, perhaps, what most sets this ecological era apart from anything known to us today.

The oldest recorded human occupation in northeastern New Mexico occurred during the Blackwater Subpluvial, the first subdivision of the San Jon Pluvial, or the final Wisconsin Pluvial in the Southwest. Although New Mexico was located far beyond the actual ice of the Wisconsin glacial period, its effects were nonetheless relevant to the temperature, effective moisture, and relative height of water tables in the Southern High Plains and southern Rocky Mountains area (Leopold 1951, Wendorf 1961:127). Pollen analyses on the Llano Estacado indicate a warm grassland or savanna, dotted with thousands of playa lakes (Hafsten 1961, Hofman 1989, Irwin-Williams 1979, Irwin-Williams and Haynes 1970, Wendorf 1961). Earlier pollen analyses from the early 1960s were interpreted by several (Hafsten 1961, Oldfield and Shoenwetter 1975, Wendorf 1961, Wendorf and Hester 1975) as indicating the episodic occurrence of a pine and spruce forest on the Llano Estacado during the late Pleistocene. New data and advances in pollen

analysis, according to Holliday (1987), proves this interpretation invalid. The new data indicate an open grassland only occasionally partially wooded throughout most of the Quaternary.

Antevs (1955) concluded that the playas were contemporary with periods of glacial advance and that these were periods of cooler summer temperatures of approximately 10°F., accompanied by a 64% increase in annual precipitation. The Blackwater Subpluvial marks a return of such moist conditions, which had been preceded by the cooler and more arid climate of the Tahoka Pluvial of some 22,000 years ago (Wendorf 1961:19).

Subsequent to the Blackwater Subpluvial was the Scharbauer Interval which marked a brief climatic change during the San Jon Pluvial. The Scharbauer Interval was a generally drier period characterized by declining stream volume, the drying and erosion of playas, and the formation of dunes. Most of the vertebrate fauna so typical of the late Pleistocene (the mammoth, elephant, horse, and camel) became extinct during this phase, leaving only the *Bison antiquus*, and the most common invertebrates, as survivors. The survival of the invertebrates of this era suggests that temperatures remained relatively cool or stable enough not to significantly effect the population of this fauna. Human occupation during this period is documented by sites on the Llano from which were recovered a number of Midland points and a fragmentary human skull. This Midland culture, closely associated with the Folsom, dates to roughly 8670 B.C. (Irwin-Williams and Haynes 1970, Wendorf 1961).

The next geologic subphase within the San Jon Pluvial is the Lubbock Subpluvial, radiocarbon dated from 7500 to 8500 B.C. At least some of the moist conditions of the previous Blackwater Subpluvial return, although effective moisture is still less than before. It was near the close of this phase that groups utilizing the Folsom, Midland, Plainview, and Scottsbluff points were occupying the Llano Estacado, hunting primarily the *Bison antiquus* as before (Irwin-Williams and Haynes 1970).

Sometime around 6000 B.C., the environment began to progress to the general conditions known to us today. This marks the beginning of the Altithermal, or the early Holocene, a period of warmer, drier conditions than seen in the last subpluvial (Antevs 1955). This generally marks the beginning of the Archaic period, with a climate more similar to that of modern times although still drier by today's levels (Johnson and Holliday 1986). It was not until about 2500 B.C. that the climate on the Llano Estacado ameliorated, indicative of a more moist environment most similar to contemporary conditions (Johnson and Holliday 1986). Archaeologically, it is the least well-known period and yet it represents the first time the Southwest can be recognized as a distinct culture area (Irwin-Williams and Haynes 1970).

The climate on the Southern Plains today is considered semi-arid, with high evaporation rates throughout the region, resulting from strong and constant winds, sun, and little moisture (Hofman 1989, Hughes 1989). The Llano Estacado, in particular, is "one of the windiest of the continent . . . [and] also one of the sunniest,"

according to Hughes (1989:7). These Plains lie in the rain shadow of the Rocky Mountains, resulting in little moisture coming from the west. The majority of precipitation on the Southern Plains is delivered through the moist warm air coming from the Gulf of Mexico to the south, averaging about 14 inches per year (Hofman 1989).

CHAPTER III

CULTURE HISTORY OF NORTHEASTERN NEW MEXICO

This chapter presents a basic summary of the archaeology of northeastern New Mexico which is necessary to understand the cultural evolution of the region. It is by no means an exhaustive recounting of the archaeological record, for this has been done quite competently elsewhere (see Stuart and Gauthier 1984). Archaeological data and studies which pertain more directly to the topic at hand--rock art of northeastern New Mexico--will be included in more detail within the chapter on rock art of this region.

Although northeastern New Mexico is known for its Paleo-Indian type sites, it is actually poorly represented in terms of archaeological investigation. This is not to say that the work done in this area has been lacking in quality or integrity, but it has been sporadic and isolated. As Gunnerson (1987:1) comments, ". . . there are still many, many gaps in the archaeological record. Some of these will probably never be filled since the area is large, archaeologists few, and financial support limited." In Prehistoric New Mexico, Stuart and Gauthier (1984:291) introduce the chapter on the northeast with no fewer than five quotes by noted archaeologists of the region who lament over the "virtual archaeological vacuum" long in existence here. This situation makes attempts at cultural identification or association of sites difficult and conclusions concerning the culture history of prehistoric northeastern New Mexico likely founded on archaeological evidence that is wholly insufficient. However, for all

that is lacking in the archaeological record of northeastern New Mexico, there seems to be general consensus among those professionals focusing on this area, concerning the course of cultural evolution in the region, as is presented in the following sections.

Paleo-Indian Period

Paleo-Indian research is ever plagued with the necessity for skepticism concerning the identification and interpretation of the sites, because remains are often few and rare. It is difficult to determine whether the scarcity of finds is truly a reflection of sparse populations or of the obscurity of site evidence which may be buried beneath 11,000 years of alluvial and eolian deposition. Interpretation of the scarcity of archaeological remains for this period is problematic and subject to debate as to the reason (Cordell 1979a:17, Sebastian and Larralde 1989:22, Stuart and Gauthier 1984:266).

The Clovis Complex is the earliest absolutely dated assemblage in North America, although there is some evidence of earlier, pre-Clovis occupation which is not as well represented (Gunnerson 1987:7). The complex gets its name from the town of Clovis, which is located near the type site in northeastern New Mexico.

The Clovis culture assemblage is characterized by large bifacially-worked lanceolate projectile points with concave bases, which average seven centimeters in length. They are most often associated with kill and butchering sites of megafauna, such as the horse, camel, antelope, bison, and, most typically, the mammoth

(Gunnerson 1987, Jennings and Norbeck 1964, Sebastian and Larralde 1989, Stuart and Gauthier 1984). The dates obtained from the number of sites attributed to the Clovis Complex fall primarily between 9000 to 9500 B.C., or approximately 11,000 B.P.

Blackwater Draw Locality No. 1 is the type site for the Clovis Complex, with work beginning there as early as 1932 and continuing to the present time. Here, there were found the large fluted Clovis points unquestionably associated with the remains of mammoth (Cotter 1937, 1938; Gunnerson 1987; Hester 1972; Howard 1935). A Folsom projectile point was also recovered from this site. This type of point is smaller than the Clovis point, averaging about five centimeters, and dates from 10,000 to 11,000 years ago.

Of course, the type site for the Folsom Complex is the Folsom site, named for the nearby New Mexico town of the same name. Here, Folsom points are found in association with the butchered remains of the now extinct *Bison antiquus*, predecessor to the modern bison (Cook 1927, Wormington 1957).

In the years 1926 to 1928, the Denver Museum of Natural History sent a team of scientists to Folsom to study the ancient bones eroding from an arroyo. Although later discovery of the Clovis Complex would replace the Folsom Complex in terms of greater age, Folsom was the first site which undeniably linked man in the New World to the great mammoths of the late Pleistocene (Spencer and Jennings 1965:19, Wormington 1957:23-29).

The high plains of New Mexico are noted for their Paleo-Indian sites. It has been observed that "virtually every Paleo-Indian

complex known . . . is known from . . . northeastern New Mexico" (Gunnerson 1987:127). However, these sites are actually few in number, and there is still a significant gap in the archaeological record for this early prehistoric period. The concern among contemporary archaeologists working with Paleo-Indian materials is that the identification of sites of this age has been exclusively dependent upon the few meat processing tools contained in the Paleo-Indian lithic assemblage. This has led, in the past, to an assumption that big game hunting was the primary basis of subsistence for Paleo-Indians in North America.

This focus on hunting disregards the probability of the existence of a tool assemblage associated with plant processing (Cordell 1979a). It is possible that many Paleo-Indian sites exist which have nothing to do with hunting; but without the presence of hunting-related tools, the sites likely continue to go undetected as Paleo-Indian (Sebastian and Larralde 1989:33).

This failure may reflect the nature of Paleo-Indian sites, however, and not archaeologists' oversight. Most Paleo-Indian sites are found in locations not conducive to long-term preservation. They mainly exist in open areas, fully exposed to the elements, so all that survive through time are the nonperishable stone and bone elements (Sebastian and Larralde 1989:34).

Cordell (1979a) is convincing in her argument for a Paleo-Indian subsistence strategy that makes sense in terms of general hunter-gatherer subsistence strategies. She points out that during the late Pleistocene, the climate was more equable than today, with plant food

available for foraging animals year round. With foraging continuing year round, the animals would gather into large groups less frequently; and this factor would have made hunting large numbers of game more happenstance than typical, which has been the belief among most scholars of Paleo-Indian times. It seems reasonable to assume that the Paleo-Indians were typically dependent upon small game and vegetal food products, rather than upon the regular hunting of megafauna. According to Cordell (1979a:20), ". . . the appropriate subsistence strategy for [Paleo-Indians] would be a generalist strategy . . . , [whereby] plant foods and small animals should have played an important role in . . . subsistence."

What this all means is that there may not be an actual scarcity of Paleo-Indian sites, but that archaeologists, when examining the archaeological record, have continued to place too much emphasis on hunting and not enough on foraging.

Archaic Period

As presently understood, the Archaic period represents a broad spectrum subsistence strategy of hunting and gathering. During the Archaic, there is evidence of a greater dependency upon plant foods and small game, with the occasional harvesting of larger game. The beginning of the Archaic corresponds roughly with the climatic changes of about 7,000 years ago. The climate had become warmer and dryer with increased seasonal fluctuations, conditions that more resembled those of today.

The Archaic is commonly divided into three phases: Early, from 6000 to 3000 B.C.; Middle, from 3000 to 500 B.C.; and a large overlap of the Middle by the Late phase with a span of from 1000 B.C. to A.D. 500 (Frison 1978:83). These dates are more appropriate for the northwestern Plains, however, and differ slightly for Archaic sites in northeastern New Mexico. As was the case in Paleo-Indian sites in northeastern New Mexico, the material culture represented in Archaic sites is quite limited. The identification of the three phases, and of the Archaic period in general, is heavily dependent upon the presence of diagnostic projectile points and, perhaps, the absence of pottery (Frison 1978, Gunnerson 1987, Sebastian and Larralde 1989).

The Archaic is, as Gunnerson (1987:26) wrote, "[o]ne of the least known periods of plains prehistory." In northeastern New Mexico this period began early and ended later than in other regions of the state, beginning from 6000 to 5000 B.C. and lasting to roughly around A.D. 1000. As Stuart and Gauthier (1984:300) point out, this is nearly one-half the time humans have occupied northeastern New Mexico, yet very little is known of the period. Gunnerson (1987:128) suggests that perhaps the region was abandoned at least once during the Archaic, likely when the climate had become particularly arid.

Typical of Archaic artifact assemblages are flakes, scrapers, one-hand manos, graters, and, of course, dart points. Diagnostic projectile points are generally stemmed or corner notched, smaller than those of Paleo times, but easily larger than arrow points of the later Ceramic period (Sebastian and Larralde 1989:42). But there are numerous variations in the diagnostic lithics of the Archaic, and, as

noted above, it is the evolution of the projectile point characteristics that separate the Early from Late (see Frison 1978, Gunnerson 1987, and Sebastian and Larralde 1989).

Stuart and Gauthier (1984:302) criticize the process of site culture determination that is based solely on the presence of lithics and the absence of pottery. They note that lithic sites are probably the most common site type in this area, although sites without diagnostic projectile points are typically assigned to the Archaic simply based on the absence of ceramics.

The Early Archaic is not well represented on the Las Vegas Plateau, but it does exist there. The Pigeon Cliffs site near Clayton yielded an approximate date of 6000 B.C. (Steen 1955). There are only a few other dated sites for the Early Archaic period, and none so early as the Pigeon Cliffs. Salvage excavations in the area of Ute Dam suggest the Early Archaic, but no radiocarbon dates were obtained to confirm this (Hammack 1965). Honea (1964) obtained a date of 700 B.C. \pm 130 (Middle to Late Archaic) from a highway salvage excavation near Folsom. The diagnostic projectile points from this site were corner-notched and between three and four centimeters in length.

Late Archaic material in northeastern New Mexico is often located in rock shelters along canyons of drainages, such as the Canadian River, the Dry Cimarron River, and Corrupa Creek. It is during this phase of the Archaic that pottery first appears in northeastern New Mexico, around A.D. 200 (Campbell 1976, Stuart and Gauthier 1984). Because the introduction of ceramics is such an

important cultural event, some assign this period to the Ceramic instead of Late Archaic.

Ceramic Period

The archaeological sites of this period are categorized not as much on the basis of an adaptation strategy as on the mere presence of technological innovations, such as pottery, agriculture, and the bow and arrow. The culture period is called by various names by different archaeologists, including the Plains Woodland, which will be used here (Campbell 1976), as well as Neo-Indian (Thoms 1976), Basketmaker (Lang 1978), and Late Archaic (Glassow 1980). Gunnerson (1987) divides the period into Early, Middle, and Late Ceramic to more accurately distinguish the differing phases within this period.

Plains Woodland Period (Late Archaic, Early Ceramic)

The beginning of the Ceramic, referred to here as the Plains Woodland Period in northeastern New Mexico and most surrounding areas, has been dated at A.D. 200. This date also represents the first appearance of corn horticulture, as well as the bow and arrow, in northeast New Mexico (Campbell 1976, Stuart and Gauthier 1984, Thoms 1976).

It is important to note that not all culture areas in New Mexico witnessed the adoption of agriculture and use of pottery simultaneously. There were groups which did not take up agriculture, but did utilize ceramic vessels, and as Sebastian and Larralde (1989:73) state "[c]orn and other cultigens appear among the . . .

remains at Late Archaic sites in the San Juan Basin . . . hundreds of years before the appearance of ceramics"

Gunnerson (1987:128) claims that even less is known of the Plains Woodland in northeastern New Mexico than of the Archaic. The Plains Woodland period spanned the years roughly between A.D. 200 and 1000. Sites are commonly identified by the presence of cord-roughened conical pottery vessels, as well as by small, delicate, corner-notched arrow points. Also indicative of Plains Woodland lifestyle are semipermanent dwellings and evidence of rudimentary horticulture (Campbell 1976, Gunnerson 1987, Thoms 1976, Wendorf 1960). The lifeway was generally similar to that seen in the Archaic in its reliance on hunting of both small and large game and extensive foraging, but involved the addition of new technologies and reduced nomadism (Campbell 1976, Gunnerson 1987, Wendorf 1960).

Glassow (1980) has excavated more Plains Woodland sites in northeastern New Mexico than any other archaeologist to date. He has worked extensively in the foothills of the Sangre de Cristo Mountains near Cimarron, where he assigns Plains Woodland sites to two phases, the Vermejo Phase (A.D. 400-700) and the Pedregoso Phase (A.D. 700-900). Vermejo Phase sites are commonly located on high terraces along small, narrow canyons. They most often consist of a single masonry structure averaging four to five meters in diameter. Remains of corn were recovered in the Cimarron area sites, but the diagnostic corner-notched point and pottery were absent.

Pedregoso Phase sites are similar, yet more progressive in aspects of horticultural practices, with an improved variety of corn

and the cultivation of beans. Pedregoso is also more advanced in terms of architecture, for some structures were six times the size of those in the Vermejo Phase sites, and there was a greater variety of architectural features within the expanded structures (Glassow 1980, Gunnerson 1987). Pottery appears for the first time in the form of a crude, thick, oxidized sherd (Glassow 1980, Stuart and Gauthier 1984:306). The information on the Pedregoso Phase is sparse in that it comes from a single site in the Cimarron area (Glassow 1980).

Campbell (1976) reports that some rock art on the Chaquaqua Plateau was possibly produced during the Plains Woodland horizon (dated there at A.D. 750-1000), corresponding with the Pedregoso Phase in northeastern New Mexico. Often found near the stone enclosures typical of this horizon were "pecked petroglyphs of small geometric and curvilinear designs, and small, fully pecked, horned or antlered quadrupeds . . ." (Campbell 1976:57).

Although the Plains Woodland horizon takes its name from cultures to the east, reflecting an assumption of an eastern origin, Gunnerson (1959, 1987) believes that this cultural phase is more likely of Southwest origin and that horticulture preceded pottery making. Campbell (1976:55) disagrees stating that "[p]erhaps the construction of stone enclosures was a [local] response to the environment by Woodland peoples, inasmuch as rooms were little more than typical Plains structures that incorporate available stone into their foundations."

Many Late Plains Woodland sites have yielded Jornada Brown ware, a trade ware from south of the Canadian River (Campbell 1976:87).

This pottery originated in the Jornada Mogollon area, produced in the years from circa A.D. 900 to 1200 (Jelinek 1967).

Panhandle Aspect/Apishapa Focus
(Middle Ceramic)

The Apishapa Focus of the Panhandle Aspect, according to some (Baerreis and Bryson 1966, Campbell 1976, Wendorf 1960), marks the end of the transitional Plains Woodland horizon on the Las Vegas Plateau.

Wendorf (1960) suggests the Panhandle Aspect represents a culture group that migrated onto the Las Vegas Plateau from the Texas and Oklahoma panhandles, with its roots perhaps in the Central Plains, while Campbell (1976) believes the origins to lie in southeastern Colorado on the Chaquaqua Plateau, and to a lesser extent, on the Las Vegas Plateau (see also Nowak and Jones 1984).

This period, A.D. 1000 to 1400, is marked by an increase in site size and density, indicating a rather remarkable population explosion not simply attributable to migration (Campbell 1976:60). The stone slab enclosure is considered a diagnostic feature (structure) for this phase.

The enclosures are constructed of vertical stone slabs and consist of anywhere from 1 to 21 rooms per site. They are usually situated on high ground overlooking watercourses, always in the proximity of arable land. Most notable are their defensive attributes, which usually consist of barrier walls. Similar barrier walls were already being constructed in the old rock shelter habitation sites from the previous Plains Woodland horizon (Campbell 1976:60-61).

When Campbell wrote in 1976, no sites had been dated on the plains of northeast New Mexico earlier than A.D. 1000, the proposed beginning of the Apishapa Focus. But Winter (1986) contends that the vertical slab walls and fortified sites are not necessarily indicative of the presence of Apishapa peoples in the Dry Cimarron Valley. Winter (1986:11) states that "the value of upright slab walls as a temporal indicator of Apishapa sites in the Dry Cimarron area has been overemphasized by Campbell (1976)" and by others. Vertical slab wall and fortified sites have been dated in the Dry Cimarron Valley both preceding the Apishapa Focus, as well as after. And even Campbell notes the barrier walls constructed in the rock shelters of the preceding horizon. Winter (1986:12) suggests that the Apishapa Focus is simply a continuum of Plains Woodland economy, based on foraging, various degrees of hunting, and limited horticulture, varying marginally from what was practiced during the Archaic.

But Winter (1986:13) goes on to consider the social conditions which might precipitate the trend toward the construction of defensive structures:

Regardless of when they appeared, the presence of large, multiroomed masonry forts perched on the end and edges of mesas raises a number of interesting questions about the nature of inter-group dynamics between . . . A.D. 950 and 1350. . . . What was occurring in the social . . . environment that would require an 18-room fort . . . in the upper Corrupa, or that would need a long barrier wall with upright juniper posts . . . in the upper Dry Cimarron?

The most abundant artifact type of this phase is still lithic, with the side-notched projectile point having replaced the corner-notched point of the preceding Plains Woodland period. Other artifact

types better represented here are those associated with plant food preparation. Although plant foraging was still an important aspect of Apishapa subsistence, an increasing reliance on agriculture is apparent with the presence of some five maize types, and the addition of beans to the list of harvested foods (Campbell 1976). (Beans had been reported by Glassow [1980] as present during the Plains Woodland period for the foothills area, but they had not been on the Plains proper until the Apishapa Focus.)

Pottery is still rare in appearance, but when present consisted of cord-marked grayware. After A.D. 1150, some of the cord-marked pottery was being slipped, smoothed, or polished (Campbell 1976), evidence perhaps of its increasing importance in the household tool assemblage, as well as of Puebloan influence.

On the Chaquaqua Plateau in southeast Colorado during the Apishapa focus, Campbell (1976:62) reports that aesthetic artifacts were limited to incised petroglyphs, resembling those from previous Plains Woodland period.

In his writings on the Chaquaqua Plateau, Campbell (1976) discusses the possibility of Southwestern influences as seen in some Apishapa culture traits. Some aspects of the ceramics are reminiscent of Southwestern styles, such as slipping and the globular shaped vessels. He notes also that, according to Wendorf and Reed (1955:141), slab-lined foundations similar to those of the Apishapa Focus appear in the middle Rio Grande pueblos around A.D. 900 (see discussion of Eastern Anasazi). The appearance of rectangular rooms, fortifications, and multiunit structures resemble Southwestern traits,

but Campbell (1976:61) warns that these architectural features could also indicate Central or Southern Plains influence. Or just as probable, these culture traits could simply be representative of the evolution of some local cultural tradition.

Campbell (1976:62) states there is no evidence that the Apishapa fortified villages continue beyond A.D. 1400, at least on the Chaquaqua Plateau. The area appears to have suffered from a severe drought, which perhaps explains the sharp decline in population during the 14th century.

Eastern Anasazi Period (A.D. 1100-1300)

While the Apishapa Focus of the Panhandle Aspect was developing on the Plains of northeastern New Mexico, the eastern foothills of the Sangre de Cristo Mountains were also experiencing a population increase. This increase was the inherent result of an expansion of the Rio Grande Anasazi during the Pueblo Developmental Period, (ca. A.D. 900-1200) (Holden 1933, Kidder 1926, Lister 1948, Wendorf 1960). Near the closing of the Developmental Period, early Anasazi peoples began to establish pueblos along the eastern slope of the Sangre de Cristos. Sites, such as Pecos and Tecolote, were the result of movement from the west along the Glorieta Pass, a pass which loops around the southern extension of the Rocky Mountains. A second source for expanding Anasazi populations during this time was the Taos area. Access to the eastern foothills from Taos was provided by the various headwaters of the Canadian River.

The Anasazi population, which arrived from the south via the Glorieta Pass, represented an actual immigration bringing with it the adobe and stone wall, multiroom pueblos, circular subterranean rooms, as well as pottery associated with the Rio Grande Anasazi (Cordell 1979b, Gunnerson 1959, Lister 1948, Wendorf 1960).

Situated along the Mora River, the coursed adobe rooms of the Lynam Site are aligned in an "L" formation. From the excavations come some evidence of corn, manos, and metates typical of this culture period. But in great abundance was the bone debris of bison and triangular and side-notched arrow points, associated most typically with Plains sites (Lister 1948). The pottery was predominantly black on white, of varieties commonly associated with the Rio Grande Anasazi, as well as several with Chaco affiliations (see Kidder and Amsden 1931). Rock shelters and petroglyphs were also reported for the area, but no further information is provided on these (Lister 1948).

The Eastern Anasazi pueblo sites north of the Mora River drainages have origins and culture traits which are more closely associated with the Taos area. Here, it seems that ideas, not whole populations, crossed the mountains as reflected in Anasazi influence rather than actual Anasazi artifacts (Gunnerson 1969, Thoms 1976). The presence of Anasazi culture traits in northeastern New Mexico has long been recognized (see Holden 1933, Kidder 1926, Lister 1948, Mera 1944, Wendorf 1960), but work by Glassow (1980) on the Philmont Scout Ranch near Cimarron has yielded the greatest amount of data on this period to date. After locating some 300 sites in the Cimarron area,

Glassow has defined three Anasazi-related phases, based on comparative analysis of Taos ceramics, and other trade sherds.

The Escritores Phase is the first complex with a well-defined ceramic tradition. This phase is dated at A.D. 900 to 1100 based on sherds found within a single structure (Glassow 1980:73).

Dated at A.D. 1100 to 1250, the Ponil Phase sites excavated by Glassow (1980) yielded corn, basketry, and yucca sandals, which were located in rock shelters and a three room surface structure with stone slab walls.

The third phase of the foothills Anasazi, as defined by Glassow (1980:74-75), is the Cimarron Phase, dated at A.D. 1200-1300. The mouths of the Cimarron and Ponil canyons are densely populated, and the sites much larger during this phase. The structures now are substantial with numerous rectangular rooms built of stone foundations with upper walls of coursed adobe.

Of great interest throughout the history of study of the Eastern Anasazi in this region of New Mexico is the connection or association of this culture with the culture or peoples of the adjacent Plains. Lutes (1959) wrote that the abundance of projectile points recovered from Eastern Anasazi sites suggests a highly-developed hunting complex not common to the Rio Grande Pueblos and that the roots of this culture likely lie elsewhere. He stated that the evidence indicates an evolved Archaic subsistence culture, strongly influenced by culture traits of nearby sedentary peoples of the Taos, or Rio Grande, region. For a more thorough discussion of this Pueblo-Plains relationship

during the protohistoric, see section on the Southern Plains
Macroeconomy.

By A.D. 1300, the Eastern Anasazi had withdrawn again to the area of Pecos Pueblo and, presumably, west to the Taos Pueblo region. The Apishapa Focus (Panhandle Aspect) persisted on the Plains until A.D. 1400, at which point the entire area appears to have been abandoned for at least the next century (Campbell 1976, Wendorf 1960). This Puebloan retreat, and Plains abandonment, may be a response to increasing drought conditions in this area, as noted above (Campbell 1976, Wendorf 1960).

Protohistoric and Historic Periods (Late Ceramic)

The date of A.D. 1500 is offered by James Gunnerson (1987:97) as the beginning of the final phase of the Ceramic Period. Around A.D. 1500 there was a cultural adjustment to the more normal climatic conditions on the Plains, a period of repopulation after the near century of severe droughts had ended. The date of 1541 is, of course, the actual marker for the beginning of the Historic Period in North America, the year Coronado arrived in northern New Mexico. But, according to Gunnerson, the more reasonable terminal date for Late Ceramic is circa 1750, for it is after this date that pottery production began to decline along with the village cultural complexes, thereby marking the beginning of full blown Historic culture.

Athabascan speakers arrived on the Central High Plains shortly after 1500 and would dominate the vast region for the following two

hundred years (Gunnerson 1956, Gunnerson 1987, Schaafsma 1981, Schroeder 1974).

Much of what we know of the early Apaches in northeastern New Mexico comes from the accounts of two 18th century Spanish expeditions (Thomas 1940). Juan de Ulibarri set out from Taos in 1706 on a journey that led him east through the headwaters of the Canadian River, which was then occupied and farmed by the Jicarilla Apaches. Governor Antonio de Valverde led an expedition in 1719, along nearly the same route as Ulibarri's, but this time descriptions of the Apache foothill settlements were recorded by Valverde's expedition. From the records of Valverde's expedition, there are reports of Apaches, living in adobe structures, from six to eight to a settlement, who were irrigating fields in all the tributary streams of the Canadian River (Thomas 1940). These Apaches have been identified as the Jicarilla, the first Apache group to develop Pueblo-like settlements in northeast New Mexico (Gunnerson 1959, 1960, 1969, 1979, 1984).

