ARCHEOLOGICAL SURVEY

OF THE

LA SAL MOUNTAIN AREA, UTAH

Alice Hunt

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PREFACE

This report is the first of the Anthropological Papers submitted by a departmental collaborator; it is one of the more scholarly of the series. Mrs. Hunt has been a Research Associate of the Department for nearly two years. In addition to the La Sal study, she has done much survey work which, as yet unreported, will be a contribution to our knowledge concerning the content and distribution of the Fremont culture of eastern Utah.

Now, however, we are concerned with the completed study being reported here. Mrs. Hunt, unaware that the Indians did not spend much time in the high mountains, discovered over 350 sites in the very limited (500 square miles) La Sal Mountain area; 119 of these sites lie higher than 8,000 feet, and about half of these are higher than 10,000 feet. As a result of her intensive survey of three quite different ecological zones included within her survey area, Mrs. Hunt has been able to make a contribution to both Basin and Southwestern archeology. The report is a model of painstaking analysis and interpretation. She has worked with a surface collection and squeezed from these surface materials some important probabilities. Her work also seems to me to be an excellent example of the direction archeological research should move in that she has integrated, even partially subordinated, archeological data to topographical and ecological factors. As a result of her discovery of an extensive "high site" complex perhaps others will yet lift their eyes "unto the hills."

Many of the students who will read this report will differ with Mrs. Hunt in her typological identifications of specimens and in her identification of traits which characterize certain cultural complexes. There will be others who feel that Mrs. Hunt has occasionally pushed her data beyond the limits of proof. As editor of this series I am aware that these criticisms may be made of Mrs. Hunt's work, but because I suspect that she will be proved right much oftener than she will be proved wrong, I have not presumed to modify her original work. As work in the Moab area of Utah continues, I expect the stature of Mrs. Hunt's work will increase. Another reason I have refrained from molesting these conclusions arrived at by Mrs. Hunt is that her findings seem to me to strengthen my own strong ideas about the important ancestral role the early Basin cultures played in the development of later cultures in both the Plains and the Southwest.

In any event the report is carefully divided. The first few pages include speculations, implications and interpretation. The second and much longer portion presents the evidence. Even the student who rejects the first two chapters will find the remainder continuingly useful. It is to be hoped that Mrs. Hunt's work in the Moab region will continue and that her reports will periodically appear in this series.