James Gunnerson excavated at least six Apache sites in the Ponil and Ocate drainages in the late 1950s and early 1960s. This work established Gunnerson as the predominant expert in the study of early Apache archaeology in northeastern New Mexico. His Glasscock Site is the type site for the Apache (Jicarilla) pueblo settlement period. It is a five-room adobe pueblo located in the rich and fertile valley of the Ocate Creek. From this site was described for the first time a micaceous pottery which comprised some 96% of the pottery collected. Ocate Micaceous is dated to circa 1550-1750 (Gunnerson 1969:26). Other types represented here were glazewares and plain ware from Pecos

Pueblo and Mexican majolica blue and white (Gunnerson 1969). The Jicarilla were well known for their trading visits to Pecos Pueblo in the protohistoric period, as well as into the historic period (Gunnerson and Gunnerson 1970, Kidder 1926).

The projectile point collection consisted primarily of the small and delicate triangulate points, most often with side notches. Interestingly, Gunnerson (1969:28) notes that "[n]early all the points from this site, including [an] aberrant one, can be duplicated in roughly the same percentages from . . . a Dismal River Apache site in southwestern Nebraska" (see also Gunnerson 1960).

A subsequent form of micaceous pottery assigned to the Jicarilla culture is the Cimarron Micaceous, which has never been found within the same site as the Ocate Micaceous. The Cimarron type is much thicker than the former, and it is dated roughly between 1750 and 1900 (Gunnerson 1969:33).

The Faraon Apaches were a nomadic Athabaskan-speaking people who roamed the Plains from the Sandia Mountains in New Mexico to the Canadian River region in the panhandle of Texas (Gunnerson and Gunnerson 1970, Kenner 1969). This Apachean group was known to have inhabited the Canadian River east of the foothills, on the Plains proper (Thomas 1940:82). Although tipi ring sites east of Las Vegas, New Mexico, have yielded painted pottery from Picuris and Pecos, Faraon Apache sites are best identified by a thin, gray ware not attributable to Puebloan pottery. This pottery dates from 1600 to the mid-1700s (Gunnerson and Gunnerson 1970).

Pecos Pueblo, in particular, was a usual camp for allied Apachean groups from the Central High Plains, such as the Carlanas, Palomas, and the Cuartelejos, as well as the Jicarillas (Gunnerson 1987). Pecos served as a major trading facility and offered protection from the hazards frequently posed by the raiding Comanche and southern Utes (Kenner 1969, Kessell 1979). The Faraons are known to have made frequent visits to the Pecos and Picuris pueblos during the mid-1700s, but they appear to have had a particularly close relationship with the Pecos Puebloans, and reportedly lived within the pueblo at times (Gunnerson and Gunnerson 1970). Kenner (1969:81) describes the relationship in the words of a Taos Indian who claimed the Faraons and Pecos peoples were "almost the same."

By 1733, the Jicarilla Apaches had left the Cimarron area and relocated near Ranchos de Taos, while some went to Navajoland to the far west, all due to increased pressures from the marauding Comanches (Kenner 1969:33). The Jicarillas were unable to defend themselves from their small village settlements in the canyons of the Canadian River headwaters (Kenner 1969). However, hunting forays out onto the Plains were continued by the Jicarillas even after they were relocated on their present day reservation in 1887, as is evidenced by tipi ring sites yielding Jicarilla micaceous wares (Gunnerson 1987:115). A group was even known to have left the reservation to reside near the town of Mora (Gunnerson 1987). Sites throughout this area are not easily identified based on the pottery; however, for after the mid-1800s, the Jicarilla and the peoples of the Picuris and Taos pueblos made similar micaceous wares, making distinction of the three

difficult at best (Gunnerson 1969, 1987). But in the Cimarron area, and in pottery-yielding tipi sites on the Plains, mid- to late 19th century Jicarilla sites are often identified by the presence of the Cimarron Micaceous (Gunnerson 1969). And yet, many Jicarilla sites are not easily identified, since the artifact assemblage may greatly resemble Spanish American sites. The Jicarilla often deliberately camped near Spanish villages to take advantage of the trading opportunities there (Gunnerson 1987).

By 1750, the Faraons had also been forced to abandon northeastern New Mexico as a result of Comanche pressure, relocating along the Rio Grande between Albuquerque and El Paso. They had given up their ties to the Plains, buying their buffalo meat and hides from the Cuartelejo Apaches instead (Kenner 1969:34).

By the mid 1700s, the Comanches had rather successfully rid the Plains of trading competition and were free to conduct almost exclusive barter with the Spaniards and Puebloans of the northern Rio Grande. Trade fairs were held regularly in Taos, since the Spaniards established a ban on trading within the Indian villages. Here the Comanches would bring slaves for trade. These were purchased, most often by the Spanish governors, who would turn them over to the clergy for proper education. Some priests complained that the captives were only being "delivered from one bondage into another" (Kenner 1969:37-40).

A true peace was established with the Comanche Nation by 1786. This changed the nature of Indian and Spanish relations throughout the northeastern New Mexico Plains and mountain foothills. Travel was

again relatively safe as were trading and hunting expeditions. The era of the Comancheros began with the advent of Comanche peace in 1786 and lasted well into the 19th century (Kenner 1969).

Settlers were migrating out from the areas of Pecos Pueblo, Trampas, Picuris Pueblo, and Taos, freer now to establish new villages nearer the Plains (Kenner 1969:63-64). Towns along the middle Pecos River, such as San Miguel del Vado, San Jose del Vado, and Anton Chico, were settled primarily by *genizaros*, ransomed captives of the Comanches who were of Apache, Comanche, Navajo, Ute, and Kiowa tribal backgrounds.

Buffalo hunting on the Plains of northeastern New Mexico was greatly stimulated again by the newly established safety in travel brought about by the Comanche peace. There was intense need for the trade and barter of food and hides for the expanding New Mexican populations, as well as for the trade for manufactured goods available from Chihuahua (Kenner 1969:100-101). The second and third decades of the 19th century witnessed a tremendous increase in buffalo hunts by *ciboleros*, who were killing a minimum of 10,000 to 12,000 a year (Kenner 1969:101). This led eventually to conflict between the Indian inhabitants of the Plains--primarily the Comanches, Kiowas, and Southern Cheyennes--and the Puebloan and New Mexican *ciboleros* over the diminishing bison herds. Peace was again established by 1858 and the *cibolero* war ended, only to be replaced by the relentless Anglo American buffalo hunters, who entered the area from the east (Kenner 1969:114).

Trade in Northeastern New Mexico:
A Southern Plains Macroeconomy

Beginning around A.D. 1300, a number of developments occurred in northeastern New Mexico and throughout the Southern Plains that effected the cultural dynamics to a significant degree and, due to their complexity and significance, warrant specific description and discussion.

From about A.D.1000 to 1300 bison were largely absent on the Southern Plains (Dillehay 1974), and although the Eastern Anasazi were moving into the eastern foothills of the Sangre de Cristos during this time, trade with Plains populations was not significant. Community needs were based on subsistence strategies which were satisfied through local procurement and infrequently through exchange (Snow 1981:361).

Prior to A.D. 1300, Casas Grandes had served as the redistribution center for the Mexican-Southwestern exchange of goods. According to Snow (1981), the pattern of economic trade during the prehistoric was one in which primarily ritual items and ideas were traded into the Eastern Pueblos from the Western Anasazi and Mexico, via Casas Grandes. Subsistence items had been obtained from Plains sources to the east. By A.D. 1300, the Eastern Anasazi had retreated from pueblos in the eastern foothills of the Sangre de Cristos, and Pecos Pueblo was established as the eastern most puebloan community. During the protohistoric, or by about A.D. 1400, the focus of Eastern Anasazi trading shifted east to the Southern Plains, which simply

represented an intensification of the trade patterns already established with the Plains in the prehistoric (Snow 1981:365).

Bison had returned to the Southern Plains by about A.D. 1350 (Dillehay 1974), and this is a most significant factor in the further development of social contact and a trade network between the Pueblos and the Plains Indians (Baerreis and Bryson 1965; Baugh 1984; Collins 1971; Creel 1991; Gunnerson 1972; Jelinek 1967; Krieger 1946, 1947; Lange 1953, 1957, 1979; Reed 1949; Scholes 1942; Snow 1981; Spielmann 1983; Spielmann, Schoeninger, and Moore 1990; Wedel 1982).

After A.D. 1350-1400, Puebloan-associated artifacts begin to show up in Plains sites with greater frequency (Baugh 1984, Baugh and Swenson 1980, Jelinek 1967, Wedel 1982, Wendorf 1960), as do Plains artifacts in Eastern Puebloan sites (Gunnerson 1984, Lange 1953, Lister 1948, Spielmann 1983, Thoms 1976, Wendorf and Miller 1959, Wendorf and Reed 1955). In particular, the presence of Puebloan pottery in the archaeological record of the Southern Plains often has been recognized as an indication of an established relationship between the Eastern Pueblos and the Plains Indians (Baugh 1984, Baugh and Swenson 1980, Crabb 1968, Habicht-Mauche 1987, Honea 1973, Krieger 1947, Spielmann 1983, Wendorf 1960).

Judith Habicht-Mauche (1987:176-178) analyzes the ceramic assemblage of three protohistoric complexes of the Southern Plains: the Tierra Blanca and Garza complexes of the Texas panhandle and the Wheeler phase of western Oklahoma. The Tierra Blanca peoples were nomadic bison hunters who occupied the upper drainages of the Red River between A.D. 1400 and 1650. The Garza Complex sites are located

primarily along the White River in Blanco Canyon and reflect a bison hunting culture as well, albeit one more sedentary and reminiscent of Plains Village subsistence patterns. The Garza Complex peoples inhabited the Southern Plains from about A.D. 1450 into the early 1700s. In western Oklahoma, the Wheeler phase sites indicate a subsistence based on a mixed economy of bison hunting and horticulture, occurring between A.D. 1450 and 1750.

The ceramic assemblages of all three archaeological foci indicate a well-developed tradition of exchange with the Eastern Pueblos of the upper Rio Grande (Habicht-Mauche 1987:177). This tradition of exchange is reflected not only in actual trade ceramics, but also in the indigenous trade wares as well. Habicht-Mauche (1987:185) describes similarities between the striated utility wares of the Southern Plains (named Tierra Blanca Plain [Baugh and Eddy 1987]) and the striated utility wares of the Rio Grande and concludes that the two wares illustrate a shared ceramic tradition. She explains this phenomenon as being the result of the established Pueblo-Plains trade network that existed during the protohistoric. "As trade partnerships developed . . . personal alliances may have been formalized through intermarriage. In this manner, Southwestern ceramic technology might have been carried to the Plains by Puebloan potters themselves" (Habicht-Mauche 1987:185).

As the Garza Complex and Wheeler Phase peoples became even more specialized in bison hunting, they may have needed to supply their carbohydrate needs through trade with the Eastern Pueblos. Even so, according to Habicht-Mauche (1987:186), they would have retained their

traditional technology for producing vessels used in processing the exchanged foods. The Tierra Blanca Complex peoples, however, probably arrived on the Southern Plains with no established technology of corn processing and likely adopted the Southwestern style of striated culinary ceramic production. In summation, Habicht-Mauche (1987:186) states that

[a]s Southern Plains groups became more dependent on the agricultural surpluses of the Rio Grande for their survival, they also needed to adopt facilities and technologies for storing, processing, and consuming these resources, . . . [and] Tierra Blanca Plain would have fulfilled at least some of these requirements.

Timothy Baugh (1984:158-160) describes evidence of an established trade network as appearing in sites along the White River in the Texas Panhandle, as well as in Edwards Complex sites of western Oklahoma. The White River sites date to the intermediate Plains Village period, or A.D. 1450 to 1750, and the Edwards Complex dates from A.D. 1450 to 1650. Of the total inventory of the White River sites, from 14% to 50% was Galisteo Basin ceramics and from 1% to 7% of the lithics was obsidian from New Mexico (the Jemez Mountains). The Edwards Complex sites yielded trade items originating from the west and from the east. In pottery, most came from Pecos Pueblo, with less from Picuris Pueblo. Other trade ceramics were Caddoan in origin, which dated between A.D. 1500 and 1700. Lithics at the Edwards Complex sites contained at least 5% Jemez Mountains sourced obsidian.

Baugh (1984:160) divides the development of this trade network into two periods. The first is termed an open system where, prior to

A.D. 1450, goods were traded down the line, contact being infrequent, and the quantity of items traded small. In this system, few, if any, cultural adaptations were required of the recipient culture group.

After A.D. 1450, interaction grows in intensity and a closed system is developed between the Pueblo and Plains trading groups. This system requires greater social interaction and cooperation between societies, whereby the participating societies actually make some social adjustments to one another in order to form an organized alliance. Baugh (1984) terms this the Southern Plains Macroeconomy.

There are three structural positions in the Southern Plains Macroeconomy as explained by Baugh (1984). At the primary level are the Eastern Pueblos, at the secondary level are the pre-horse Plains Apaches, and the third level is occupied by the Teyas societies of west central Oklahoma. Through adaptation of the Southern Plains Macroeconomy, each culture became socially and economically dependent. This dependency is stressed through alliances based on economic reciprocity and redistribution. "From this perspective, Southwest and Southern Plains societies become dynamic components of a single social system, . . . [a system which] tends to integrate these societies by means of complementary and convergent [social] structures" (Baugh 1984:161).

The primary focus of this exchange network was on what Spielmann (1983:257) terms complementary foods--carbohydrates (corn) for protein (bison meat). This mutualism existed between populations who occupied different environments and who exercised the diverse social-cultural

adaptations required in best exploiting those environments. As Spielmann (1983:258) explains,

. . . because the resources which are acquired through mutualistic exchange constitute part of the adaptation of each population, . . . both the hunter-gatherer and horticultural populations must organize their subsistence activities to meet the needs of their exchange partners as well as their own subsistence needs. . . . In addition, social mechanisms must be developed to sustain the economically based interactive system.

Although the intended trade involves food items, such perishables are seldom preserved in the archaeological record. Spielmann (1983:258-261) describes the surviving artifactual evidence of this trade network as consisting in two forms: utilitarian items and gift items. Utilitarian items are not generally available locally and often have no local equivalent. Gifts can consist of a variety of type items and are used to affirm the social ties required in a successful trade alliance. Evidence of Pueblo-Plains interaction in Pueblo sites consists of bison bone tools and bone refuse, Alibates flint tools and debesis, and freshwater mussel shell ornaments. In Plains sites, evidence of Pueblo trade can be seen in items such as obsidian from the Jemez Mountains, turquoise from the Cerrillos mine, and pottery.

Pottery actually began as a gift item prior to A.D. 1450 while Plains groups still had an established ceramic tradition. After that date, however, Plains pottery production appears to have ceased and the Eastern Pueblos become the "primary source of ceramics for populations occupying" . . . the Llano Estacado (Spielmann 1983:268). Farther east in the horticultural villages of the Edwards Complex,

local manufacture was still prominent and Puebloan pottery occurs infrequently in the archaeological record.

Studies recently have attempted to demonstrate the importance of bison to both Pueblo and Plains cultures after A.D. 1300. Darrell Creel (1991) reports increased importance, as evidenced in the occurrence of endscrapers and beveled knives in the Southern Plains Texas site 42TG91. In this site, endscrapers are present from 600 B.C. to A.D. 900, although the quantity is minimal and beveled knives are entirely absent from the record. After A.D. 1300, the number of endscrapers increase dramatically and beveled knives suddenly appear as well. This, states Creel, supports the increased importance of the bison hide, and other by-products, likely as a trade commodity, after A.D. 1300 when bison numbers were again high on the Southern Plains. Spanish reports support the apparent great importance of bison products to the Rio Grande Pueblos by the presence of hides, head pieces, shields, footgear, cloaks, and blankets in most every pueblo visited (Snow 1981).

Spielmann, Schoeninger, and Moore (1990) searched even deeper to determine importance of bison in the diet at Pecos Pueblo and how that reflects the Pueblo-Plains system of interdependence. Through bone chemistry studies of skeletal remains from excavations at Pecos Pueblo (see Kidder 1932, 1958), the authors were able to determine certain aspects of the diet, i.e., from what probable sources most caloric and protein intake were obtained. Data from human bone analysis was compared to the archaeological data recovered from Pecos middens.

The initial aim of this study was to test the authors' hypothesis that bison meat replaced, rather than supplemented, local mule deer as the principle sources for dietary protein at Pecos and, secondly, that Spanish occupation had detrimental effects on the Pecos subsistence strategies. Results indicate that both mule deer and bison meat were part of the Pecos Pueblo diet throughout occupation. In regard to the detrimental effects of Spanish arrival on the diet, the authors found that either meat or corn, or both, may have been decreased, but was replaced in caloric content by increased wild plant consumption (Spielmann, Schoeninger, and Moore 1990:761).

In summary, Puebloan subsistence remained basically the same throughout the late Prehistoric and into the early Historic period. On the Southern Plains, however, when the Plains Woodland and Panhandle Aspect populations abandoned horticultural villages, only hunters and gatherers remained. Whether these Plains village people changed their subsistence system entirely to hunter-gatherer pursuits, or whether the hunter-gatherers were the newly arrived Athabascans, has yet to be fully resolved. Important is that it is during this time the Plains were largely occupied by hunter-gatherers and that mutualism developed between the Pueblos and these hunter-gatherers. Gift items were traded most likely to cement necessary social ties that would assure equal access to hunting territories, and/or hunting spoils. Utilitarian items were traded based on mutual need: tools and meats for corn and vessels (Spielmann 1983). During the Historic period, Plains groups traded consistently with Pecos, Taos, Picuris, and Las Humanas Pueblos. Each pueblo functioned as a redistribution

center for buffalo products to the various Rio Grande pueblos, and for cotton blankets, turquoise, obsidian, and corn to the Plains traders (Snow 1981).

The arrival of Spaniards in northern New Mexico marks the beginning of great changes in the well-established, nearly 200-year-old Southern Plains Macroeconomy. Beginning in the 17th century, the system was disrupted by a number of factors. The availability of the horse to the Plains Utes and Comanches resulted in increasing attacks on the trading and hunting parties of Athabascans and Pueblos (Kenner 1969, Kessell 1979, Snow 1981). The Spaniards' desire for slaves led to the development of a relationship with the Comanches who were eager to oblige with Apache and Pawnee slaves (Kenner 1969, Snow 1981). The Spaniards would often raid trading Pueblo-Plains groups for Apache slaves causing great tension and strain on this trade system (Kessell 1979, Snow 1981).

By the late 1600s, the Spaniards were going directly to the Plains for their slaves and buffalo products, bypassing the Pueblo middlemen. The increasing monetary value of bison products in Mexico meant greater demand on the Puebloan households to supply these goods. Snow (1981:367-368) believes that these Puebloans may have been forced to intensify their hunting activities to the detriment, perhaps, of traditional subsistence pursuits such as of farming. The labor demands of the Spanish missions on Pueblo men meant the demise of an established and successful farming system and a general shortage of food, either for trading or consumption (Kessell 1979, Snow 1981).

CHAPTER IV

RECORDING AND CLASSIFYING ROCK ART

Recording

The first step in studying a rock art site, as with any archaeological site, is the actual field recording. Beyond identifying location, some baseline data concerning the defining characteristics of a site should be collected. Great interest in rock art has not always existed within the circles of professional field archaeologists. As a result, the initial recording of rock art sites was often only sparsely addressed. Because the potential for future study in this field has not been often recognized, the level of documentation of rock art sites has been substandard. Most of the archaeologists documenting rock art in the past have relied on their own professional judgement as to the how and what to document. Only recently, with an increasing professional interest in rock art research, has the question of recording standards been addressed. To date, however, little appears in published form.

Swartz (1980:9) states that "[i]t is impossible to prepare a universal, objective set of standards" in recording rock art. The appropriate level of documentation must be determined on a site by site basis, with criteria to include such factors as archaeological significance, threat or level of deterioration, accessibility, and site integrity (in terms of previous intervention or disturbance). He provides what he terms some minimal standards for recording sites for which the opportunity of return visits are unlikely. In deciding the

techniques to be utilized in each case, the goal should be "optimal data recording and minimal resource destruction." Swartz stresses the use of varied photographic techniques over methods requiring actual physical contact with the surface of the art or stone.

Swartz (1980) suggests that at least five types of records should be made of the rock: (1) metric (objective) and observational (descriptive) data; (2) photographic; (3) drawings, not intended to substitute for photographs; (4) map, for multicomponent sites or sites with more than a single art panel; and (5) general description, or the subjective data. These types are described more specifically below.

The objective record consists of the typical measurable data such as dimensions, orientation, Munsell color designation, and stone hardness factor based on the Moh scale. The descriptive or observable data would include evidences of vandalism, patina or lichen cover, superimpositions, and any other obvious weathering or natural characteristics of the site. The photography should be unlimited in variety and approach; such might include the use of a number of angles, lighting situations, panoramas, both black and white and color films, and use of a variety of filters. The hand drawings recommended are to supplement the graphic documentation provided by the photography. Sketches using colored pencils allow the recorder to identify details of the art panels that may not be apparent in the photographs, once study is resumed in the laboratory, away from the actual site. The different colored pencils can be used to indicate each technique rendered in the production of the art, instances of

superimposition can be more clearly presented, and, of course, pigment color can be better represented in a drawing.

The production of a map is standard in all archaeological site recording and is pertinent to rock art recording for the same reasons. The site map should show spatial relationships between the site and its geographical surroundings, including natural, as well as introduced (i.e., USGS benchmarks or buildings, historic or prehistoric) landmarks.

Similarly, general narrative description is basic to all archaeological recording and should include observations of trails or roads, plant communities and environment, and cultural indicators, such as the presence of surface ceramics or lithics in the site area. Also, recommendations for site conservation should be provided here. Such recommendations might include restricting public access, recommended stabilization treatment and/or shelter construction, or simply the need for further study.

As a result of the intensive survey and study of rock art of the Pinon Canyon Maneuver Site (PCMS) in southeastern Colorado, Lawrence Loendorf (1989) of the University of North Dakota, along with co-authors Linda Olson and Stuart Conner (Loendorf, Olson, and Conner 1991), have produced in draft form "A Recording Manual for Rock Art." Loendorf et al. (1991) address all aspects of rock art survey and recording in what is a most practical and invaluable field guide to any level of rock art research.

The major portion of the manual covers, first, a treatment of actual field logistics and survey methodology. Next are the chapters

on recording, the intensive approach given to most all sites, and the approach recommended for sites scheduled for destruction. In the intensive recording guide, the manual covers the practical aspects of mapping, field notations, photography, sketching, drawing, and tracing. The recording techniques described for sites scheduled for demolition include rubbing, surface printing, casting, and the physical removal of the rock art to a controlled, safe environment. The appendices contain the even more practical and technical information associated with field logistics when attempting more radical recording methods, such as tracings, rubbings, and castings. A glossary of rock art research terminology is provided following the bibliography. This document will likely have competition in the near future, but for now it stands on its own as the first extensive field manual produced specifically for recording New World rock art.

John Clegg (1983:87) of the University of Sydney points out, however, that "[t]here is no one way to record rock art, as there is no one direction in which cars should be driven, no one way of walking or cooking." He does, nevertheless, provide his own version of recording methodology which is outlined below.

The notion that a rock art site can be recorded to such a degree that *all* the information is collected is, according to Clegg (1983:87), "false, naive or greedy. The information contained in the smallest, simplest relic is infinite in extent, . . . so any attempt to produce a *really complete* recording is doomed to failure." Clegg goes on to say that there is a minimum level of recording that tells us what is there and its access. This minimum is accomplished through

a sketch, photographs, and an accurate map. But the process of recording what is there "involves a description and[,] therefore[,] a classification" (Clegg 1983:87), which leads to the next step in rock art analysis.

Classification

Once the rock art site has been thoroughly, and objectively, recorded, the next immediate problem to be solved in the study of a specified area is classification, the sorting and organization of a large and varied collection of data. Most often an observer of rock art is confronted with a wide array of images which may have been executed over hundreds of years and by a variety of culture groups. The sorting of these images into style categories is the first basic step toward the organization and description of this data. The fact that the data is composed of art, which in itself is arguably undefinable, only intensifies the hazards presented the anthropologist at the onset of such a study. Linton (1941:41) wrote that ". . . the only possible approach to primitive art is an objective one." Regrettably, Linton offers no practical instruction as to how to objectively view something as subjective as art.

Some have argued that rock art should not be approached as art at all, for it is likely simply a medium for magico-religious practices and not intended for general viewing or aesthetic appreciation. Linton (1941) addresses this conflict well when comparing what he terms "primitive art" to that of the masters, or professionals, of sacred art in Europe. He states that the dominating

motivation in art--utility versus aesthetics--is not always discernable and

[p]erhaps the only test is the degree to which the artist has gone on working after the magical purpose has been fulfilled . . . A Renaissance madonna was painted for a sacred purpose and according to certain conventions which this purpose imposed, but these requirements could have been met by the crudest daub. Other motives lay behind its perfection Hand in hand with man's search for supernatural aid goes his search for beauty and which urge is stronger depends upon the time and place. (Linton, 1941:39)

Discussion on Style

Polly Schaafsma (1985) raises questions concerning the nature of symbolism and the various purposes which art may have served in preliterate societies. She also explores in depth the notion of *style* and methods by which archaeologists might use such a seemingly abstract concept in their attempts at better understanding the roles of rock art within cultural contexts.

Style theory is based in the belief that "style concerns a highly specific manner of doing something and that this manner is always peculiar to a specific time and place" (Sackett 1977, p. 370). As Schaafsma (1985:246) states, it is recognized in rock art studies "that only a limited number of formal possibilities of graphic expression are exploited by any given culture at any given time." The reason that consistency of a certain prehistoric style can be conceived by contemporary observers of rock art is that, as Dorothy Dunn (1968:19) states, ". . . regardless of other factors, styles in certain areas must keep within the bounds approved by the group, as in

the employment of certain symbolism." Along the same lines, Schaafsma (1985:253) echoes Dunn in indicating that

the artist in a preliterate culture seeks to conform to social and traditional expectations in his work, which is created to serve religious, social, and political ends. . . . [S]tyle reinforces cultural identity and, in so doing, it functions as a means of social integration

wherein style could function in maintaining cultural stability.

To use the style concept successfully, then, the recorder must be able to recognize styles that can be used to identify a particular culture during a particular time period (Schaafsma 1985:247-251). Schaafsma likens the use of style concept in rock art to the use of architectural and ceramic styles in the organization of material culture in time and space. In other words, style can be utilized as an organizational device--"by which [the] rock art can be ordered and placed in its temporal and spatial contexts" (Schaafsma 1985:249). Methods for style determination, according to Schaafsma (1985:252), should be based on pattern recognition "taking [into] account figure types, design components, and spatial relationships as they contribute to the general aesthetic mode"; this, she indicates, is in addition to content. Categories resulting from such methods will "in turn articulate more successfully with temporal, spatial, and cultural considerations" (Schaafsma 1985:252).

As part of his extensive work on the Chaquaqua Plateau, Campbell (1968) attempted to assign certain design elements in the rock art to specific cultural horizons. He accomplished this through frequency correlations of the art figures and associated archaeological

materials or sites for which age and cultural affiliation had already been determined. It is this potential for temporal and cultural correlation, says Schaafsma (1985:244), that makes the concept of style a valuable archaeological tool in the study of rock art. But in the absence of an absolute dating technique for most rock art, it is rare that archaeological sites can be definitively associated with rock art sites, even though they may exist in close physical proximity.

The use of style as diagnostic of a particular culture or society is, in most cases, not as straightforward as presented here. Some have judged the use of style as scientifically faulty, primarily because of the inherent, and innumerable, variations of stylistic treatments possibly utilized by individuals, or by different groups within a single society. The prehistoric artist was subject to certain limitations, according to Linton (1941:43), the most important of these being a "rigid division of labor and the assignment of particular crafts . . . to certain groups within the society. Some groups carry this division even farther, reserving certain arts to certain castes." In view of this, he continues that it is not "an infrequent phenomenon of two or more totally different art styles coexisting in a single . . . society with little or no influence on each other" (Linton 1941:43). He uses as examples the gender specific art of the Northwest Coast tribes, as well as that of the Plains Indians, wherein the men's artistic expressions were naturalistic in terms of style, while the women's productions utilized geometric forms. "The art forms differed so completely that, if the actual

situation was not known, they would be assigned to different areas of North America" (Linton 1941:43-44). Linton (1941:41) addressed intercultural similarities in art, suggesting that "[t]he factors which are common to all primitive arts . . . are matters of technique and immediate aim and their universality is due to certain similarities in the social and cultural milieus in which primitive artists must function."

Schaafsma supports this position, as is apparent in her criticism of the approach used by Heizer and Baumhoff (1962) and Heizer and Clewlow (1973). Schaafsma (1985:251) states that focus on element category and technique (or typological approach) is faulty in that it becomes possible then to lump typological divergent elements from culturally distinct regions into the same subject categories. She goes on to suggest that difference in technique does not constitute style differentiation.

But Dorothy Dunn (1968:19) points out that technique is difficult to divorce from style, since "styles arise first from the meshing of all the influence and demands of form and technique. Some styles are firmly governed by technique" and style results from the inherent prohibitions of technique and culture group approval. But "beyond such confinements, . . . it is the artist alone who determines style" (Dunn 1968:19). It is reasonable that the artists' medium would necessarily dictate technique long before style could be given much consideration. The difficulty in executing images on the very dense basalt stones of the Raton Section, for instance, would perhaps limit the possibilities of stylistic expression. And yet, the

softness of much of the sandstone in the same region might afford the artist limitless approaches to the execution of his imagery and expression of stylistic concerns. Also, it has been demonstrated that technique is very much a part of the evolution of style in rock art or, more importantly, in the distinctive techniques utilized by various culture groups. This is duly addressed by Schaafsma in earlier works (see 1972, 1980).

The use of style and technique as determinates of meaning and cultural affiliation in rock art is demonstrated by James D. Keyser (1987). In his development of a lexicon for historic rock art on the northwestern Plains, Keyser used the biographic art of hide paintings and ledger book drawings, for which meaning had been established by the historic artists responsible for them, to determine meaning of certain rock art panels dating from the prehistoric and protohistoric. First, Keyser argued that the predecessor to the biographic art of ledger book drawings so common to the historic Northern Plains Indian culture was the "picture-writing" rock art which depicted scenes both symbolic and descriptive in nature. He then projected the established meanings of ledger drawings backward to determine context and meaning of earlier historic and protohistoric rock art. Although biographic art may also appear in the northern New Mexico and Southern Plains region in the form of buffalo hide paintings, these were trade items and not products of local manufacture. Thus, they are not a potential interpretive tool for the rock art found here.

Keyser's (1987) lexicon was made possible by the existence of a rich ethnography detailing the meaning and interpretation of the

biographic art portrayed in the ledger book drawings. Few rock art studies benefit from such a wealth of readily available interpretive data. The question remains, then, as to how to address analysis and classification of rock art so that a cultural style or affiliation can be established.

John Clegg (1977) addresses the problems of classification and analysis of rock art with a method that is pragmatic in approach, and one which provides the researcher a practical means of sorting out an overwhelming array of artifactual components. Specifically, this methodology solves the problem of style differentiation, allowing easier determination of the causes of variation in the art; i.e., cultural distinction, functional differences, constraints of the medium, or individual expression. Clegg demonstrates two situations for use of his analytic methodology: (1) classification of the design elements within a single rock art panel or site, and (2) classification of a variety of design elements occurring at a number of sites within a specified study area.

The first step in classification within a single site is determining the attributes present in all the design elements represented. In the case of the rock art most prominent in northeastern New Mexico, quadrupeds might be analyzed for the presence or absence of horns, associated anthropomorphs present, life or heart lines, degree of animation, individual size, and, of course, technique or medium used in the production. These attributes would then be listed (vertically) in a graph, with the real occurrences represented

in the opposing (horizontal) bar. The resulting numbers could then be calculated, revealing the types and frequencies of depictions.

The second condition of classification, between two or more sites within a region, addresses the bigger concept of site association, culturally, temporally, or both. Here the sites are analyzed as to the occurrence of recognizable motifs, and these are calculated in terms of frequency and similarities.

Lesley Maynard (1977:389) goes on to provide a similar, but more detailed version of the recording and classification process. In his opinion, "the chief test of the value of a classification system for art is whether the items which are placed together in a group really share a common design characteristic . . . and whether items which are placed in different groups are fundamentally dissimilar."

Maynard (1977) presents what he terms a scheme of terminology to be used in the descriptive process of rock art recording and classification. Maynard's (1977:402) goal in developing this system of terminology was to enable researchers to identify Australian rock art styles with greater consistency, bearing in mind his definition of "style"; that is, "a large number of figures conforming to a small number of selected traits."

The scheme consists of five levels of terminology which are *Technique, Form, Motif, Size, and Character*. An individual design element can be described in terms originating from all of these levels (Maynard 1977:390-391).

Technique refers to precisely how a design was produced on a given surface. The choices here might be pecked, abraded, incised, or

painted. Maynard (1977) supports Schaafsma in noting that variations in technique do not necessarily denote a difference in function, culture affiliation, or artist identification.

Maynard's (1977) definitions become less straightforward, and perhaps somewhat muddled, when dealing with the levels *Form* and *Motif*. For example, a figure listed as "enclosed space" under the heading *Form* may become "footprint" under the heading *Motif* and a "continuous line" under *Form* might become "rake" under *Motif*. The reason for both types of description incorporated into Maynard's system lies in the effort to achieve greater objectivity through the description of form without specific identification of that form. The initial *Form* description helps to discourage value judgements, which might cause misinterpretation of the design being described. In allowing the specific naming of a figure under *Motif*, greater clarity is possible in describing the appearance of the figure, whether the identification is intended to be literal or not (i.e., identifying a design element as a rake does not necessarily mean that it was intended literally as a rake, but in appearance this is how it might best be described).

The levels *Size* and *Character* are generally as straightforward as *Technique*. Under *Size* the recorder has the categories of actual and relative (i.e., "34 x 10 cm" and "less than half life size"). *Character* refers to particular aspects, or treatments, of the design or figure that make it extraordinary in some way. Terms used to describe such character aspects might include "elongated," "realistic," "stick figure," "carrying weapon," "showing movement," and so on.

CHAPTER V

THE ROCK ART OF THE LAS VEGAS PLATEAU

History of Research

While it is easily demonstrated that the archaeological record in northeastern New Mexico is sparse, rock art data for the area is even more so. For all the recent interest in rock art, particularly in the Southwest, the rock art sites of the Las Vegas Plateau appear to be virtually unknown by all but a handful of archaeologists and amateur enthusiasts.

The first archaeologist to do extensive work in rock art research on the Las Vegas Plateau was E. B. Renaud (1936). He concerned himself with the recording of sites primarily along the New Mexico-Colorado state borders, in association with archaeological surveys he was conducting.

Polly Schaafsma is the undisputed expert on rock art of New Mexico. In her works, *Rock Art of New Mexico* (1972) and *Indian Rock Art of the Southwest* (1980), the Plains of northeastern New Mexico are only lightly addressed. In the earlier publication (1972), she reports on a visit to only six sites in this part of the state, guided by Nancy Robertson, an amateur archaeologist of Raton, New Mexico. The Plains of northeastern New Mexico are not included at all in the later work (1980).

Nancy Robertson's (1981) work, however, must be commended most highly, for she has been the primary source of information on rock art of northeastern New Mexico for more than 20 years and served as a

primary informant for this work. Together with her daughter, Jean Robertson Lemmon (1975), Robertson published the first thorough article on rock art of this area since Renaud's (1936, 1937, 1938) cursory work in the 1930s.

Robertson's rock art sites seem to cluster around Raton, New Mexico (Colfax County), where she resides, and east along the boundary between New Mexico and Colorado (Union County). It is presently uncertain whether this is an indication of actual site clustering or a reflection of preference in geographical research areas.

This potential data bias is furthered by the addition of more sites recorded in the New Mexico-Colorado state boundary region in an archaeological survey of the Dry Cimarron Valley conducted in 1984 by Joseph Winter, Office of Contract Archeology, University of New Mexico (Winter 1986). Robertson provides for the survey document a chapter concerning the rock art of the valley (Winter 1986).

Although Robertson's recordings of rock art on the northern reaches of the Las Vegas Plateau are invaluable, they are generally unavailable for scientific review. The majority of her sites cannot be found in the state Archaeological Resource Management System (ARMS) files and, even in Winter's (1986) work on the Dry Cimarron, her site numbers are personal field numbers, rarely accompanied by a state "LA" number. For some reason, her sites have never been provided official status numbers and records in the public files, with the result that researchers are denied access to the information that these sites do indeed exist. Even more unfortunate is that new construction on

private land may eliminate these "unrecorded" sites as a result of their presence not appearing in the public records.

It is the archaeological research of Robert G. Campbell (1968, 1976) on the Chaquaqua Plateau in southeastern Colorado that provides the greatest degree of enlightenment for the present study. In dealing with rock art, Campbell (1968) utilized a frequency correlation of archaeological sites, and associated rock art sites, to potentially identify and date rock art styles on the Chaquaqua Plateau. Since many of the sites on the Las Vegas Plateau occur in Union County, the most northeastern county in New Mexico (and, therefore, nearest the Chaquaqua Plateau), Campbell's rock art dating results can often be extended to apply to the sites in this area of northeastern New Mexico. The Las Vegas Plateau is a vast region with a complex history. The culture areas represented along the boundaries of the plateau account for a great deal of influence in terms of the exchange of ideas and the actual migration of culture traits (see section on Southern Plains Macroeconomy, Chapter III).

The Rock Art Sites

The rock art sites in this survey are organized arbitrarily by county (Map 3), as opposed to organization by stylistic categories. This is logical in that an area as vast as the Las Vegas Plateau was the scene of numerous cultural developments, movements, and expansions which differed from one end of the plateau to the other. Stylistic differences in the rock art of the plateau may be as much a reflection of site location as a reflection of temporal location.

Sites on the map of Figure 3 are numbered to correspond to the figure numbers that illustrate their rock art in the following text. All the sites represented here were visited and recorded by the author during a reconnaissance survey in 1981. The renditions of the rock art following represent the elements which were artistically reproducible in a pen and ink format. Some very weathered and indecipherable images are not included here to avoid confusion in reading the drawings. The illustrations are necessarily representative of the design elements, and their relationship to each other, within each site.

A list of, and definitions for, specific terms used to describe the rock art in the survey follows the site descriptions.

Union County Sites

Bannon #325 (LA 8123). Located in Union County, it consists of four panels (Figure 4) on sandstone boulders, situated on a south-facing slope which descends to the north bank of the Dry Cimarron River. This slope is cluttered with sandstone boulders and is vegetated with juniper and pinon pine, sage, prickly pear, and typical native grasses. The Dry Cimarron has cut deep arroyos just south of the site, and a grassy plains extends south beyond the river. At this location the canyon of the Dry Cimarron River is narrow and lush with water and thick vegetation.

The rock art panels appear on four large sandstone boulders which average in size at roughly 4 x 3 x 2 meters each. A low,

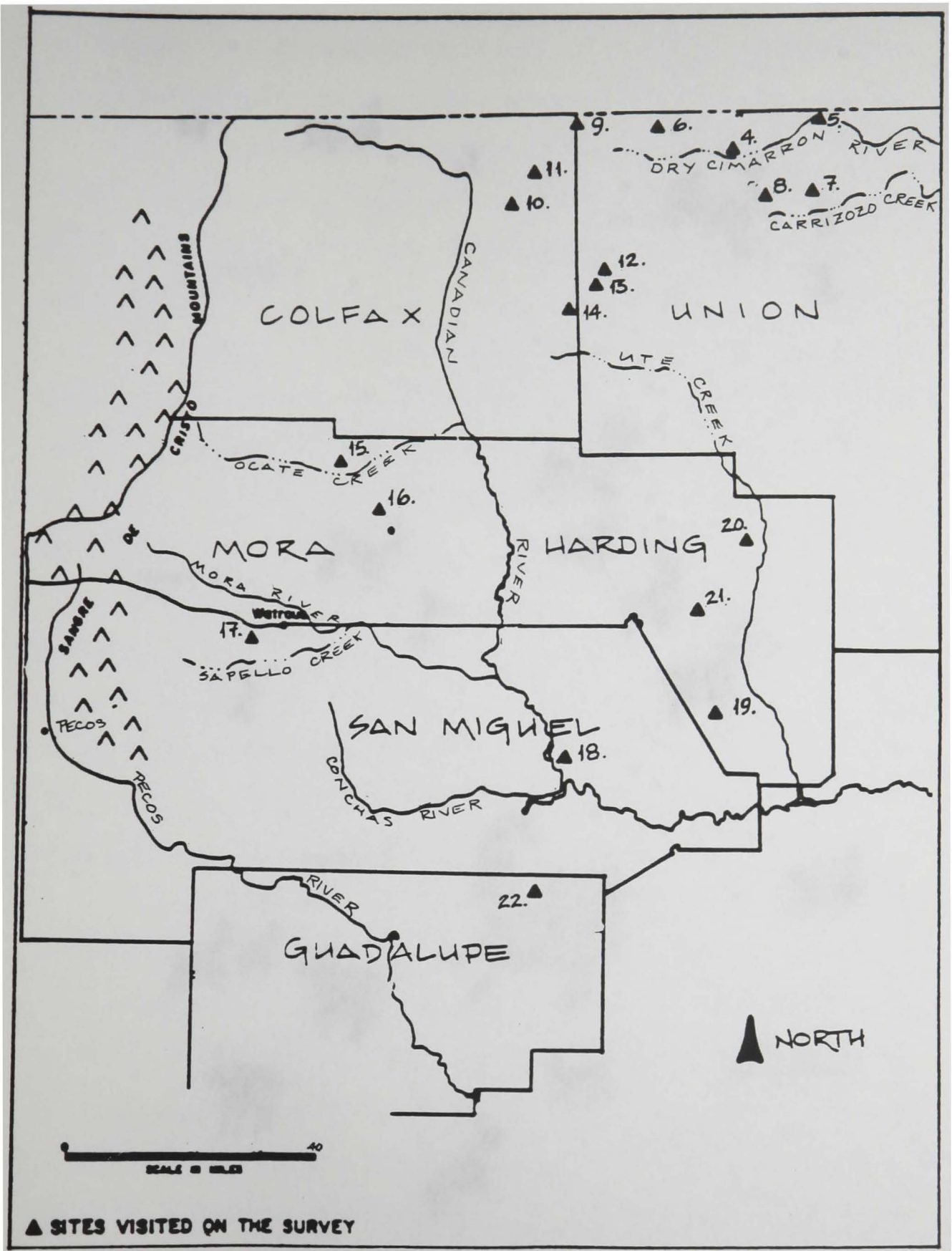


Figure 3. Sites Visited on Survey

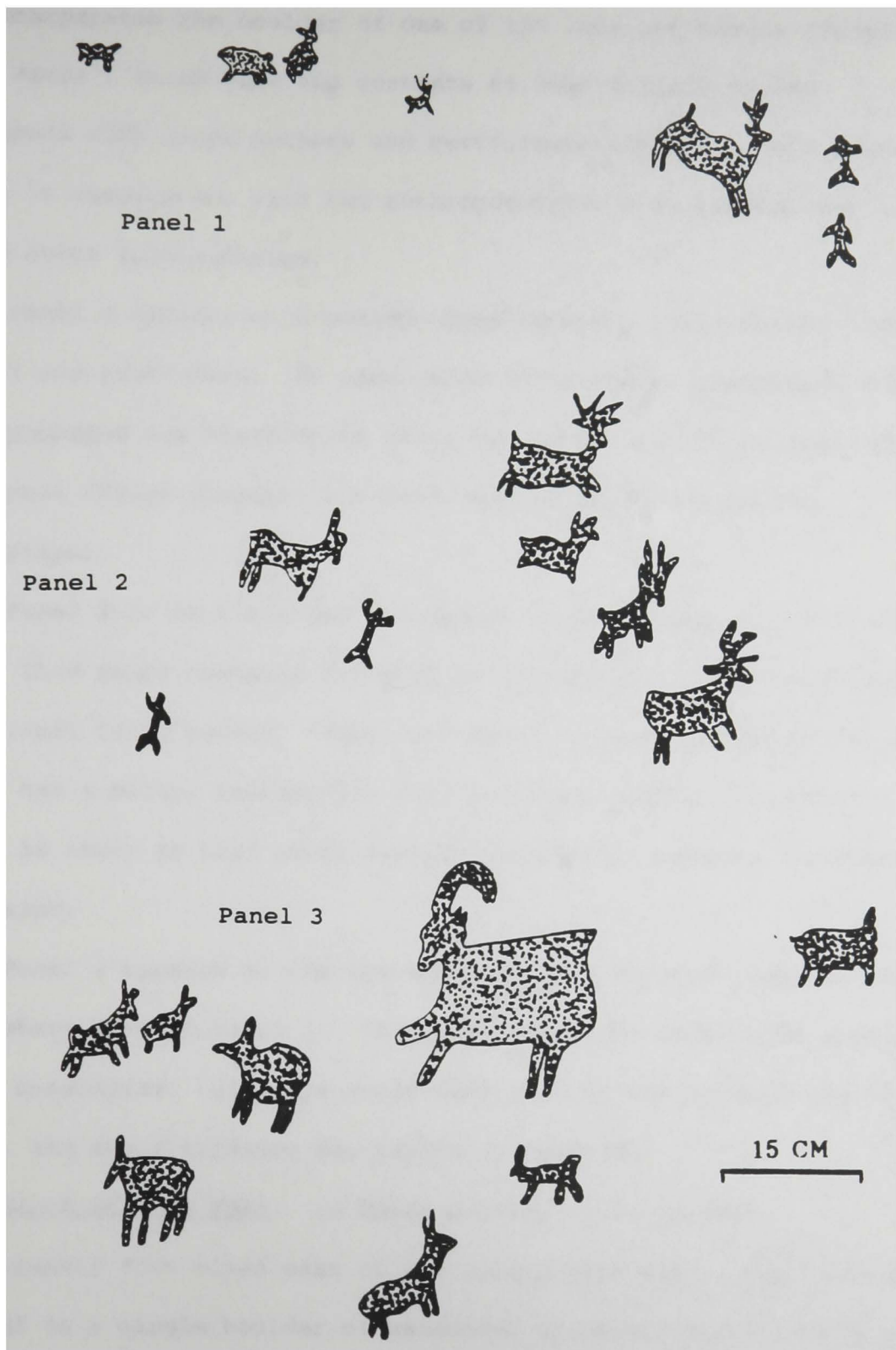


Figure 4. Bannan #325 (LA 8123)

constructed rock wall extends the length of the slope, north to south, and incorporates the boulder of one of the rock art panels (Panel 4).

Panel 1 faces west and consists of four solidly pecked quadrupeds with large antlers and rectilinear bodies. These animals appear in association with two anthropomorphs, also pecked, but in simple stick figure design.

Panel 2 appears on a boulder approximately three meters north of Panel 1 and faces east. At least four fully pecked quadrupeds and two anthropomorphs are discernible here, but lichen growth is heavy and additional design elements are partially obscured and beyond description.

Panel 3 is on a boulder two meters east of Panel 2 and faces west. This panel contains at least 11 quadrupeds of varying sizes and shapes, all fully pecked. Most have small antlers, although one large animal has a bulky, rectangular body with horns curving backward. Patina is heavy on this panel causing the design elements to appear very faint.

Panel 4 appears on the western face of a boulder, approximately four meters west of Panel 2. This panel contains only three shallowly pecked quadrupeds, which are quite difficult to see through the heavy patina, and any attributes are beyond recognition.

Burchard Rock #325. In Union County, it is located approximately five miles east of the Bannon #325 site. The rock art is found on a single boulder of sandstone 60 meters north of the Dry Cimarron River. The site is located at the southern base of a rocky,

barren slope. The primary vegetation consists of short range grasses and cholla cactus, with occasional juniper.

The sandstone boulder is large and anvil shaped, measuring 6 x 3 x 4 meters. The anvil shape provides a natural overhang, albeit limited in size, which was utilized as a one-room shelter with the construction of a small, stone wall enclosure. The rock art panels (Figure 5) are noted on four faces, three appearing distinctly, the fourth being quite faint.

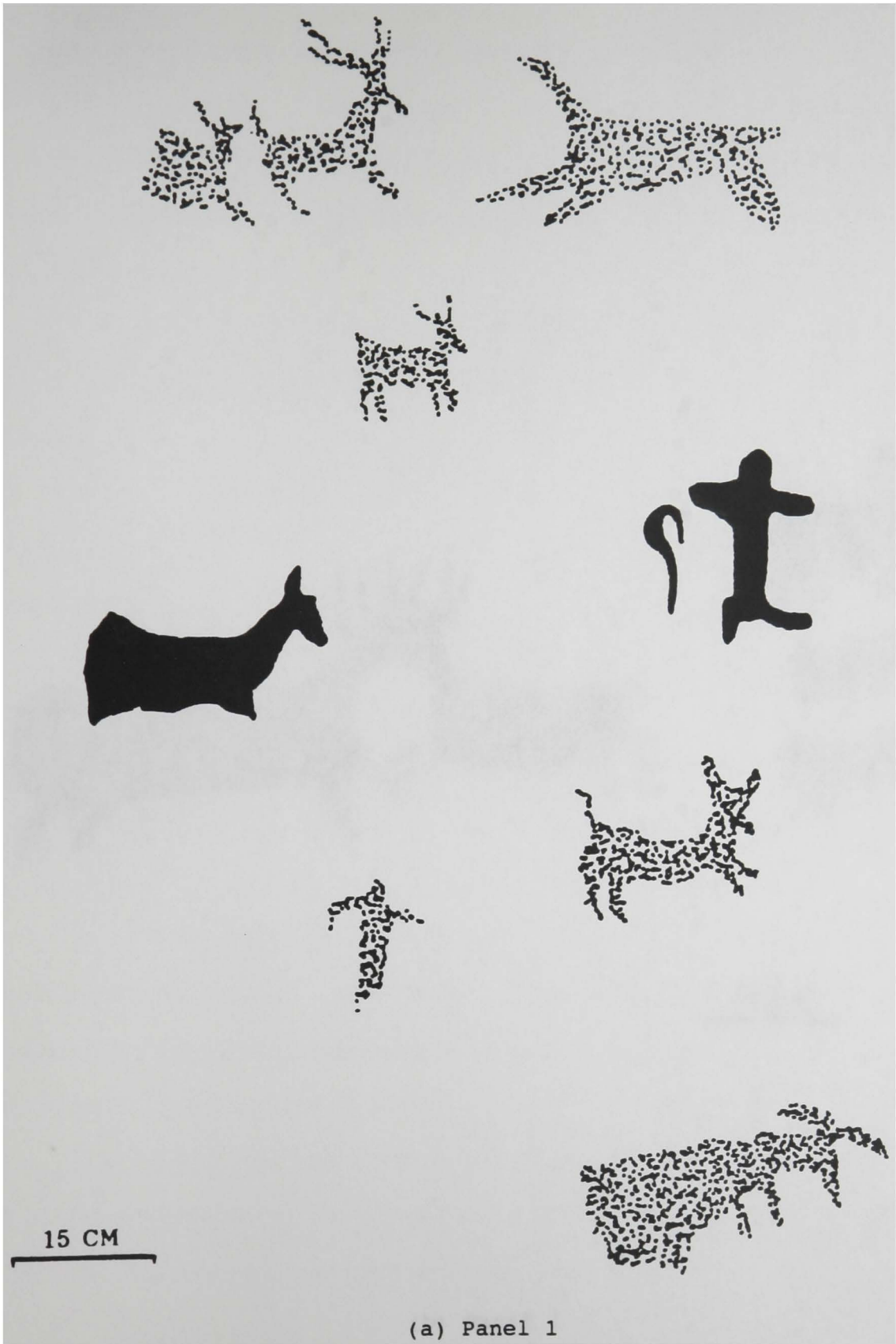
Panels 1, 2, and 3 consist of fully pecked quadrupeds, most all having antlers. Some indistinguishable blotches and lines are also present to a minor degree; these, too, are pecked out of the rock surface. The contents of Panel 4 are suspect in that no distinguishable elements are visible, only vague and scattered peckings are apparent.

Bannon #551 (LA 48887). It is located in Union County on a small tributary of the Dry Cimarron River. The site consists of two panels (Figure 6) situated on the sandstone walls of a large, well-protected overhang. This overhang is located within a narrow box canyon, approximately one-quarter mile across, and lushly vegetated with prairie grasses, yuccas, sages, junipers, and cottonwoods. An intermittent stream flows through the canyon, and beyond the canyon walls is a vast, rolling prairie grassland.

Panel 1 contains mostly red pictographic designs, some of which are also pecked beneath the paint. There are a number of painted design elements which do not lend themselves to positive

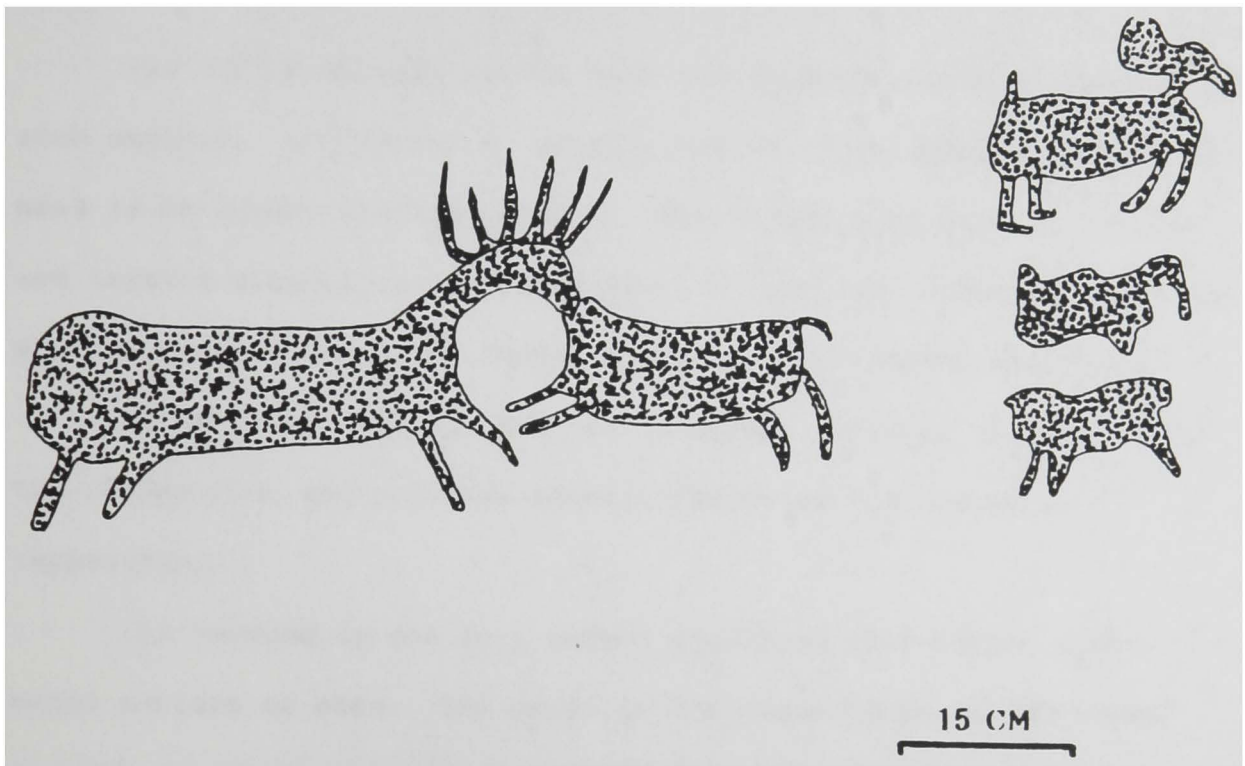


Figure 5. Burchard Rock



(a) Panel 1

Figure 6. Bannock #551



(b) Panel 2

Figure 6. (continued)

identification, appearing only as faded blotches and lines. Other figures more clearly represented here are as follows.