Jesse D. Jennings
Editor

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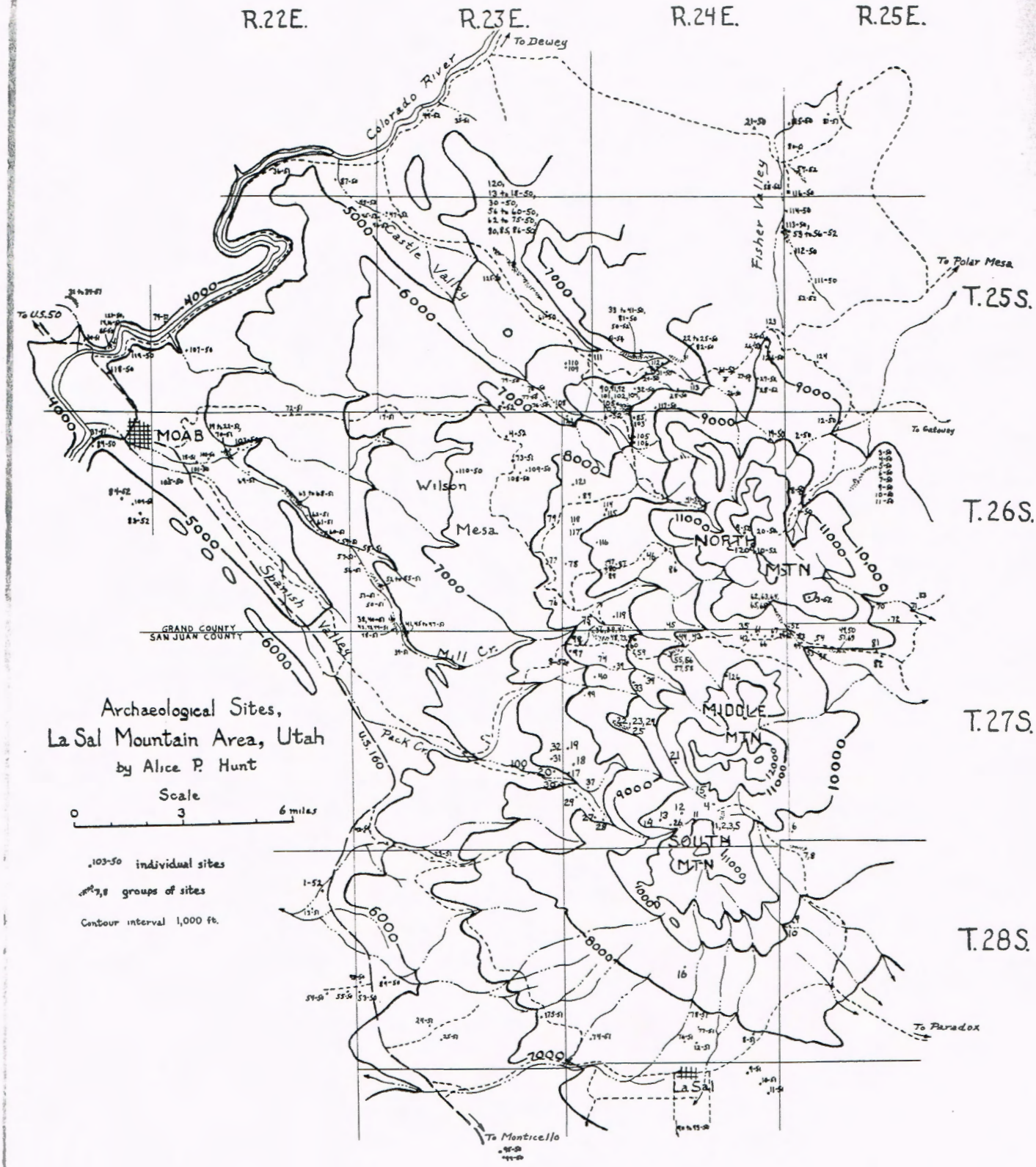
ACKNOWLEDGMENTS

This survey was suggested by my husband Charles B. Hunt of the U. S. Geological Survey as a counterpart to his study of the geology of the La Sal Mountains. Arnold Withers of the University of Denver and Jesse D. Jennings of the University of Utah encouraged the survey and advised in regard to many aspects of it. My husband studied thin sections of the pottery, helped identify the kinds of rock used in the stonework, and was a patient and encouraging critic both in the field work and during the preparation of this report.

Many citizens of Moab, Utah, gave generously of their time to assist the survey. I wish especially to acknowledge the assistance of Mr. and Mrs. Ralph Starbuck, Mr. and Mrs. Gordon Fowler, James Walker, and G. A. Larsen. Others who were helpful were Mr. and Mrs. Dallas Tanner, Skippy and Steve Tanner, Mr. and Mrs. Alva Johnston, Kay and Marlene Johnston, Mrs. Linda Jackson, Mr. and Mrs. J. C. Skakel, Mr. and Mrs. Harold Provoncho, Mr. and Mrs. Dan Winbourne, Q. D. Hanson, all of Moab, and Mrs. Richard Swain, of Bedrock, Colorado, Mr. and Mrs. E. Wogoman of Castle Valley, B. O'Neill and G. M. Richmond of the U. S. Geological Survey.