(1) A painted anthropomorph in stick form appears in profile, in a running posture with arms swinging to front and back. Below this are more figures which are brightly painted, but do not appear in any recognizable form.

(2) Fifteen centimeters to the left of the painted anthropomorph is a fully pecked quadruped with antlers and a rectangular shaped body.

(3) Two quadrupeds appear near the present ground surface of the rock shelter. One animal is pecked, but it is so weathered that the head is no longer distinguishable. The second quadruped is painted and located slightly below the first. It is also extremely faint but appears clearly enough to reveal antlers and an abbreviated tail.

(4) Red paint is visible but is either faded or flaked off to the degree that any positive identification of the design is impossible.

(5) Painted in red is a pecked quadruped with either short, broad antlers or ears. The paint is noticeably more sparse where pecking is present, suggesting that the paint did not adhere well to the freshly pecked rock surface.

(6) Above, and slightly to the right of the #5 design, is a painted anthropomorph in stick form. This figure was also pecked, but after being painted, and primarily in the torso region.

(7) Appearing immediately below the anthropomorph in design #6, and to right of the quadruped in design #5, is a painted design element in an unrecognizable form.

(8) An apparent quadruped, although lacking legs, is slightly pecked and painted, and appears with a long, narrowing neck; a rather large head; and possible antlers. Some light and relatively recent pecking occurs in an area around the front shoulder and a portion of the head is now obliterated by the later pecking action.

(9) An anthropomorph is pecked and in the similar stick form described above.

Panel 2 contains five fully pecked design elements and appears east (to the left) of Panels 1 and 2. One large quadruped with numerous tined antlers and a smaller, quite animated quadruped face each other and are pecked in so closely they are virtually connected by their snouts. Immediately behind the smaller quadruped is a pecked, vertical line approximately 10 centimeters long. To the right of the two quadrupeds and the vertical line, are three fully pecked quadrupeds appearing vertically, one above the other, which are of comparable size. The top figure has animated front legs, a rectangular, fully pecked body with abbreviated tail, and long curved horns. Below this animal is a fully pecked quadruped with indiscernible legs. Similarly, the third quadruped is more aptly described as a fully pecked rectilinear blotch, with what appears to be legs and the mere suggestion of a head.

Carrizozo Creek. This site is located in on the flat, grassy valley floor of Carrizozo Creek in Union County. The rock art is

found on the south face of a large, free-standing sandstone boulder, which is located on the north slope of this wide and shallow canyon.

The rock art is pecked, often in outline, with occasional red paint applied over the peckings. The design elements seem to be of various ages as evidenced in varying degrees of visible patination, which in all cases is quite advanced. The boulder has a single panel of rock art with at least 21 design elements that can be distinguished with some certainty, while there are many additional markings so heavily patinated and faint as to defy positive identification of form or motif.

The dominating motif on this single panel is abstract in the form of fully pecked line designs: arcs; meandering, serpentine lines; small circles; zig-zags. The only representational elements are three paws, fully pecked. Figure 7 illustrates representative design elements, or those most discernible and successfully depicted.

Corrupa Creek (R029). This is a small intermittent stream in a relatively shallow and narrow canyon within the Canadian River drainage system in Union County. The surrounding topography consists of rolling grasslands dissected by numerous small Canadian River tributaries.

The rock art site is situated on the north face of a sandstone cliff face on the south bank of the Corrupa Creek. There are two panels (Figure 8) at this site that could even be considered two site components, for one panel appears to be of much greater antiquity.

Panel 1 appears approximately six meters above the present steam bank. Two "penguin" figures are painted in red outline, as is a

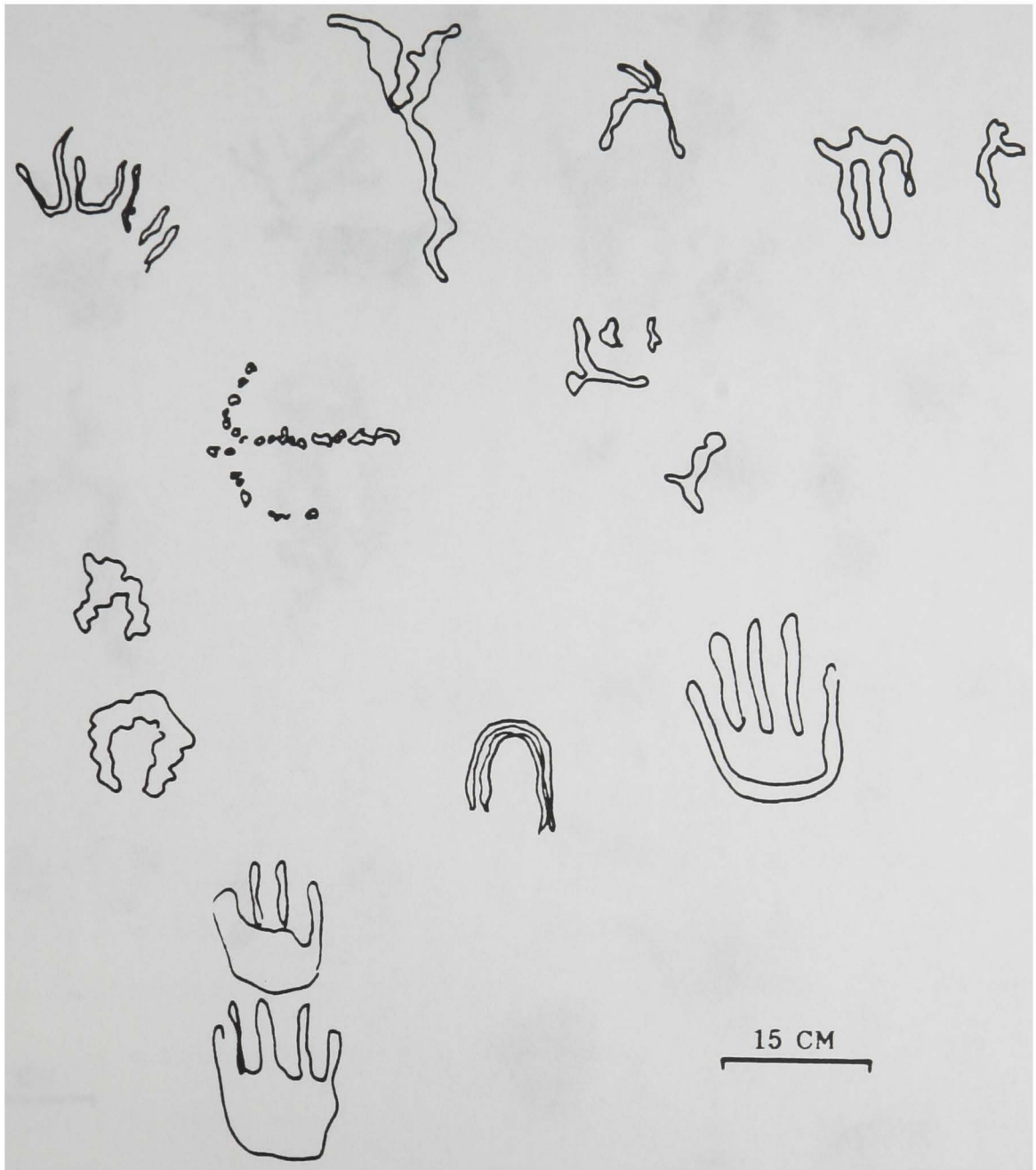


Figure 7. Carrizozo Creek

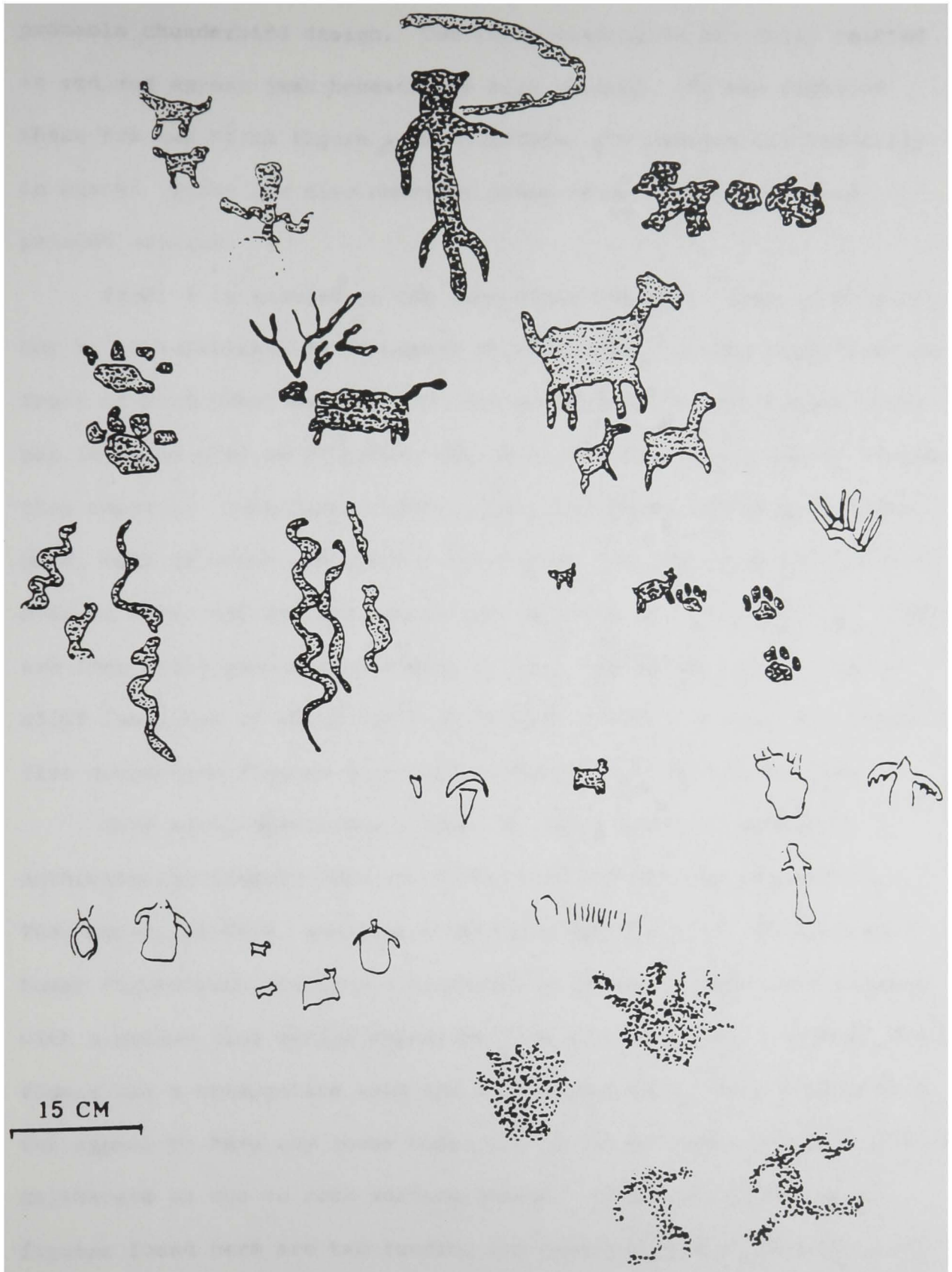


Figure 8. Corrupa Creek (RO29)

probable thunderbird design. Two large quadrupeds are fully painted in red and appear just beneath the bird designs. To the right of these are two stick figure anthropomorphs, the designs painted fully in black. There are also numerous other random markings in red painted outline.

Panel 2 is located on the same sandstone cliff face as *Panel 1*, but it is approximately 10 meters farther west. Stream deposition in front of this panel has made it more accessible at the present time, but it could also be possible that more rock art is now buried beneath this deposit. Countless numbers of solidly pecked quadrupeds appear here, most of which are totally patinated, and many have been painted over in red. Not all are easily reproducible in illustrations. There are four fully pecked paws appearing in a series that trails up the cliff face, two of which are also painted in red. There is a group of five serpentine figures occurring alongside two additional paws.

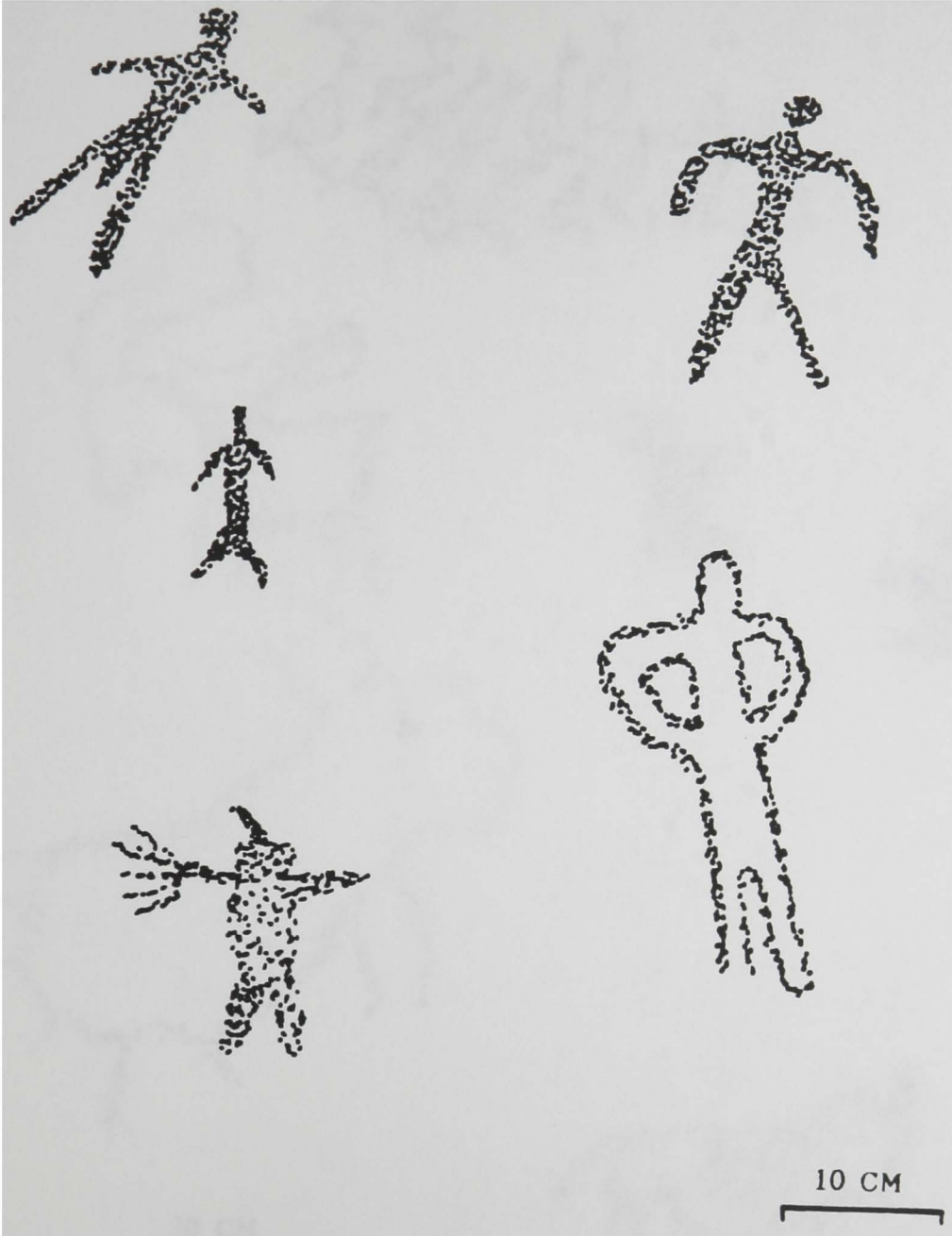
This site, specifically *Panel 2*, has a greater number of anthropomorph figures than any other rock art site on the survey. They merit, perhaps, additional detailed description. An incised human figure with "tail" and headdress with small erect ears appears with a pecked line design emanating from the neck area. Another human figure has a triangulate head and a possible belt. This figure does not appear to have any lower body, but it is not clear whether this is deliberate or due to rock surface damage. Other anthropomorphic figures found here are two running and headless anthropomorphs, fully pecked and quite small, and a painted anthropomorph with a large headdress which has many rays extending from it.

Colfax County Sites

Trinchera Dike (RO46). This site begins in Colfax County, New Mexico, and leads into Las Animas County, Colorado. The Trinchera Dike is a long, basaltic extrusion which forms a virtual rock barrier as high as 10 meters in some areas. This region is extremely arid and nearly featureless. Vegetation includes sparsely distributed grasses, cholla cactus, sages, prickly pear, and scattered junipers.

The rock art on this dike appears primarily on the top and south face. The north face is about 60% covered with lichen growth. The art continues, scattered toward the west for approximately one-quarter mile. The designs here (Figure 9) consist of anthropomorphs, most often in stick form, bird figures, quadrupeds, curvilinear designs, abstracts, mazes, serpentine figures, and a single occurrence of a bison. There is also a scene depicting an animated anthropomorph who is holding a staff or branch, and who is seemingly leading a procession of birds. All the elements are fully pecked except the latter scene, which is pecked in outline. The elements appear singly on individual rock surfaces, rarely clumped or grouped together, with the exception of the bird/anthropomorph scene.

Round Mesa. This site is located at the base of basaltic mesa that is surrounded by the sweeping plains of the Las Vegas Plateau. The rock art is found on the talus boulders that hug the mesa rimrock and on the rimrock itself. The site is located on the south side of Round Mesa in Colfax County, with a commanding view of the plains to the south and west, and of the prominent Eagle Tail Mesa.



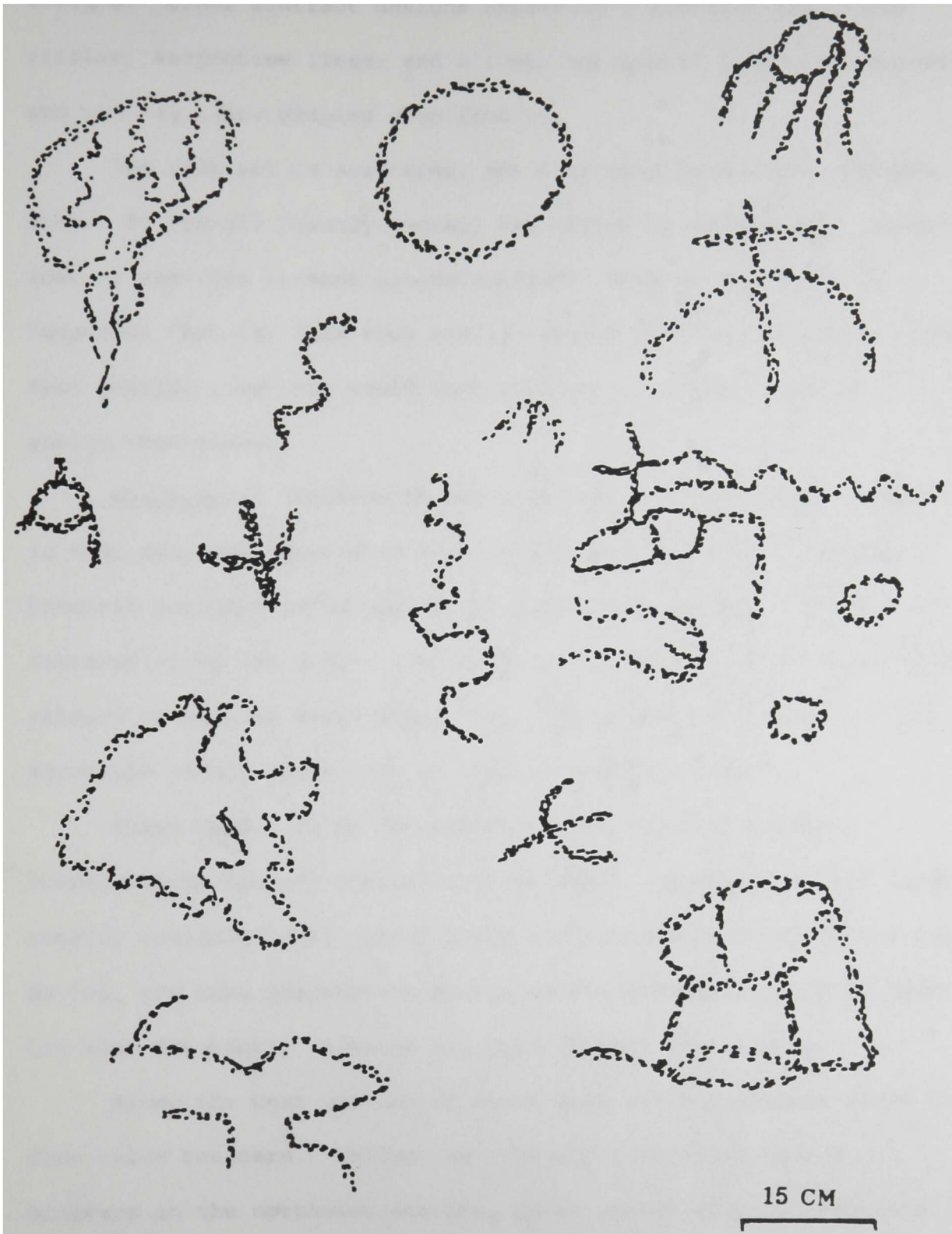
(a) Anthropomorphs

Figure 9. Trinchera Dike (RO46)



(b) Quadrupeds and birds

Figure 9. (continued)



(c) Abstracts

Figure 9. (continued)

The rock art here (Figure 10) consists mainly of meandering line designs. Other abstract designs appearing frequently are grids; circles; serpentine lines; and a long, horizontal line with crescentic and zig-zag lines draping down from it.

The rock art is scattered, not clustered in any well-defined area. It appears faintly pecked, and etched in some places, situated low, or near the present ground surface. This is not a public location; that is, this rock art is created so as to be mostly hidden from general view--one would have to know it is there, for it is easily overlooked.

Black Mesa. Located to the northeast of Round Mesa, though not in view from the Round Mesa site, Black Mesa is another feature of basaltic boulders surrounded by expansive grasslands. The rock art is situated along the lower talus slopes of the mesa and never up on the rimrock as seen at Round Mesa. The various panels (Figure 11) are scattered widely apart, not in any one general area.

There appear to be two areas of rock art that directly correspond to age and stylistic differences. Abstract motifs appear totally blackened with patina along the northwest corner of the mesa. By far, the most predominant design is the meandering line or maze, but also frequently repeated are grid figures and circles.

Along the west portion of Black Mesa are five panels found on four talus boulders. Unlike the randomly positioned panels or boulders in the northwest section, these panels occur on boulders which are clustered together in a single area.

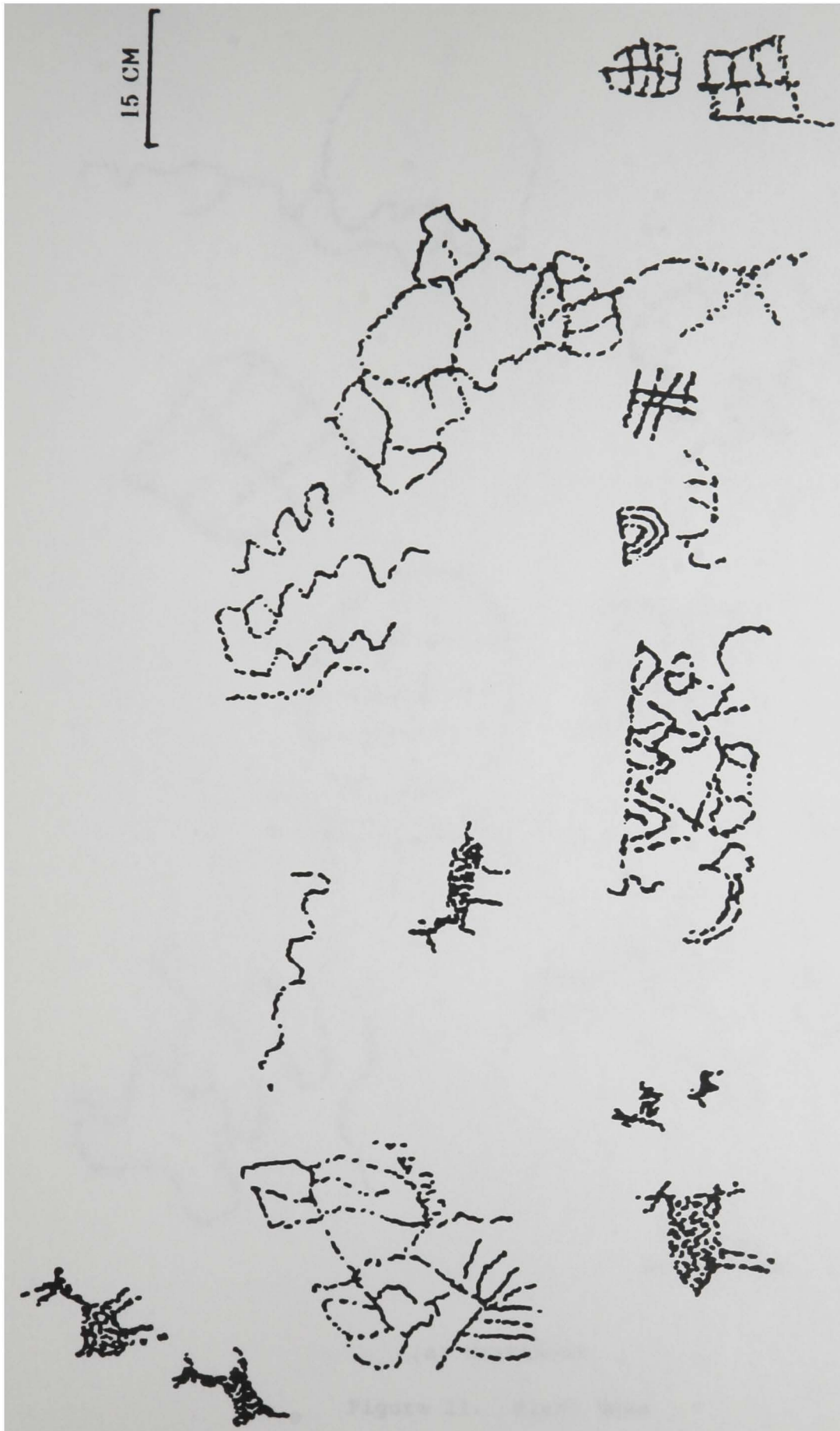
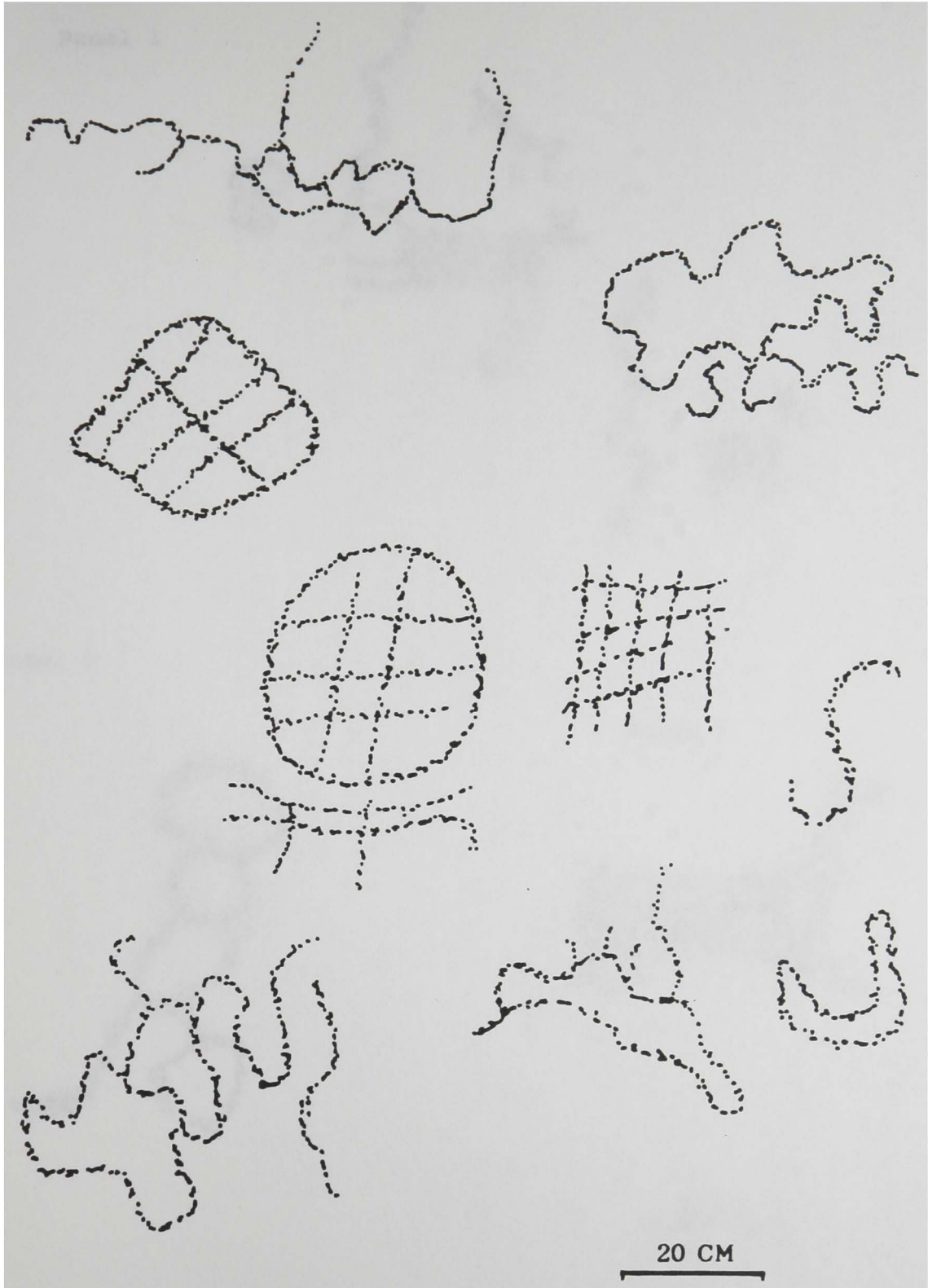
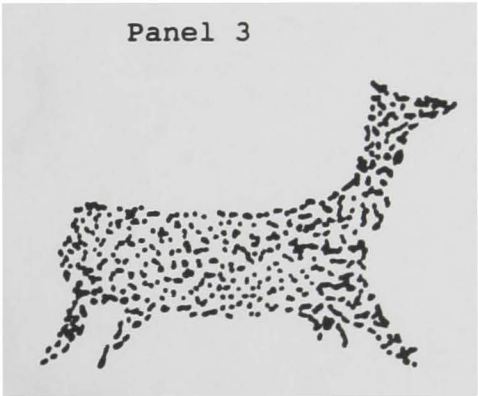
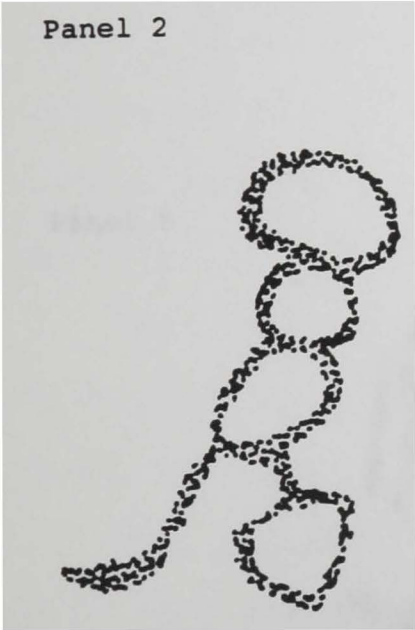
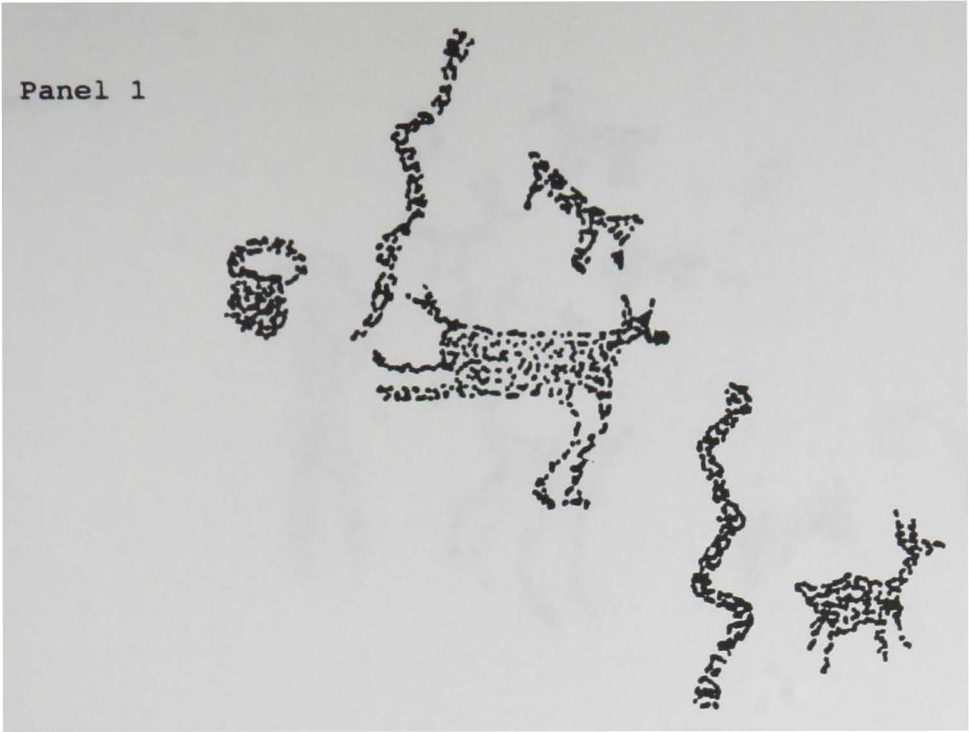


Figure 10. Round Mesa



(a) Northwest

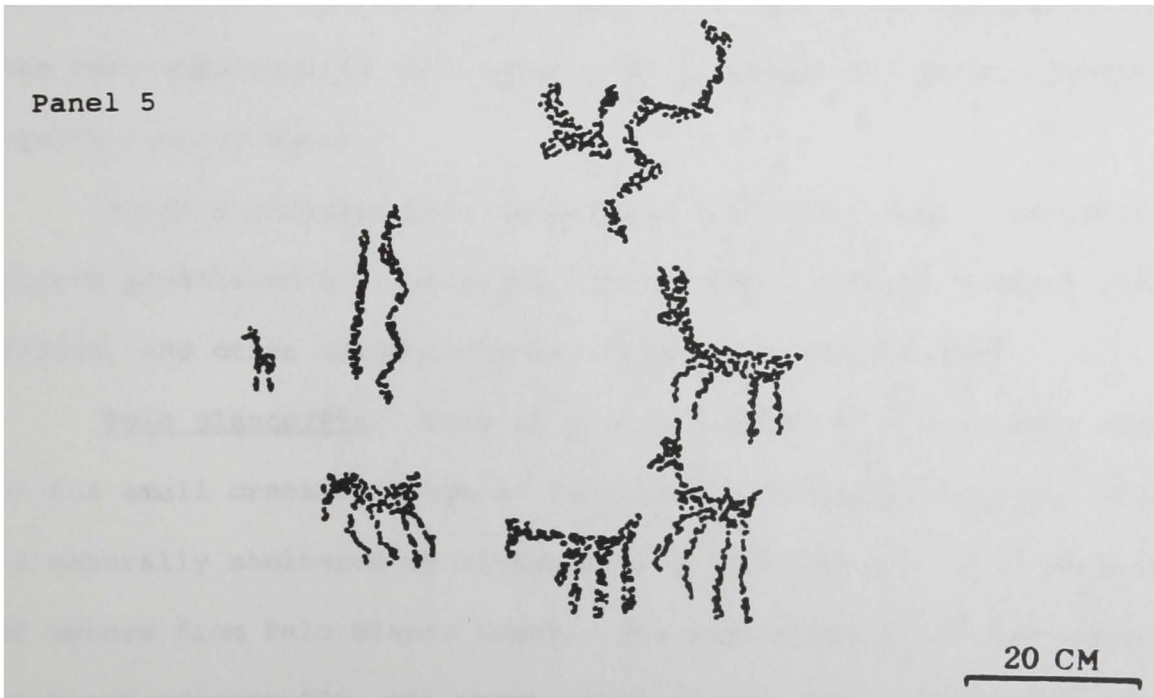
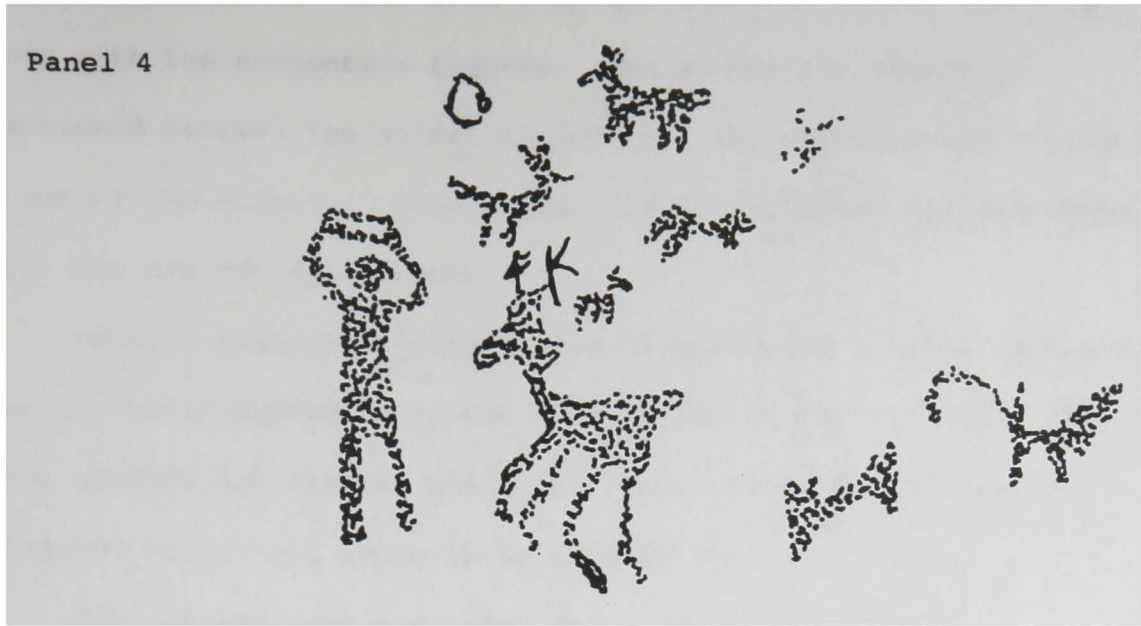
Figure 11. Black Mesa



20 CM

(b) West--Panels 1, 2, and 3

Figure 11. (continued)



(c) West--Panels 4 and 5

Figure 11. (continued)

Panel 1 in the west area contains etchings of two quadrupeds along with two serpentine figures. One serpentine figure is positioned between the animal figures and the other occurs to the left of one of the animals. Other scratchings and pecked designs occur here, but are not discernable.

Panel 2 contains a figure made of connected circles with a thick line or "tail" extending to the left of one of the circles. The first three circles are abutted while the fourth or bottom circle is connected to the one above it by a short straight line.

Panel 3 contains a single, fully pecked quadruped.

Panel 4 consists of five fully pecked quadrupeds of varying sizes and styles, a fully pecked human figure with a long, rectangular torso, stick legs, and arms raised over a head in profile, holding a rectangular box in outline. A small half circle appears above, but has been scratched in at a later date in order to form a complete circle (sun or moon).

Panel 5 contains four quadrupeds with long legs, a serpentine figure paralleled by a straight line of equal length, a small bird figure, and other unidentifiable scratchings and peckings.

Palo Blanco/R54. This is a site located in the shallow canyon of the small creek drainage of Palo Blanco in Colfax County. The area is naturally sheltered by virtue of its location and is no more than 50 meters from Palo Blanco Creek. The site consists of five panels of rock art (Figure 12), all which occur on adjacent surfaces of heavily patinated sandstone, along the west canyon wall. All design elements are fully pecked and face east, toward the creek.

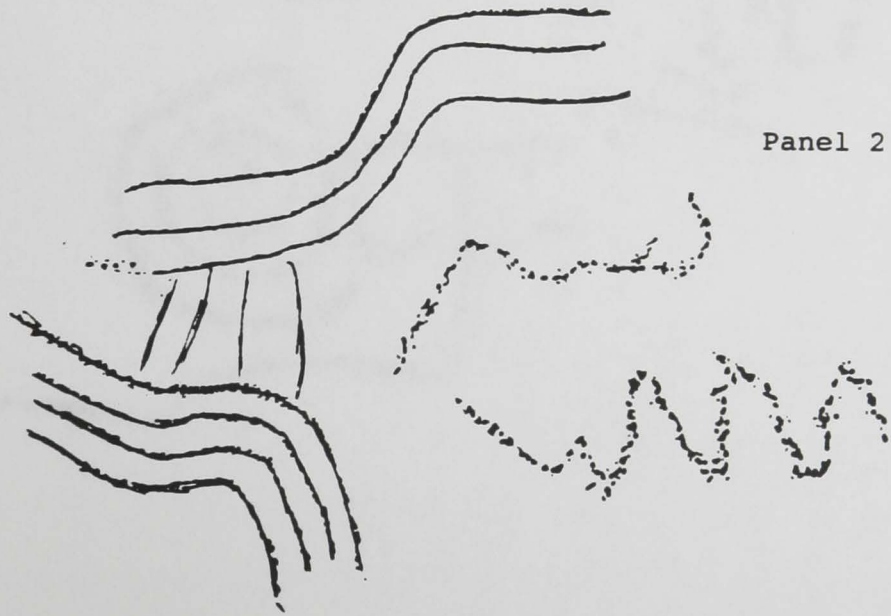
Panel 1



10 CM

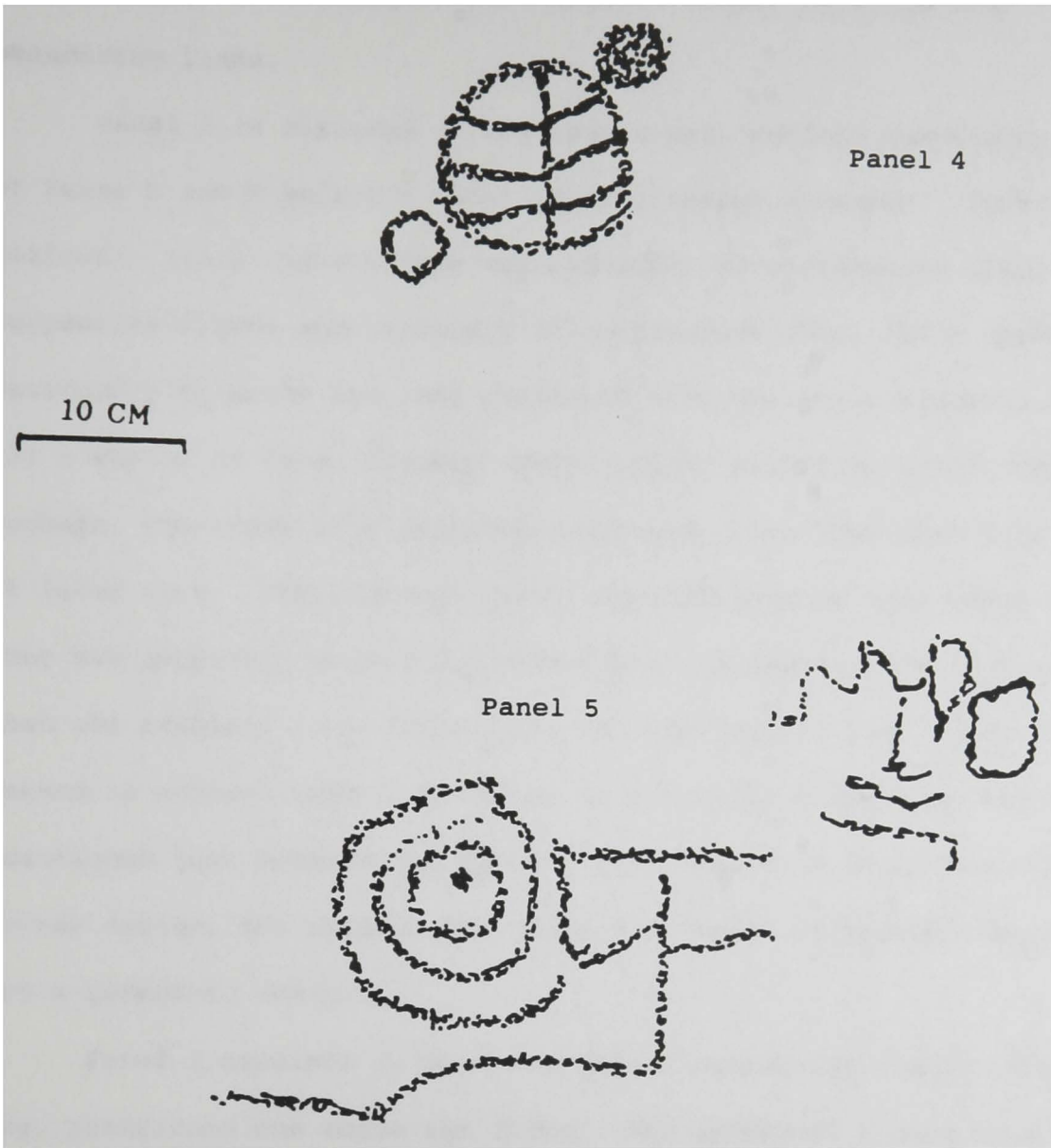


Panel 2



(a) Panels 1 and 2

Figure 12. Palo Blanco/R54



(b) Panels 4 and 5

Figure 12. (continued)

Panel 1 is found on the surface of a large boulder that measures roughly 1 x 3 meters across the face. The rock art consists of four grid designs, maze designs, and numerous linear markings and meandering lines.

Panel 2 is situated on the canyon wall surface immediately north of *Panel 1* and displays a total of four design elements. These are as follows: (1) a zig-zag line approximately 20 centimeters long; (2) a serpentine figure approximately 15 centimeters long, which appears noticeably brighter and less patinated than the other elements here; (3) a series of four, closely spaced lines, angled so as to suggest, perhaps, the shape of a stylized quadruped, with legs that were added at later time. The legs are easily identifiable as late additions for they are partially etched and pecked and are done with much less care than the original line design was; (4) the legs of the figure in #3 extend to connect that line design to a similar three-line figure positioned just beneath the first. This figure is angled as the former design, but without the "legs," it fails to resemble anything but a geometric design.

Panel 3 consists of four zig-zag or serpentine figures and one arc, positioned one above the other. The uppermost figure is a zig-zag made of six rows of angled lines approximately 24 centimeters long. Below this is a crescentic line which measures 18 centimeters long. The next figure is a zig-zag of eight rows of angled lines, 30 centimeters long. The last figure is another zig-zag made of four rows of angled lines which is 19 centimeters long. Farther below,

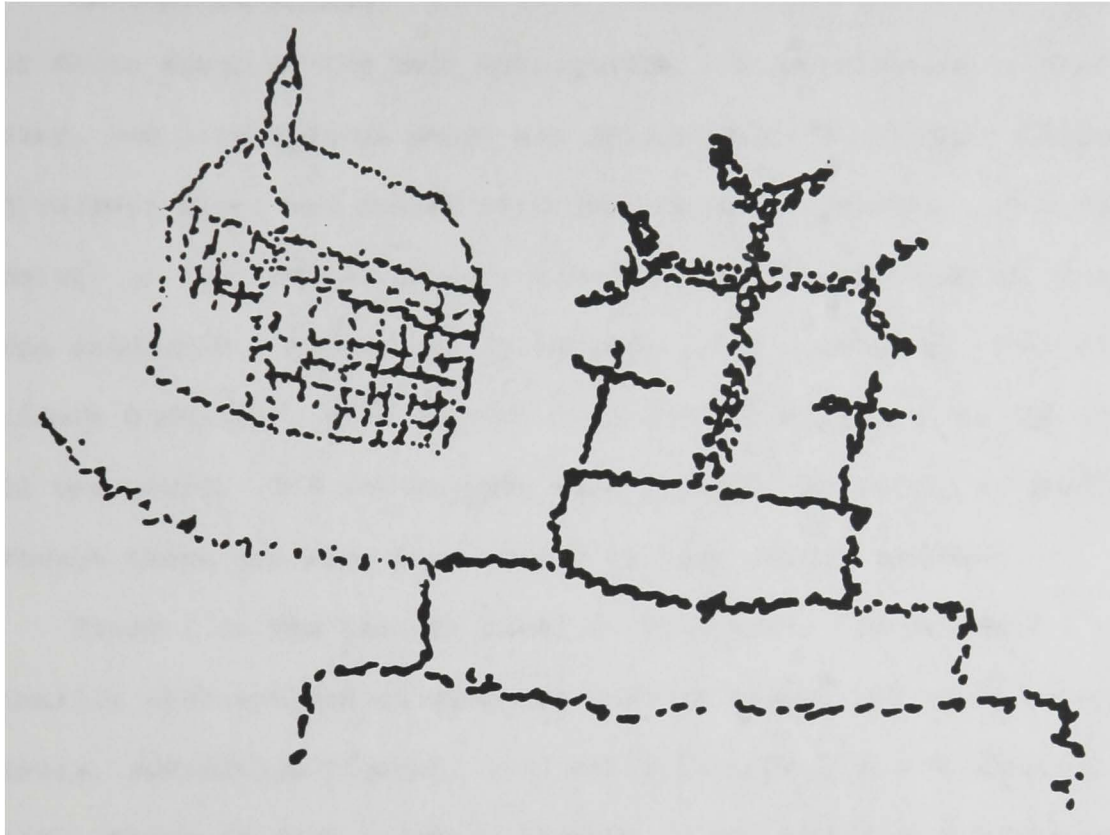
about 46 centimeters, is yet another zig-zag made of five rows of angled lines measuring 20 centimeters in length.

Panel 4 contains a single design element on a small boulder only 60 centimeters in diameter. The rock art is a grid figure measuring approximately 18 x 22 centimeters, with a solidly pecked circle, three centimeters in diameter, attached at the upper right, outside the parameters of the grid. To the lower left, outside the grid about two centimeters, is an open circle, also measuring three centimeters in diameter.

Panel 5 contains a spiral design with accompanying linear figures. The spiral measures 18 centimeters in diameter and is formed by three concentric circles, one within the other with a single dot in the center. Above, and to the left of, the circle design are four horizontal lines. There are two above which measure 40 centimeters each in length; the end of one is forked. Two appear to the left of the circle figure and measure 19 centimeters in length.

Fernandez Christian. This site is in Colfax County, only three miles from the Palo Blanco site, but situated on the grassy, arid uplands. The site consists of a single surface on a sandstone outcropping, just west and within view of the Farley Road (NM 193).

The rock art panel (Figure 13) contains three pecked design elements, historic in nature. The largest, and central, design is a pecked outline of a three-tiered platform, on top of which are three crosses. The center cross is larger, with ornate treatments to the ends of each pole, while the two to either side are smaller and lack any additional decoration. To the upper left of the platform and



15 CM

Figure 13. Fernandez Christian

crosses is a church with the detail of masonry in pecked outline. It is smaller than the cross design which creates the perspective of being farther in the distance. Besides the detail of the masonry, the church shows a pitched roof and has a cupula with a small cross on top.

Farley/Chico Road. This site is also in Colfax County, some four miles south of the Palo Blanco site. It is situated on the grassy, yet arid uplands which are vegetated by occasional junipers and various cacti and dotted with sandstone outcroppings. The site consists of five panels of rock art (Figure 14) appearing on four large sandstone boulders (which average 1.5 x 3 meters). Two of the boulders containing rock art are also incorporated into a low, stone wall enclosure. The petroglyphs were produced primarily by pecking, although there are also some deeply incised design elements.

Panel 1 is the largest panel at this site. It contains primarily abstract design elements such as mazes, zig-zags, rakes, spirals, serpentine figures, and indiscriminate lines throughout the panel. There is also a design element in the shape of a mushroom with a series of small, connected circles trailing off from the design like a tail.

Panel 2 depicts only scanty and random markings indistinguishable as any particular motif. The panel is on the east face of a boulder that is incorporated into the low rock wall enclosure.

Panel 3 appears on the western face of the same boulder as of *Panel 2*. The rock art here is a pecked line motif of two parallel,

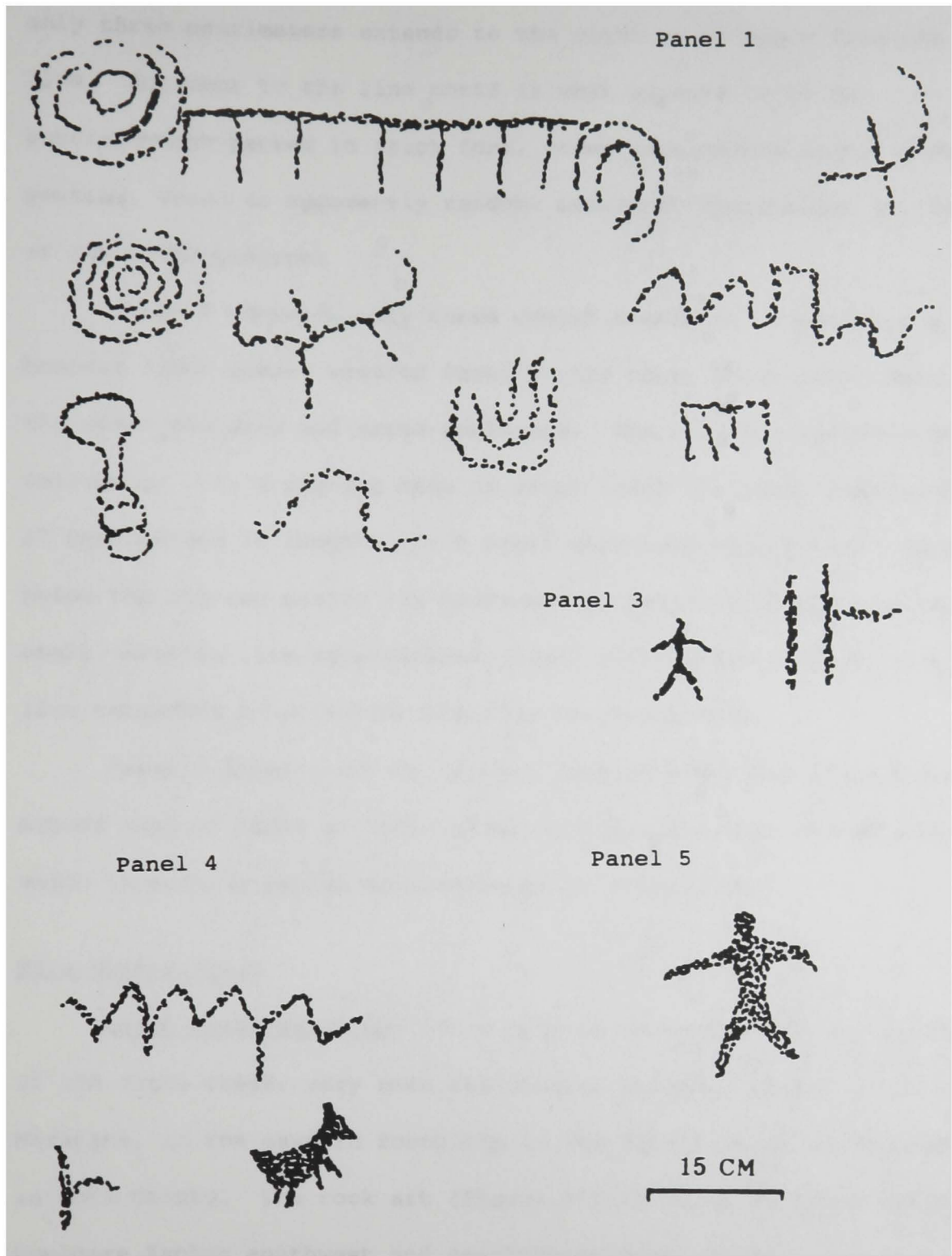


Figure 14. Farley/Chico Road

vertical lines approximately 15 centimeters long. A shorter line of only three centimeters extends to the right at an angle from the right line. Adjacent to the line motif is what appears to be an anthropomorph pecked in stick form, seven centimeters high. Other pecking, which is apparently random, occurs 10 centimeters to the left of the anthropomorph.

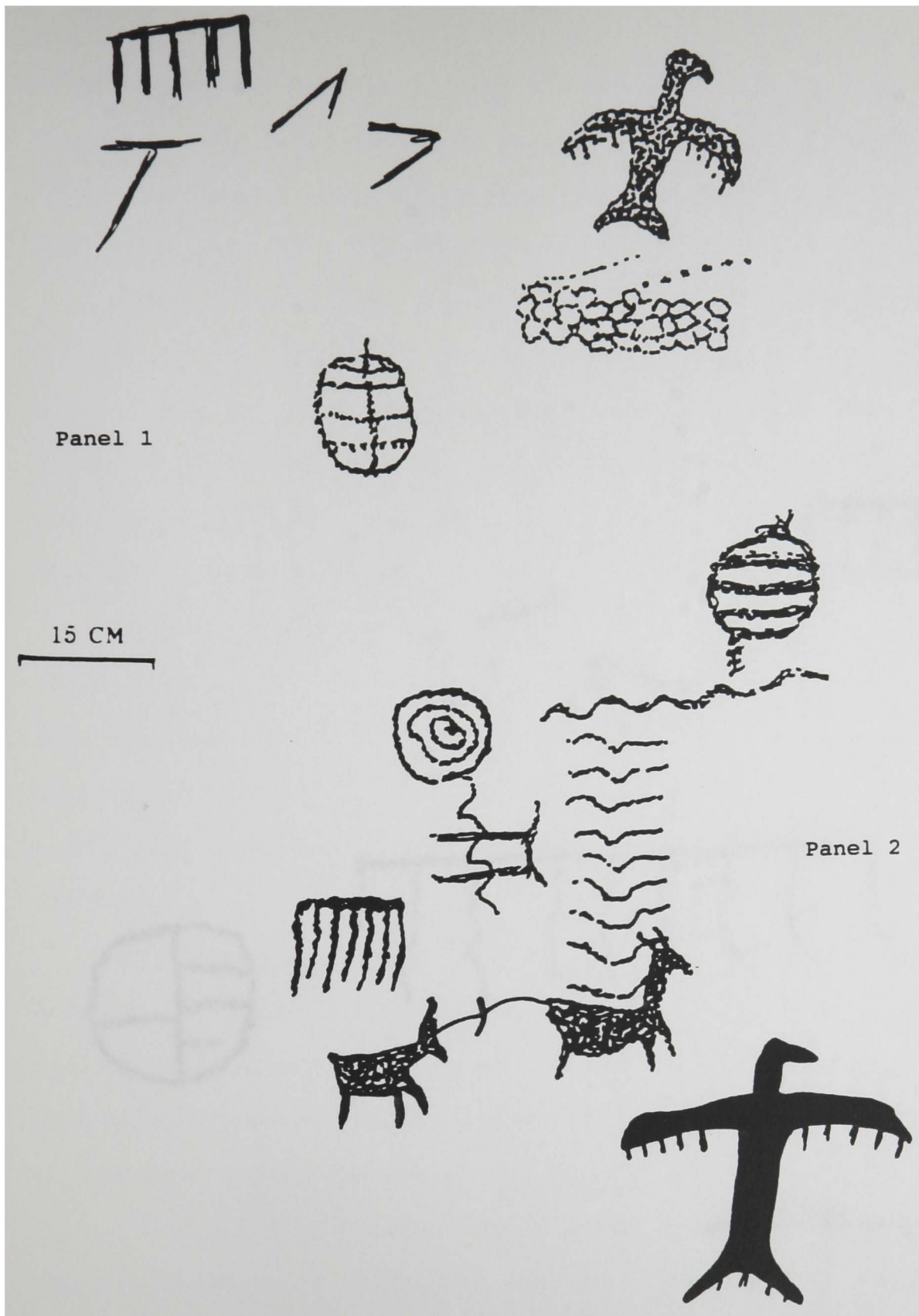
Panel 4 contains only three design elements. Located on a boulder eight meters west of Panel 3, the panel faces west, away from the other boulders and stone enclosure. The rock art consists of the following: (1) a zig-zag made up of at least 10 lines, measuring 37 centimeters in length; (2) a small quadruped with antlers appearing below the zig-zag motif; (3) below and to the left of the zig-zag is a small vertical line approximately eight centimeters long, with a spur line extending four centimeters from the right side.

Panel 5 appears on the eastern face of a boulder located 1.5 meters west of Panel 4. This panel contains a single design element, which is a fully pecked anthropomorph in stick form.

Mora County Sites

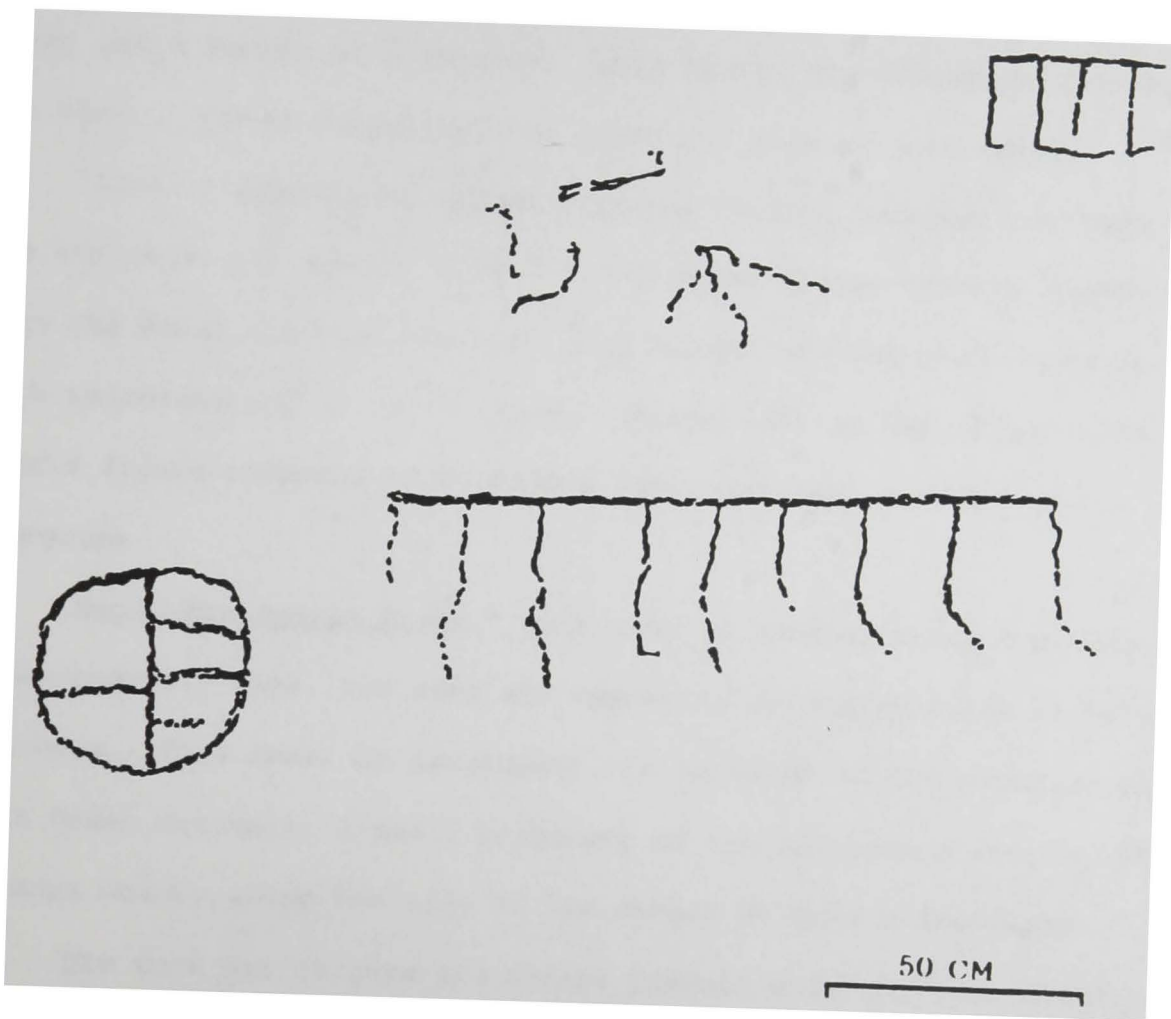
Ocate Creek/Naranjos. This site is located along the north bank of the Ocate Creek, very near the remnant Hispanic community of Naranjos, in the eastern foothills of the Sangre de Cristo Mountains in Mora County. The rock art (Figure 15) is found on three basaltic boulders facing southwest and overlooking Ocate Creek.

Panel 1 contains a variety of design elements which are primarily etched, with only occasional and random pecking. The list



(a) Panels 1 and 2

Figure 15. Ocate Creek/Naranjos



(b) Panel 3

Figure 15. (continued)

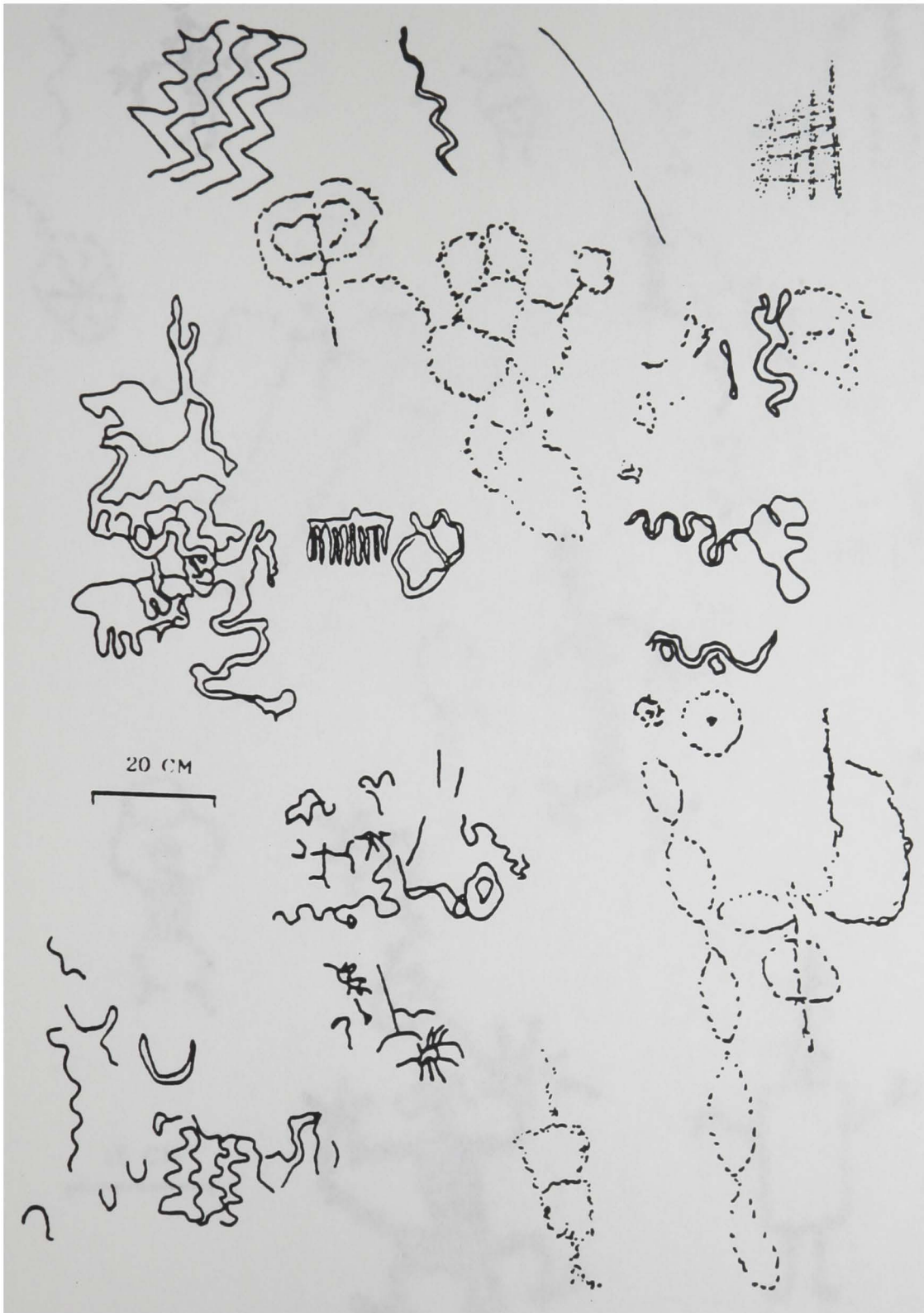
of primary design elements includes a thunderbird, a grid, and a honeycomb grid. Underlying these is a series of lines, circles, and dots in no apparent organization or overall design pattern. These are also much fainter than the former figures.

Panel 2 also exhibits a wide array of design elements which include a thunderbird, nearly identical in shape and attributes as seen in *Panel 1*; a rake with five tines; a spiral; two serpentine lines; two quadrupeds with long, upright ears, connected by a thin line; and a series of nine short, wavy lines, one occurring just above the other. Other indiscriminate lines and pecking also appear.

Panel 3 appears on a free-standing boulder located just below the boulders with *Panels 1* and *2*. Two rakes appear faintly pecked into the stone surface, one with four tines, and the other much longer with approximately 10 to 12 tines. To the left of the larger rake is a grid figure composed of countless small circles, resembling a honeycomb.

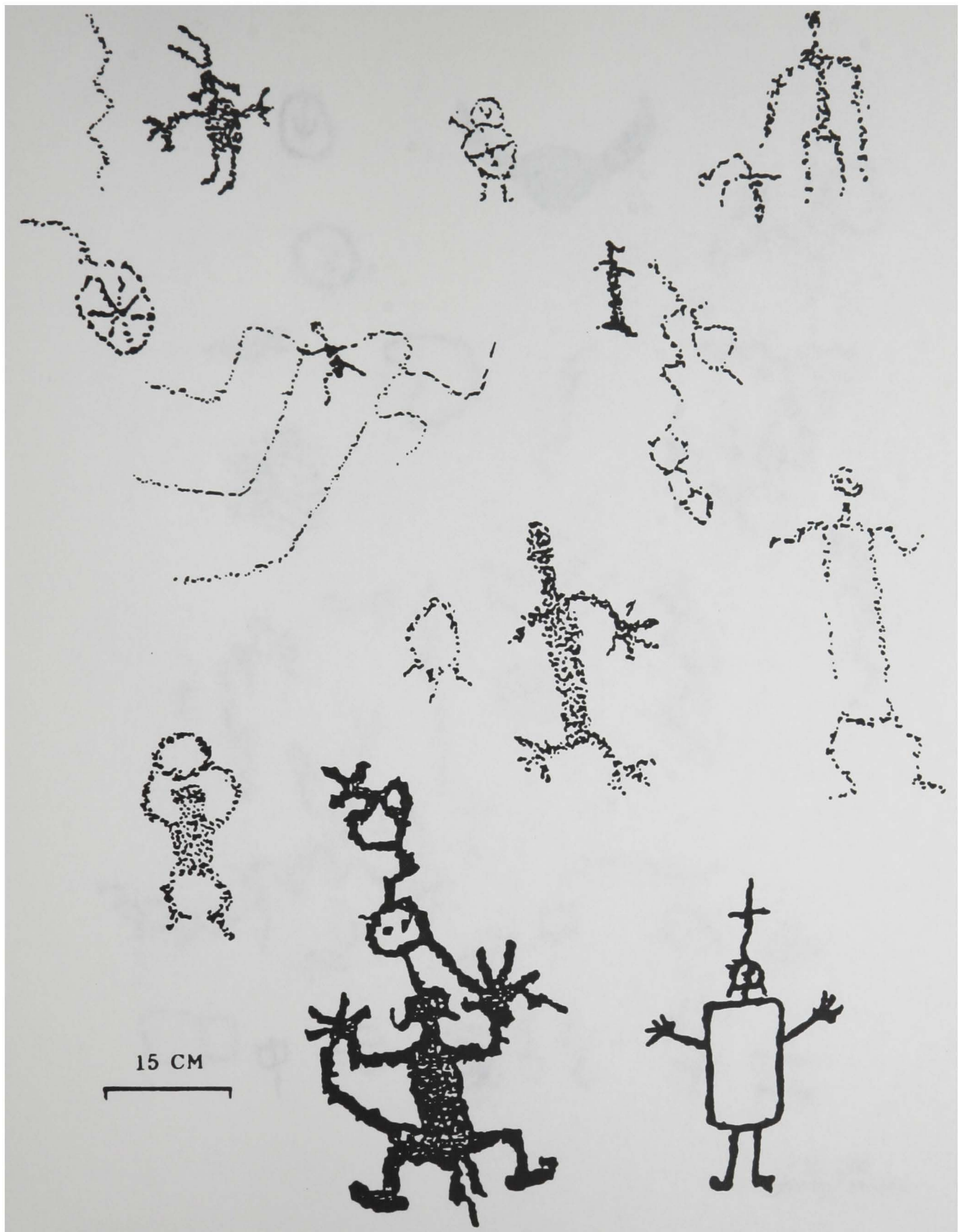
Wagon Mound-Salt Creek. This site is located along the base of a low basaltic mesa, the rock art appearing on the surfaces of talus boulders. This mesa, or escarpment, is bordered on the north by the Salt Creek drainage, a small tributary of the Canadian River, located in Mora County along the edge of the Sangre de Cristo foothills.

The rock art (Figure 16) occurs primarily on outlying boulders and only occasionally on the mesa rimrock. All the design elements are pecked and heavily patinated some to the degree of complete obscurity. The differentiation of patination found on various panels,



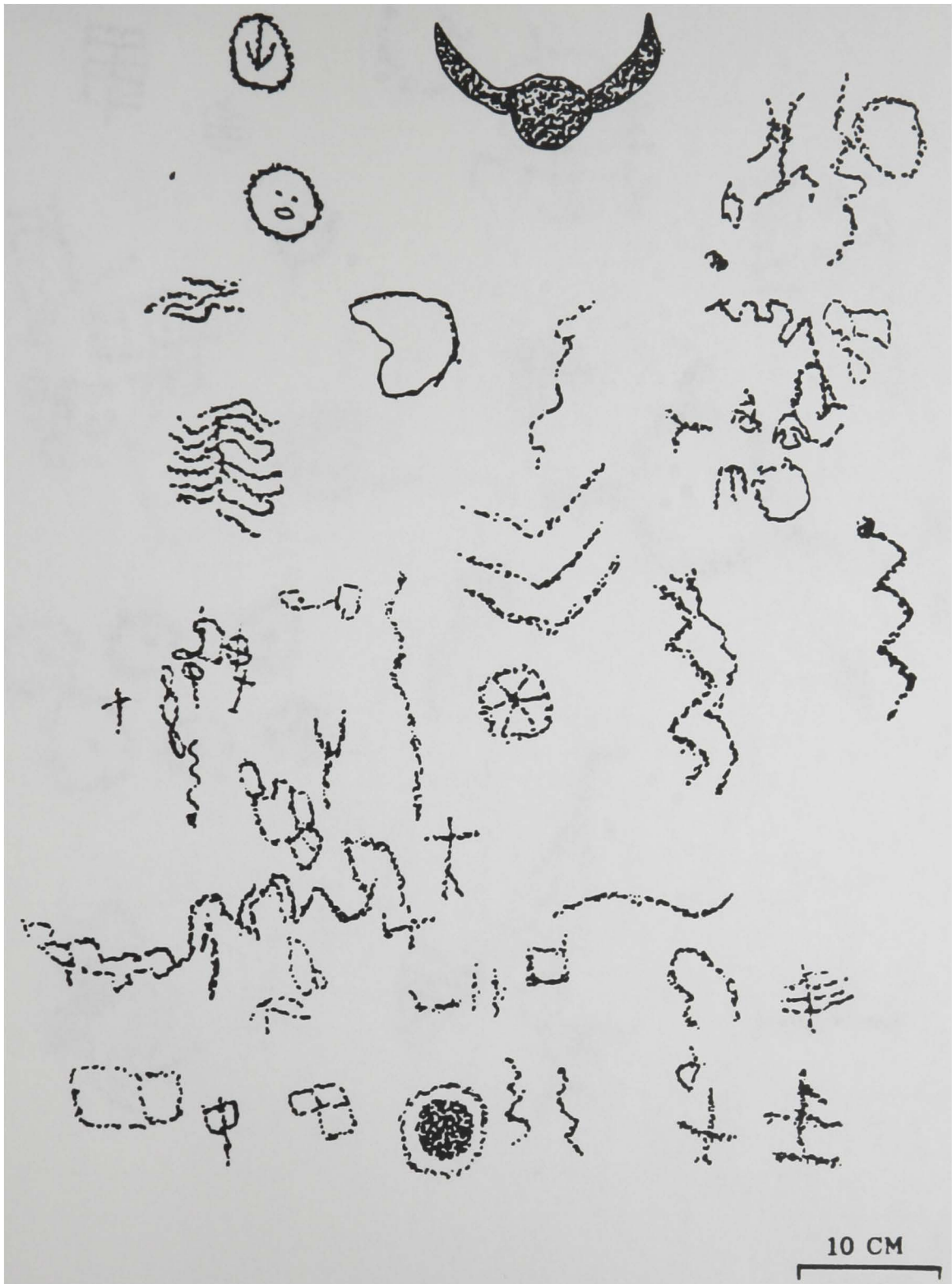
(a)

Figure 16. Wagon Mound-Salt Creek



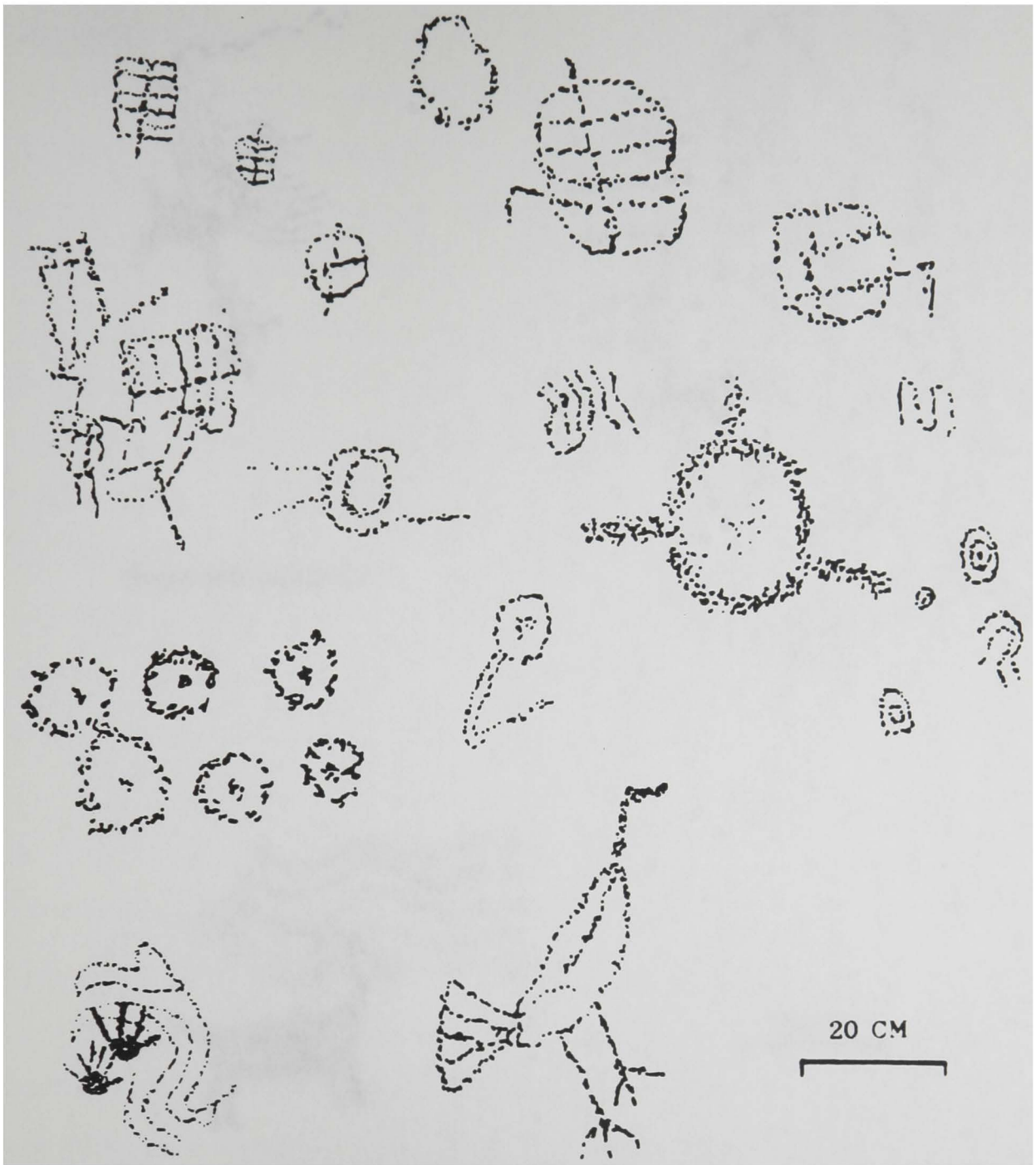
(b)

Figure 16. (continued)



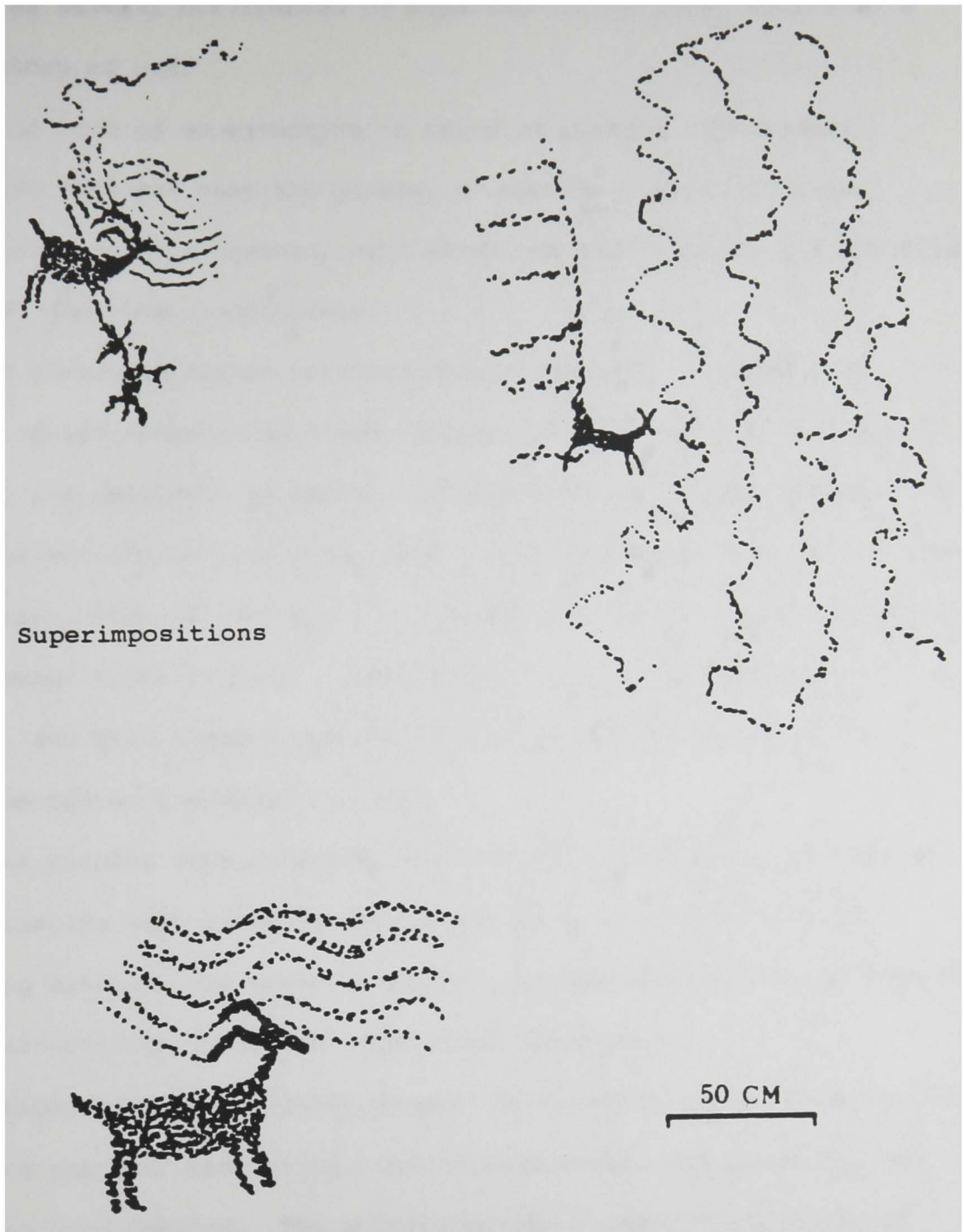
(c)

Figure 16. (continued)



(d)

Figure 16. (continued)



(e)

Figure 16. (continued)

as well as several occurrences of superimposition here, indicates a long history of use.

This site is so extensive in terms of numbers of boulders containing rock art that the panels, or boulders, were not given individual numbers. Instead, each panel was photographed and the site otherwise described narratively.

In clear domination here are design elements of concentric circles, grids, meandering lines, serpentine and straight line motifs, spirals, and geometric patterns. Anthropomorphic figures, masks, and groups of dot series also occur here. The meandering line occurs most frequently, often in clusters of like-designs, or in association with other design types as well. The geometric patterns, concentric circles, and grid figures are all much more predominant than the anthropomorph or quadruped elements.

The circles vary in design and include concentrics, circles as masks, circles with interior circles or dots, circles with lines emanating outward, and spoked circles. Spirals and serpentine figures with small circles or "heads" also occur frequently.

Animal and human figures appear infrequently in relation to the recurring serpent, meandering line, circle motif, and geometric and honeycomb grid designs. The anthropomorphs present total eight as opposed to the countless numbers of abstract designs. Three of these human figures are in stick form, the remaining five can be described as follows: (1) a long, rectangular outline for a torso with a fully pecked triangular head and bent limbs; (2) a circular bodied figure pecked in outline with a circular head; (3) a fully pecked torso with

bent knees and arms which are holding a large round object over its head. The head of this figure is round and fully pecked; (4) a fully pecked torso which resembles a tunic, extended arms with exaggerated hands having only three appendages on each. This figure has elongated earlobes dangling like ornaments and two bent lines emanating from the top of its head resembling antennae; (5) a fully pecked, long, rectangular torso with arms and legs that have splayed and exaggerated appendages. The left foot is visible with four long toes, the left hand has five fingers, but the other hand and foot are damaged to the degree that the number of appendages is not discernable.

The designs representing animal form are also few in number. There is one bird which is pecked in outline and naturalistic. There are two quadrupeds superimposed over a geometric grid pattern and meandering abstract design. The quadruped appearing over the geometric grid, which is fully patinated, has backward curving horns and is accompanied by a fully pecked figure which could be described as a turtle with a long tail and splayed toes on the front legs. The toes of the left front leg connect with the front legs of the quadruped. One other unique design represents a round, solidly pecked mask with short, upwardly curved horns on either side.

This site is important for it is a large site in the foothills and there are few, if any, other comparable sites in the foothills. More than at any other site in the study area is demonstrated the value of superimposition in arranging a relative chronology for the rock art. Very few quadrupeds are represented here, which in itself is unusual compared to the majority of sites on the Plains proper.

But like the quadruped at the Ocate Creek site, these are clearly superimposed over the abstract, meandering line motif, verifying the assumed greater age of that motif relative to the quadruped design.

Also of significance at this site is the depiction of masks and anthropomorphs with kachina-like attributes, or the costumed appearance of the exaggerated appendages and presence of ornamentation. This may be indicative of Anasazi influence, or actual presence (see Schaafsma and Schaafsma, 1974, for discussion of the Kachina cult as depicted in Southwestern rock art).

San Miguel County Sites

Watrous-Sapello Creek. This site is situated on a high sandstone bluff above Sapello Creek, a tributary of the Mora River, in extreme north San Miguel County. This canyon is narrow, thickly vegetated with deciduous growth, and well-protected from the elements. This site is located approximately 25 miles south of the Wagon Mound-Salt Creek Mesa site. It is also within one-half mile of the old Fort Union Stage Line and Station.

The rock art at this site consists exclusively of pecked abstract designs, with one element enhanced with red paint. The rock art appears on the south-facing rimrock and is well executed, deeply pecked, and seemingly little effected by patination. The site is divided into at least four panels of rock art as described below. Figure 17 illustrates representative design elements from each of the panels.

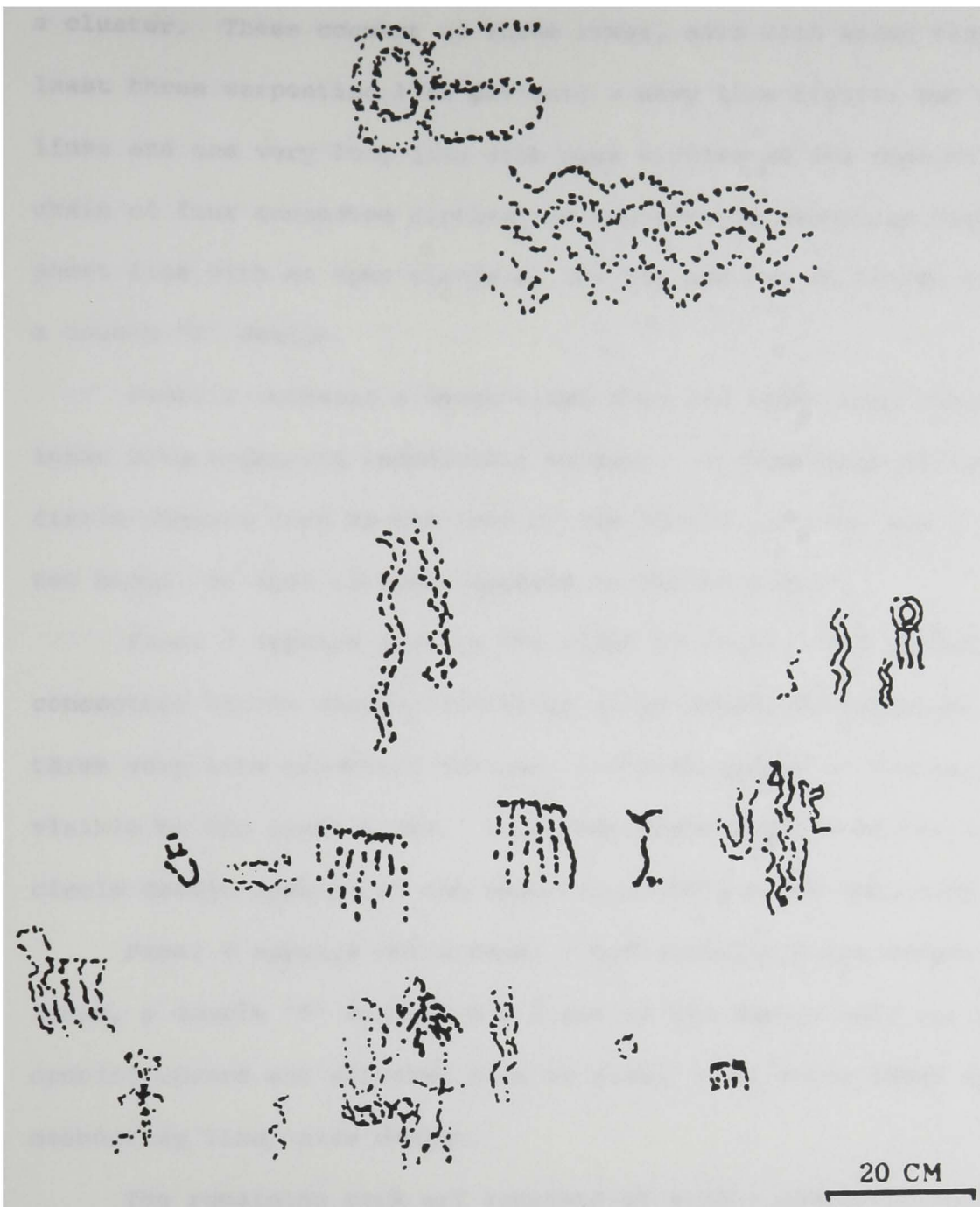


Figure 17. Watrous-Sapello Creek

Panel 1 is composed of a number of design elements occurring in a cluster. These consist of three rakes, each with seven tines; at least three serpentine line designs; a wavy line figure; two short lines and one very long line with open circles at the tops of all; a chain of four connected circles; an angled-line geometric figure; a short line with an open circle at the top and two on either side; and a double "U" design.

Panel 2 contains a seven-tined rake and three open circles with inner dots appearing immediately beneath. A three-quarter closed circle appears just to the left of the dotted circles; and a line with two hoops, or open circles, appears on either side.

Panel 3 appears just to the right of *Panel 1* and consists of a concentric circle design with three lines extending downward, plus three wavy line geometric designs, one with traces of red paint visible on the outer lines. An almost exact replica of the double circle design appears at the Wagon Mound-Salt Creek Mesa site.

Panel 4 appears below *Panel 3* and contains three serpentine lines, a double "U" figure, and a set of two double half circles opening upward and situated side by side. Just above these is a meandering line, maze design.

The remaining rock art consists of singly occurring designs, seemingly unassociated with other design elements or panels. These can be described as follows: (1) a short line with open circle at the top; (2) a star burst consisting of at least eight lines emanating from one center; (3) a faint line with double circles at the top and a serpentine line to the left; (4) a serpentine and two double line

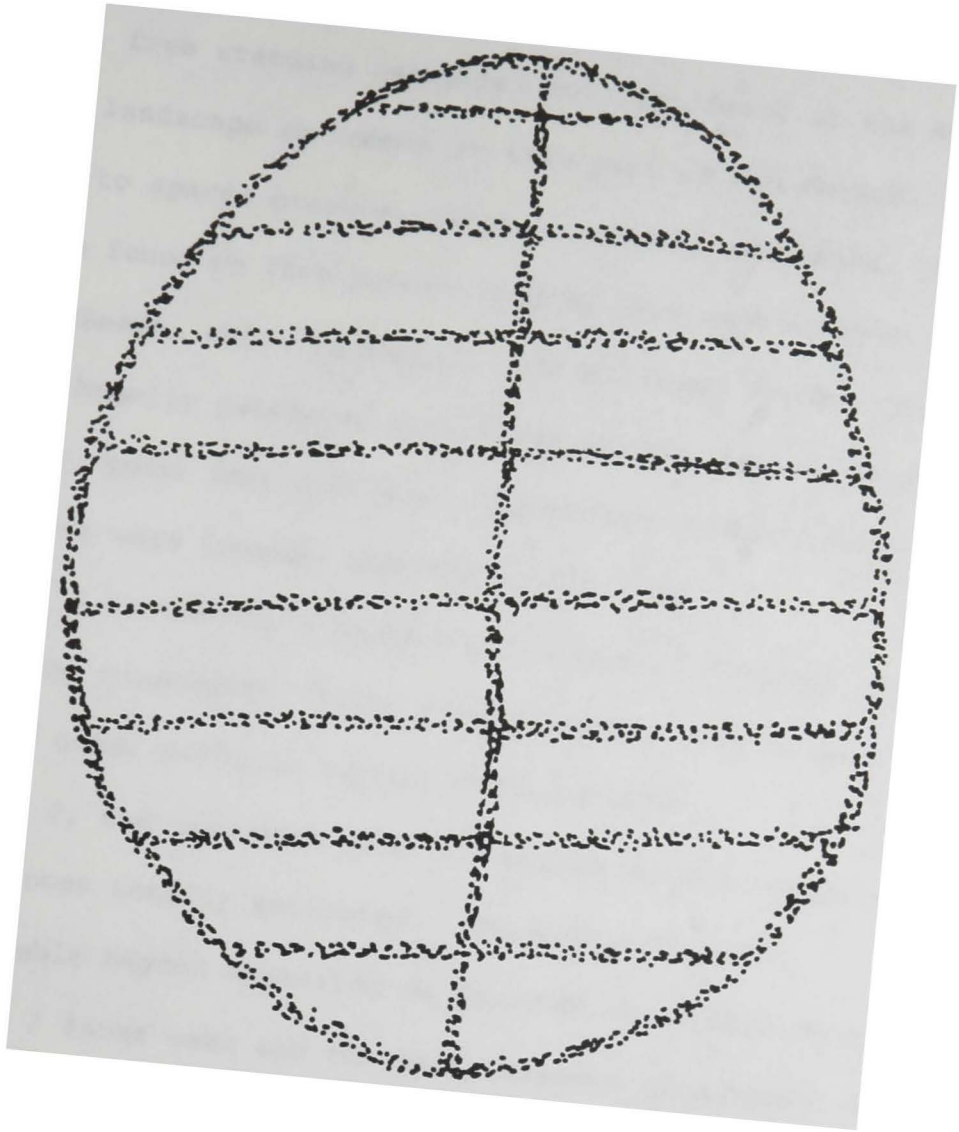
abstract designs; (5) three short line designs with open circles at either ends; (6) a vertical wavy line with a straight base and short wavy line across the top; (7) a line motif of one horizontal line and six lines of various lengths extending upward and downward; (8) a series of line patterns and lichen obscured lines; (9) an open circle with short hash marks or lines appearing inside and below the circle.

Conchas Lake. This site is the only other site located in San Miguel County. This is curious in that the Canadian River dissects the eastern portion of the county, the section that lies within the Las Vegas Plateau designation. Several sites associated with rock art are recorded in the ARMS site files, but few are platted, so relocation is nearly impossible. Obviously, this county warrants further field investigation, especially along the Canadian River where sites would be expected. But this is ranch land of vast expanses and few residents, or would-be informants, and additional survey would require time and funding not available for this project.

The rock art at Conchas Lake (Figure 18) consists of only two design elements. Etched out of the soft, white sandstone are two identical grid patterns, appearing on the same rock surface along the east bank of the Conchas Lake.

Harding County Sites

Trigg Ranch. This rock art site is located in the least populated county in northeastern New Mexico. Harding County is in the southeastern portion of the Las Vegas Plateau and, as of 1975, claimed only 1,200 for its total population (Williams and McAllister 1979).



10 CM

Figure 18. Conchas Lake

Only one rock art site is listed in the ARMS site files for Harding County, but this is not that site.

This site is located on the lower Ute Creek drainage, situated on a large, free standing sandstone boulder, found in the arid, canyonated landscape so common to this part of New Mexico. Vegetation is limited to sparse grasses, cacti, junipers, and sages. The rock art here is found on five panels (Figure 19), each located on the north, northeast, east, southeast, and southwest sides. The sandstone boulder is heavily patinated with black desert varnish which makes the petroglyphs appear very distinct. Three deep mortar holes and two small metates were located adjacent to the site.

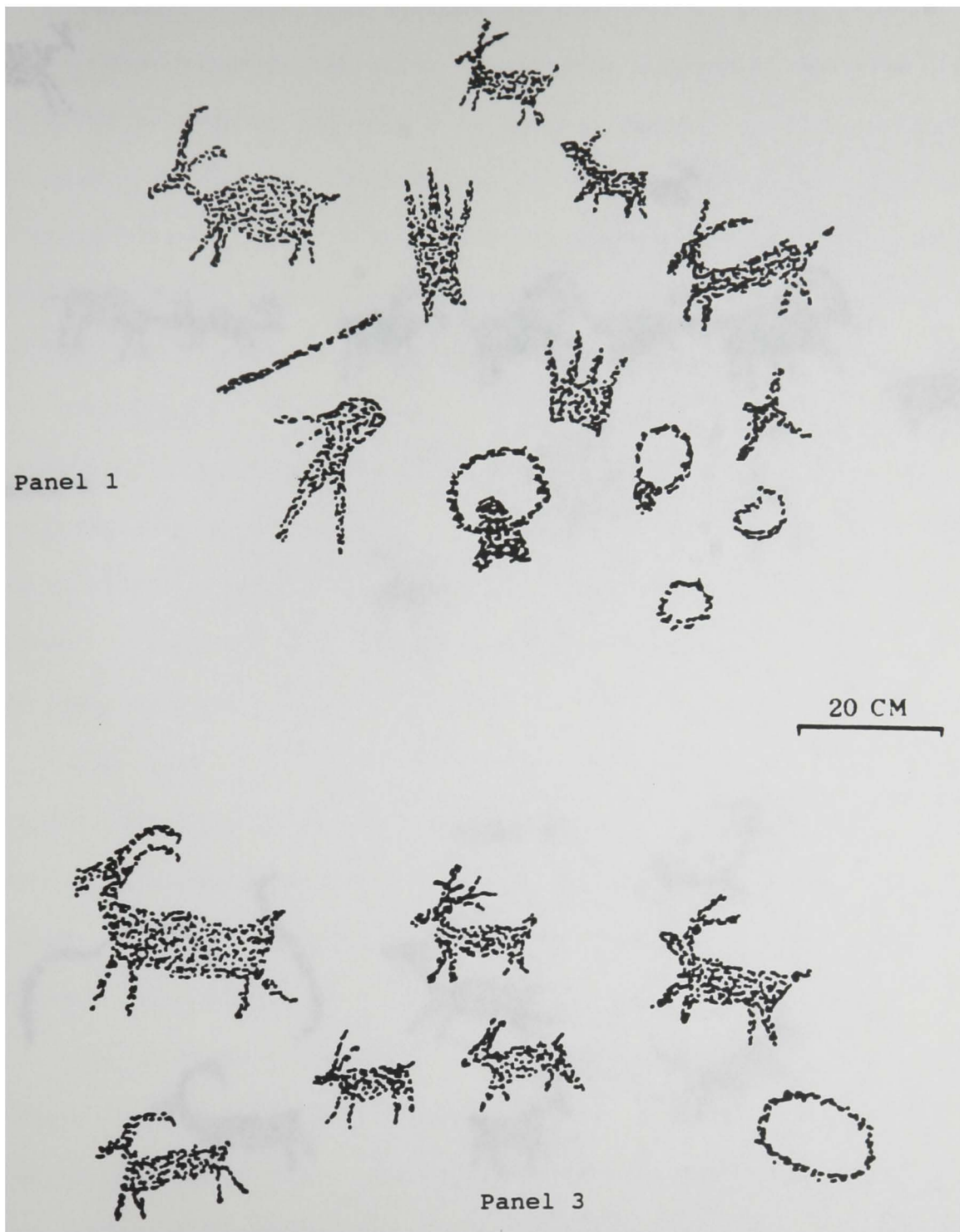
Panel 1 is the north panel which contains numerous small designs consisting of quadrupeds, human stick figures, line motifs, circles, and various other peckings beyond identification.

Panel 2, the northeast panel, contains several pecking designs which have been totally patinated. The rock art is not distinguishable beyond appearing as abstract or random peckings.

Panel 3 faces east and contains numerous quadrupeds, some with horns like those of bighorn sheep. Circles and other indistinct peckings are also present here.

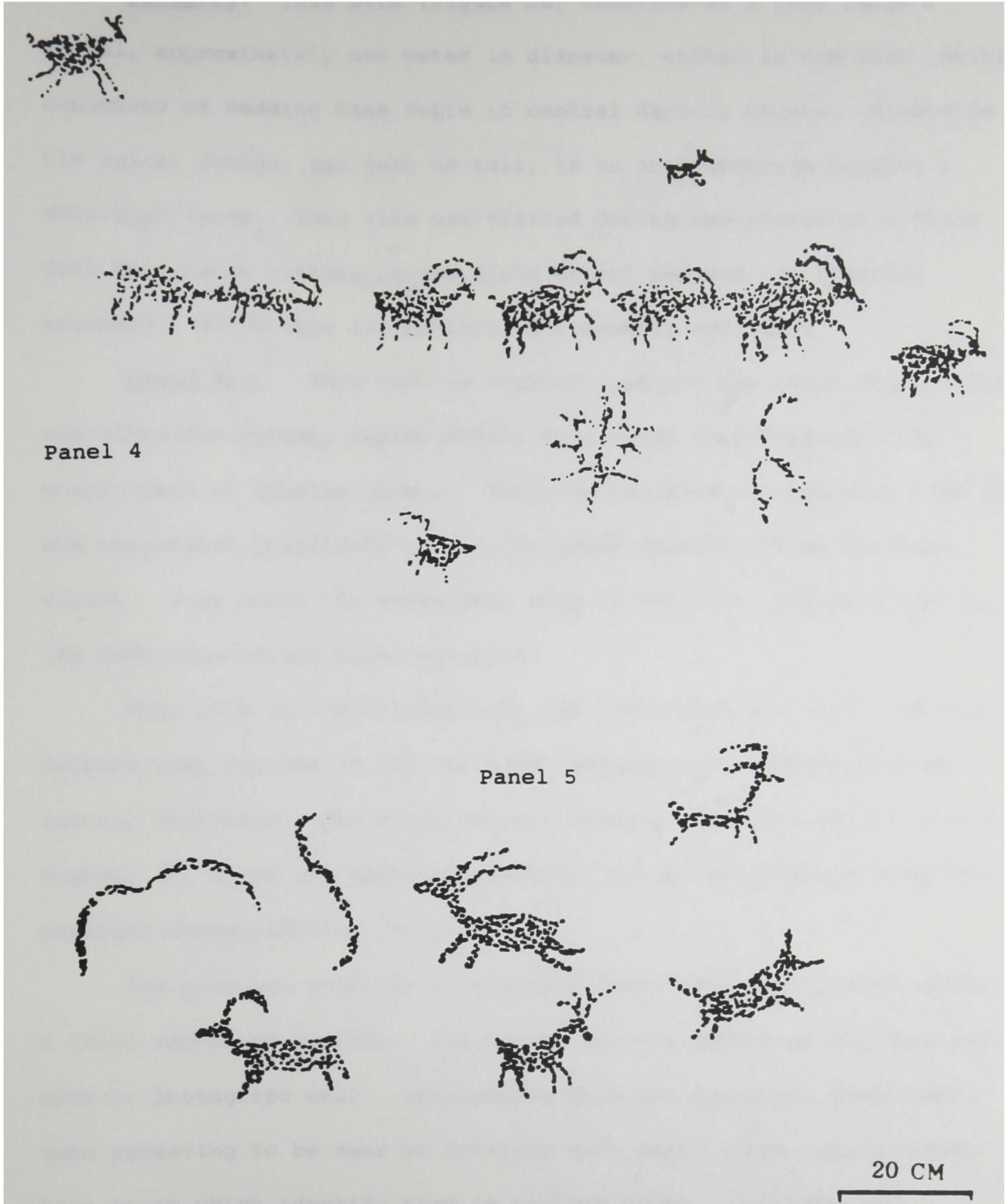
Panel 4 faces southeast and contains seven bighorn sheep, appearing in single file across the face of this panel. These appear along with other quadrupeds and an abstract line design.

Panel 5 is the southwest panel and appearing here are numerous quadrupeds, some apparently bighorn sheep.



(a) Panels 1 and 3

Figure 19. Trigg Ranch



(b) Panels 4 and 5
Figure 19. (continued)

Bueveros. This site (Figure 20) consists of a very large spiral, approximately one meter in diameter, etched in the soft, white sandstone of Wedding Cake Butte in central Harding County. Alongside the spiral design, and just as tall, is an anthropomorph holding a decorated lance. This site was visited during the course of a Texas Tech University archaeological field school and was not formally recorded. No further information is currently available.

David Hill. This site is located just off the north edge of the Mescalero Escarpment, approximately five miles from Mosquero, the county seat of Harding County. The site commands an expansive view of the canyoned grasslands of the Ute Creek-Canadian River drainage system. Just above the escarpment edge is the flat, grassy plain of the west side of the Llano Estacado.

This site is a multicomponent one, with rock art and a low stone masonry wall typical of the Las Vegas Plateau and a historic stone masonry structure. The site occurs alongside the old road cut of N.M. Highway 39, which was rerouted sometime in the 1950s (Nancy Robertson, personal communication, 1981).

The rock art consists of a single panel (Figure 21) that covers a large sandstone boulder. The art is heavily patinated and does not view or photograph well. Represented here are countless quadrupeds, some appearing to be deer or antelope with small horns, while others have horns which identify them as bighorn sheep. Interspersed throughout are random peckings, meandering lines, and other motifs that cannot be positively identified. This panel has a multitude of



Figure 20. Bueyeros

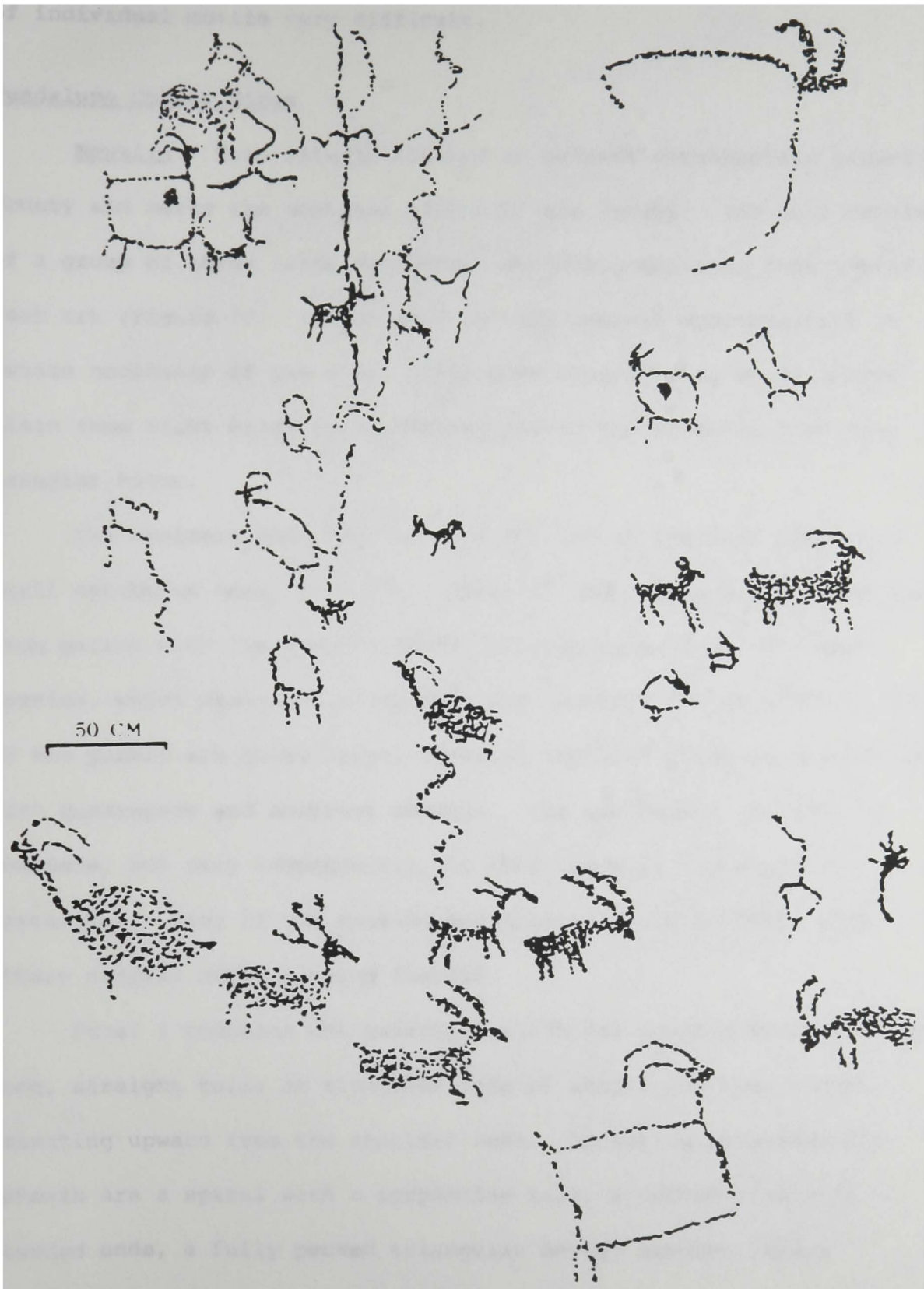


Figure 21. David Hill

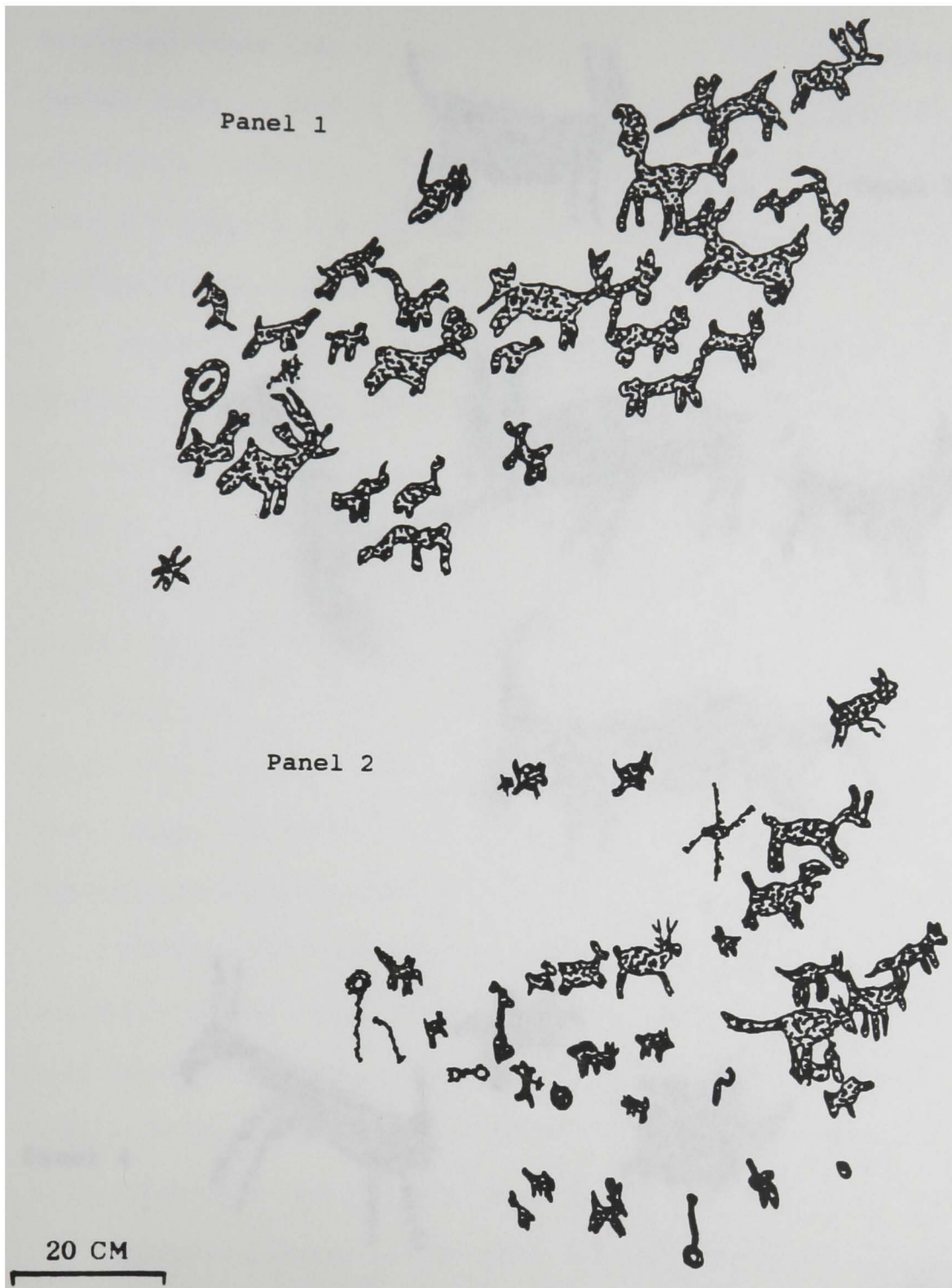
design elements, crowded and superimposed so as to make determination of individual motifs very difficult.

Guadalupe County Sites

Newkirk. This site is located in extreme northeastern Guadalupe County and marks the southern extent of the survey. The site consists of a group of three large sandstone boulders containing four panels of rock art (Figure 22). One mortar is also present approximately 10 meters northeast of the site. This site occurs in an arid, rugged plain some eight miles from permanent water and 20 miles from the Canadian River.

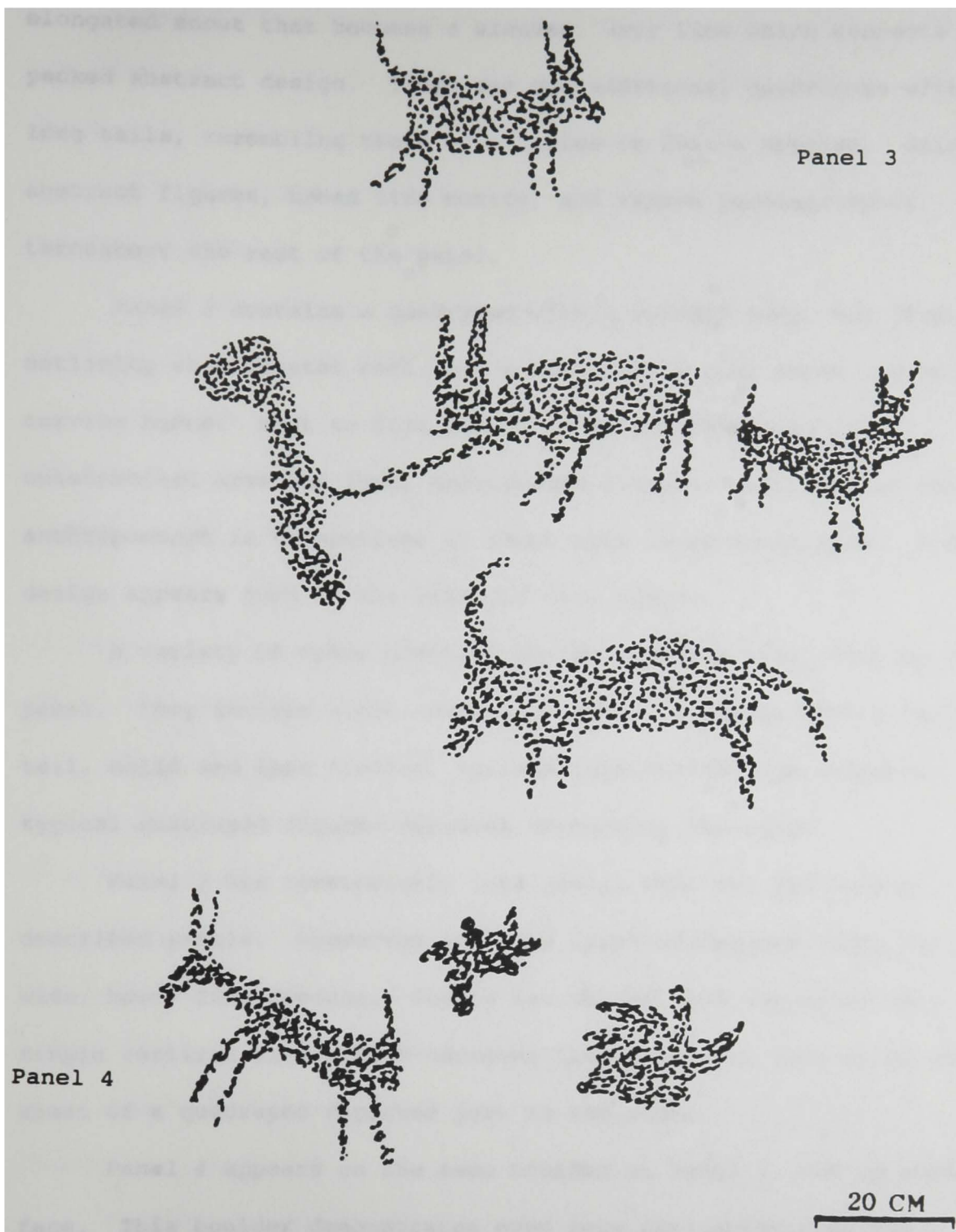
The boulders used for the rock art lie at the west base of a small sandstone mesa, or knoll. Three of the panels are stained black from patina with the designs pecked through this layer of desert varnish, which makes for a striking red-on-black canvas effect. Two of the panels are quite large, covering the west faces of the boulders with quadrupeds and abstract designs. The quadrupeds certainly dominate, but vary tremendously, in their general treatment or appearance. Many of the animals are depicted with antlers; some others display horns curving forward.

Panel 1 contains one quadruped which has rounded hooves; a very long, straight tail; an elongated nose or snout; and two "wings" emanating upward from the shoulder area. Appearing alongside and beneath are a spiral with a serpentine tail, a curved line with rounded ends, a fully pecked triangular design element, and a quadruped with a short tail and small antlers.



(a) Panels 1 and 2

Figure 22. Newkirk



(b) Panels 3 and 4

Figure 22. (continued)

Also appearing in this panel is a third quadruped with an elongated snout that becomes a slender, wavy line which connects to a pecked abstract design. There are two additional quadrupeds with very long tails, resembling those of a canine or feline species. Grids, abstract figures, broad line motifs, and random peckings occur throughout the rest of the panel.

Panel 2 contains a quadruped with a rounded body, two lines outlining an elongated neck, and a head with a long snout and backward curving horns. Next to this figure is an anthropomorph with outstretched arms and long, exaggerated fingers. The head of this anthropomorph is triangulate in shape with large round ears. A spiral design appears just to the right of this figure.

A variety of other abstract design elements also occur on this panel. They include short serpentine lines, a spiral with a squiggle tail, solid and open circles, various line motifs, and numerous typical quadruped figures depicted throughout the panel.

Panel 3 has considerably less patina than the previously described panels. Appearing here are large quadrupeds along with wide, heavy line designs. One is tau shaped, but the other is a single vertical line with a narrower line extending from it to the snout of a quadruped depicted just to the right.

Panel 4 appears on the same boulder as *Panel 3*, but on another face. This boulder demonstrates even less patination than the previous panel. Appearing here is a single quadruped along with four solidly pecked abstract forms; two of these have rays emanating from the tops.

Definition of Terms

Abstract--One of two basic styles of rock art. This style includes design elements which are in no way representative, but may, for example, consist of meandering lines, mazes, or grids.

Anthropomorph--This refers to representations of humans, or human-like forms.

Design element--A nonspecific term used for any marking which has been identified as rock art.

Fully pecked--A design element in petroglyphs whose total form has been pecked out of the stone surface, as opposed to a design element in outline form.

Grid--A common design element which resembles a grid of interconnecting lines, usually oval or circular and containing series of vertical and horizontal lines.

Incising--Method of rock art production in which designs are made by scratching or etching the rock surface, as opposed to percussion or pecking methods.

Mask--A design element common in the Southwest, it most often consists of a circle in outline form with facial features which can be either simplistic or distorted.

Maze--An abstract design element consisting of entangled, meandering lines.

Meandering line--A design element consisting of single or multiple lines which appear to meander about the stone surface, creating no recognizable shape or form.

Panel--Rock art depictions which can be logically or arbitrarily grouped for sake of recording and/or descriptive purposes. A number of rock art panels can be contained in a single rock art site.

Patina/Patination--The chemical weathering of a stone surface which results in a mineral coating, darkening the surface of the stone over time.

Pecked in outline--A design element created by pecking out an outline form or figure, a line figure.

Pecked/Pecking--A method of rock art production by which a design element is created by direct or indirect percussion to the stone surface.

Petroglyph--Rock art which has been created by altering the stone surface, either through pecking, abrading, or etching, as opposed to painting (pictograph).

Pictograph--Rock art created by painting design elements onto the stone surface, as opposed to petroglyph.

Quadruped--General term for a four-legged zoomorph appearing in rock art.

Rake--Design element in the general shape of a rake; appears most often as a horizontal line with numerous shorter, perpendicular lines (or tines).

Representational--One of two primary rock art styles which depicts recognizable forms such as animals or humans as opposed to abstract style.

Spiral--An abstract design element which appears as a single line in the form of a spiral.

Stick figure--Seen most often as an anthropomorph, this is a representational form with little or no elaborate detail, appearing instead as lines which represent the figure and limbs of a body.

Zig-zag line--A single line design element that appears in zig-zag fashion.

CHAPTER VI

SUGGESTED CHRONOLOGY

The rock art styles of the Las Vegas Plateau can be defined rather simply, for there are few variations in the style or content expressed at these sites. (Table 1 lists motifs which are found to be dominant at each site.) But this is certainly not to say that the cultural affiliation or the chronology for the Las Vegas Plateau rock art is arrived at quickly or simply, for this a most difficult task in the study of any rock art, even that for which ethnographic documentation is provided.

Dating techniques most commonly used for rock art are necessarily relative (Weisbrod 1978). As Campbell (1968:1) states, "rock art seldom provides evidence within itself of the period of its origin" (p. 1). Relative dating methods are based on observation of such things as comparative levels of patination, superimposition of one stylistic motif over another, recognized design elements previously dated through other artistic realms, such as pottery, and stratigraphy of cultural fill covering a rock art panel (Weisbrod 1978). There are now methods by which patina on the decorated surface can be dated, called cation-ratio analysis, but this technique is still new enough that only a handful of experts have the knowledge or capability to perform the tests (see Dorn [1989] and Dorn et al. [1986]).

Table 1. Dominant Motifs Present at Each Site

Site and County Location	Primary Method Used	Quadruped Present or Dominant?	Abstract Present or Dominant?	Human Figure Present?	Historic Evidence In Panel?
Bannon #325 Union County	Pecking;	Dominant (bighorn sheep)	No	Yes	No
Burchard #325 Union County	Pecking	Dominant (deer/elk)	No	No	No
Bannon #551 Union County	Pecking; Painting	Dominant (deer/elk)	No	Yes	No
Carrizozo Union County	Pecking; Painting	No	Dominant	No	No
Corrupa Creek Union County	Pecking; Painting	Dominant (deer/elk)	Present	Yes	No
Trinchera Dike Colfax County	Pecking; Painting	Present	Present	Yes	No
Round Mesa Colfax County	Pecking; Incising	Present	Dominant	No	No
Black Mesa Colfax County	Pecking; Incising	Present	Dominant	Yes	Possible
Palo Blanco Colfax County	Pecking; Incising	Present	Dominant	No	No
Fernandez Colfax County	Pecking; Incising	No	No	No	Yes
Farley-Chico Road Colfax County	Pecking	Present	Dominant	Present	No
Ocate Creek Mora County	Pecking; Incising	No	Dominant	No	No
Wagon Mound Mora County	Pecking; Incising	Present	Dominant	Yes	No
Conchas Lake San Miguel County	Incising	No	Dominant	No	No

Table 1. (continued)

Site and County Location	Primary Method Used	Quadruped Present or Dominant?	Abstract Present or Dominant?	Human Figure Present?	Historic Evidence In Panel?
Watrous-Sapello San Miguel County	Pecking; Incising; Painting	No	Dominant	No	No
Trigg Ranch Harding County	Pecking	Dominant (bighorn sheep)	Dominant	Yes	No
Bueyeros Harding County	Incising	No	Dominant	Dominant	No
David Hill Harding County	Pecking; Incising	Dominant (bighorn sheep)	Dominant	No	No
Newkirk Guadalupe County	Pecking	Dominant (deer/elk; unknown)	Present	No	No

In her work with rock art of the Zuni, Mary Jane Young (1988) had the benefit of a rich and relatively accessible ethnographic heritage and helpful Zuni informants who consider their rock art a continuum with contemporary traditional lifeways and religious systems. Not only was Young able to identify stylistic similarities with rock art of the ancient Anasazi of the Upper Rio Grande, but through her informants she was also able to develop a basic interpretation of function and meaning of the Zuni rock art.

Even so, Young (1988:6-7) warns that "for many rock art sites throughout the world, the context in which such art was initially produced . . . is almost impossible to explore except in the most general terms," and even in regard to Zuni responses to the ancient rock art she acknowledges that ". . . contemporary interpretations of the older . . . [rock art] quite likely have very little to do with the 'original' meanings or functions of these images." In recognition of the radical assumptions necessary to interpret prehistoric rock art, particularly without benefit of ethnographic support, this research does not propose any specific meaning or even function to the rock art of the study area, except, perhaps, in the vaguest of applications.

Stylistic Considerations

Schaafsma (1972:48-49) describes two stylistic forms for the northeastern New Mexico plains: abstract and representational. This was indeed true of the rock art sites included in this survey. In the upper Rio Grande, she has dated the Abstract Style to the

hunter-gatherers of Basketmaker II (A.D. 1-400) and sees this as the same in style and date on the Plains of southeastern Colorado and northeastern New Mexico. The Abstract Style continues as the fully pecked quadruped of the Representational Style appears and becomes dominant and prolific throughout, presumably, the Archaic and into the Late Prehistoric.

Schaafsma (1980) describes Pueblo rock art after A.D. 1300 in what she terms the Upper Rio Grande Style. Rio Grande Style appears to represent importation, in style and content, the Jornada Style from the south. Characteristic design elements include shield figures, masks, star kachina faces, horned serpents, crosses, and Kokopelli figures (humped back flute player).

The Rio Grande Style is prominent throughout the Eastern Pueblo area sites and occurs as far west as Zuni Pueblo (Young 1988). In the Taos Pueblo region, however, this style appears only marginally at best (Schaafsma 1972, 1980). The pecked abstract and quadruped designs remain as the prominent rock art style here, illustrating, perhaps, its peripheral or frontier location and a greater social-cultural tie to the Plains.

Based on Schaafsma's early research in Colfax and Union counties in extreme northeastern New Mexico, Lemmon and Robertson (1975) divide the rock art of the Raton Section into four styles: (1) heavily patinated serpentine meander; (2) large and small fully pecked quadrupeds, anthropomorphic figures, and circles, specifically occurring on basalt; (3) painted and incised figures, occurring

particularly on sandstone; and (4) historic names, dates, and brands created after 1850.

In his archaeological work on the Chaquaqua Plateau in southeast Colorado, Campbell (1968) used quantitative site association to date prehistoric rock art. As he acknowledges, this dating method is rarely used because results are considered suggestive at best. Campbell (1968:1) goes on to note at least three drawbacks: (1) some rock art sites may bear cultural materials from several archaeological horizons; (2) the material presence of only one culture may be misleading in that other cultures may also have utilized the site, produced the rock art, but left no material remains; and (3) similar elements or motifs may be representative of more than one culture horizon. Use of the frequency correlation method, Campbell (1968:1) concedes, is somewhat akin to "playing the percentages" (p. 1). His conclusions are nonetheless helpful in this research, for the sites recorded in Union and eastern Colfax counties correspond culturally with the sites of the Chaquaqua Plateau, located just across the state boundary in Colorado.

To summarize his findings, Campbell (1968:3) reports that pictographs were most frequently associated with tipi rings, identified with historic nomads. Evidence of older occupations were often present as well, but not in the abundance or the frequency of the historic materials. The pictographic scenes usually depicted zoomorphic outline paintings, anthropomorphs with shields and/or lances, horses, and rows of lines often associated with the winter counts of historic Plains peoples. The incised petroglyphs were more

difficult to identify because the associated archaeological materials were often from several cultural horizons. All incised figures were geometric in form and consisted of the simplest designs of primarily lines and crosses.

The most numerous and complex rock art stylistic technique on the Chaquaqua Plateau was the pecked petroglyph. Campbell (1968) describes two basic types of anthropomorphic figures. The first is composed of a rectilinear outline, with outline circles, diamonds, or triangles for the heads and simple, flexed lines as limbs. This type was most often associated with historic archaeological materials and is, therefore, considered historic as well. The second type of anthropomorphic figure is the fully pecked, spread, rectilinear design, found most frequently in the rock shelters of the Apishapa Focus sites, dating this style at A.D. 1000 to 1300.

In general, zoomorphic figures were more common than anthropomorphs. Campbell (1968) was able to associate the outlined, naturalistic animals with historic nomad materials. The numerous, fully pecked quadrupeds were most often associated with the archaeological materials of the Graneros (A.D. 500-1000) and Apishapa (A.D. 1000-1300) foci. Also, the parallel vertical lines or dashes are attributable to the historic phase, while the curvilinear designs, such as the long wavy or meandering lines, are common to Graneros and Apishapa sites.

Finally, no elements or figures could be assigned to abandonment phase between A.D. 1300 and 1750 (Campbell 1968:7).

The basic stylistic categories proposed by Campbell (1968) are obvious choices for the very similar rock art and culture history of the Las Vegas Plateau. Even if the dates for the Late Archaic, the Apishapa Focus, and the Historic periods differ slightly, the cultural sequence is similar, if not the same, in most respects (see Chapter III).

My evidence suggests, however, that the curvilinear abstract meandering lines and mazes are older than the fully pecked quadrupeds and anthropomorphs on the Las Vegas Plateau, which is more in line with Schaafsma's (1980) dating sequence for these styles. The Black Mesa site shows the meandering line as fully patinated, its detection having become quite difficult. At the same site, the fully pecked quadruped is substantially less patinated and still bright on the stone surface, indicating a much younger age than the abstract line motif. These quadrupeds also co-occur with etched figures in outline form, as well as random scratchings, which could perhaps mean a continuum of styles depicted on the same stone over centuries, although seemingly unlikely, or that the more common fully pecked quadruped figure (the most common being the deer or elk) had an extremely long cultural life. This is plausible, since the deer, in particular, represented a staple food across the centuries of cultural evolution in northeastern New Mexico.

Further, the fully pecked quadruped is depicted in a number of other sites on the Las Vegas Plateau and often is superimposed over the abstract meandering line motif (i.e., Wagon Mound-Salt Creek Mesa and Ocate Creek-Naranjos sites). This, again, is supportive of

Schaafsma's (1980) dating of the meandering line motif, as well as the circle figure, as possible Late Archaic or Plains Woodland in the vicinity of the Las Vegas Plateau.

In summary, relative chronologies for rock art on the Las Vegas Plateau appear to develop as follows:

(1) The meandering line, grids, mazes, and concentric and other circle motifs were likely the first rock art depicted;

(2) The fully pecked quadruped with rectilinear body treatment and antlers or horns, often associated with fully pecked stick figure anthropomorphs, developed next, perhaps during the Panhandle Aspect, as suggested by Campbell's (1986) results;

(3) In the foothills area of the Sangre de Cristo Mountains, the arrival of the Eastern Anasazi becomes evident through the depiction of masks, and of anthropomorphs with exaggerated appendages and other adornments, and can be dated by the archaeological evidence for this cultural expansion in this foothills region.

(4) Design elements, such as rakes, are found both pecked and incised and, therefore, defy temporal relationship based on technique. They are commonly associated with Plains rock art, as is the technique of engraving, but the motif correlation is not fully clear. Schaafsma (1980) is able to associate rake designs in the Southwest with the Archaic;

(5) By the same token, painting is often attributed to the Plains influence or presence, but so little exists on the Las Vegas plateau that it serves as a poor indicator of temporal or cultural affiliation.

(6) Although Bain (1976) argues for the presence of Paleolithic rock art in North America, none has ever been identified. If it were indeed present, northeastern New Mexico might be as likely a place for it as any considering its Paleo-Indian heritage. But rock art depicting prehistoric animals has not been reported, here or elsewhere.

CHAPTER VII

DISCUSSION AND CONCLUSIONS

The rock art of the Las Vegas Plateau is somewhat consistent in pattern and form, from the abstract line motif to the ubiquitous quadruped. But when reviewing the site map, it is apparent that much of the data comes from sites clustering in the northern sections of the study area, or specifically, Colfax and Union counties. This clustering reflects at least two situations. First, the fact that archaeological investigation seems to have concentrated here, beginning as early as the 1920s with Renaud's survey and excavation, is immediately suggestive of a data bias. But it could just as likely be indicative of an actual concentration of populations--by the Panhandle Aspect peoples, for instance. (The Apishapa Focus, according to Campbell, 1976, may have initially developed on the Chaquagua Plateau, or, to a lesser degree, on the Las Vegas Plateau.)

Beyond the well-watered and wildlife-abundant canyons of the Dry Cimarron River and its tributaries, sites are less frequent and could reflect sparse occupation or a terrain of occasional use, which did not encourage the frequent production of rock art.

But just as curious is the sparse rock art tradition evidenced in the canyons of the Canadian River headwaters in the Sangre de Cristo foothills. Archaeological survey, as well as historic documentation, indicate extensive use of these areas from pre-Anasazi to historic Plains Indian times, yet rock art is seldom seen. The original cultures from which these groups were offshoots exhibit a

well-developed rock art tradition, as seen in the Upper Rio Grande and in the Central Plains. This conspicuous absence of rock art cannot be necessarily explained by lack of archaeological investigation.

The presence of bighorn sheep in several of the sites surveyed stimulates questions of origin, for these animals do not have a history in the Plains or even in the Sangre de Cristo Mountains. The depictions of bighorns in Las Vegas Plateau rock art do not suggest isolated events, for when they do occur there are usually numerous individuals shown. The bighorn sheep is not present in the Southern Plains archaeological record. Their remains are present in Western Anasazi sites of the Four Corners area, such as Chaco Canyon and Aztec, but are always outnumbered by the remains of deer (Schaafsma 1980:150-151). Only in the Kayenta region does evidence of bighorn sheep consumption predominate that of the deer. This is true, too, of the rock art in these areas (Schaafsma 1980:72).

That Campbell could assign no rock art on the Chaquaqua Plateau to the period between A.D. 1300 and 1750 is troubling, considering the complex history of the Protohistoric in northeastern New Mexico. The bison motif does occur, of course, but certainly not consistently or predictably. More bison rock art is found on the Dry Cimarron River of the Oklahoma panhandle as reported by Haury (1982), but the Las Vegas Plateau was the bison hunting territory of numbers of Indian groups from at least the Protohistoric period until late Historic times.

Missing, perhaps, in the record for this period is a well-defined Apache rock art tradition. But more suggestive in the

evidence here is that a strong rock art tradition did not continue on the Southern Plains beyond the beginning of the Protohistoric Period, or A.D. 1300. Even the examples of Anasazi motifs occurring at the Wagon Mound-Salt Creek site would likely have been produced just prior to this date. A lack of prominence of the Upper Rio Grande Style in the vicinity of Taos Pueblo suggests not only the lack of continuance of a rock art tradition beyond A.D. 1300, but also its cultural ties to the Plains culture traditions in rock art.

Eastern San Miguel and Mora, south Union, north Quay and Guadalupe, and Harding counties are arid, expansive, and sparsely populated, and, therefore, often overlooked in archaeological survey projects. (The State Historic Preservation Office has requested bids for an archaeological overview of northeastern New Mexico in the years 1989 and 1990, without receiving any proposals from potential contractors [Seamans 1991].) Until an *extensive* survey is carried out, no realistic hypothesis can be made concerning the demographic history of the southeastern expanses of the Las Vegas Plateau. Once additional archaeological survey is initiated for those areas of the Las Vegas Plateau, which are now sorely lacking, a greater effort might be made to compare and correlate similarities of the rock art tradition here with those of the Rio Grande Anasazi, the Jornada, the Texas Plains and Panhandle, and the Central Plains areas. But without the archaeological data to better understand the culture history first, the development of the rock art tradition here cannot be fully understood.

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