The specimens reported here are deposited for preservation with the Department of Anthropology, University of Denver.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To Polar Mesa
To Gateway
To U.S.50
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Wilson Mesa
NORTH MTN
MIDDLE MTN
SOUTH MTN
Spanish Valley
Mill Cr.
Pack Cr.
U.S. 160
GRAND COUNTY
SAN JUAN COUNTY
La Sal
To Monticello
To Paradox
Archaeological Sites,
La Sal Mountain Area, Utah
by Alice P. Hunt
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V

INTRODUCTION

The La Sal Mountain area, located at the eastern edge of Utah (Fig. 1) between the Colorado River and the Colorado State line, comprises about 500 square miles lying east of the town of Moab and north of the town of La Sal. A surface survey of the archeological sites in the area was undertaken during the period 1949-1952. This survey was under the general direction of Arnold M. Withers of the Department of Anthropology, University of Denver, and an earlier version of the report was used as partial fulfillment of the requirements for the degree of Master of Arts from the University of Denver.

The only previous archeological work in the area was by Byron Cummings (1910, pp. 18-19) who inspected a basement excavation in Moab which disclosed some buried turtleback adobe walls. In Paradox Valley, roughly 20 miles east of the La Sal Mountains, the Woodburys (1932) excavated a small Pueblo I-II dwelling having four contiguous rooms.

The present survey located about 350 sites which yielded a few thousand artifacts, mostly stonework. These sites and the artifacts found at them have been studied with three principal objectives in mind: 1) relation of the sites to the natural environment; 2) regional affiliations of the occupations; and 3) probable chronology of the occupations.

No excavation was undertaken, but nevertheless there is stratigraphic evidence for reconstructing some of the occupations. Hearths and artifacts occur in a prepottery alluvial deposit, a granary and associated Pueblo II pottery have been dated by radiocarbon as 1000 A. D., and an historic occupation has been reported and described by early explorers and settlers. Within this framework additional valid prehistory can be inferred from differences in types of sites, from differences in assemblages of artifacts at the sites, and from the similarities between the artifacts and groups of artifacts and those in other areas where stratigraphic position is known. A single trait at a single site is of little significance, but a collection of traits repeated at many sites may with reasonable assurance be interpreted to represent an identifiable cultural entity.

ENVIRONMENT

Topography

The term, La Sal Mountains, is applied to three mountain groups, namely, South Mountain, Middle Mountain, and North Mountain. The highest peaks are above 13,000 feet in altitude and are visible for a hundred miles in every direction. Passes between the mountain groups are about 10,500 feet in altitude.

Geologically, the La Sal Mountains are one of the groups of laccolithic mountains on the Colorado Plateaus; others are the Henry Mountains 90 miles to the southwest, the Abajo Mountains 50 miles to the south, the La Plata Mountains 100 miles southeast, Ute (or El Late) Mountain 100 miles south, and the Carrizo Mountains 120 miles south.

Rivers draining the La Sal Mountain area are the Dolores, 20 miles east and north of the area, and the Colorado River which flows along the northwest edge of the area. Streams on the east side of the mountains drain into the Dolores River; streams on the west side of the mountains drain into the Colorado River. The Colorado River, about 4,000 feet in altitude in the vicinity of Moab, is about 9,000 feet lower than the tops of the mountains. A few of the principal streams are perennial in at least part of their courses, but most of the streams are intermittent.

Around the base of the mountains, at an elevation of 7,000 to 8,000 feet, are steeply sloping benches. Farther from the mountains is an extensive plateau surface cut by deep canyons or wide valleys. Extending southward for many miles from the mountain mass is a high semi-arid plateau at an altitude of about 7,000 feet. Eastward from the mountains the plateau extends into Colorado before breaking off at the rims of Paradox Valley and the other canyons tributary to the Dolores River.

As is well known, the canyons along the Colorado River and its tributaries in southeastern Utah are now, and probably always have been, a major barrier to travel. In the La Sal Mountain area, however, the river can be crossed easily at Moab and there is another crossing a few miles to the north at Dewey. The La Sal area, therefore, is strategically located for continued and repeated visitations by travelers seeking to cross the Colorado River. Certainly it has been a major crossing since early historic times (Tanner, 1937, p. 11). It was used extensively in prehistoric times as the archeology of the La Sal Mountain area seems to demonstrate. Evidence

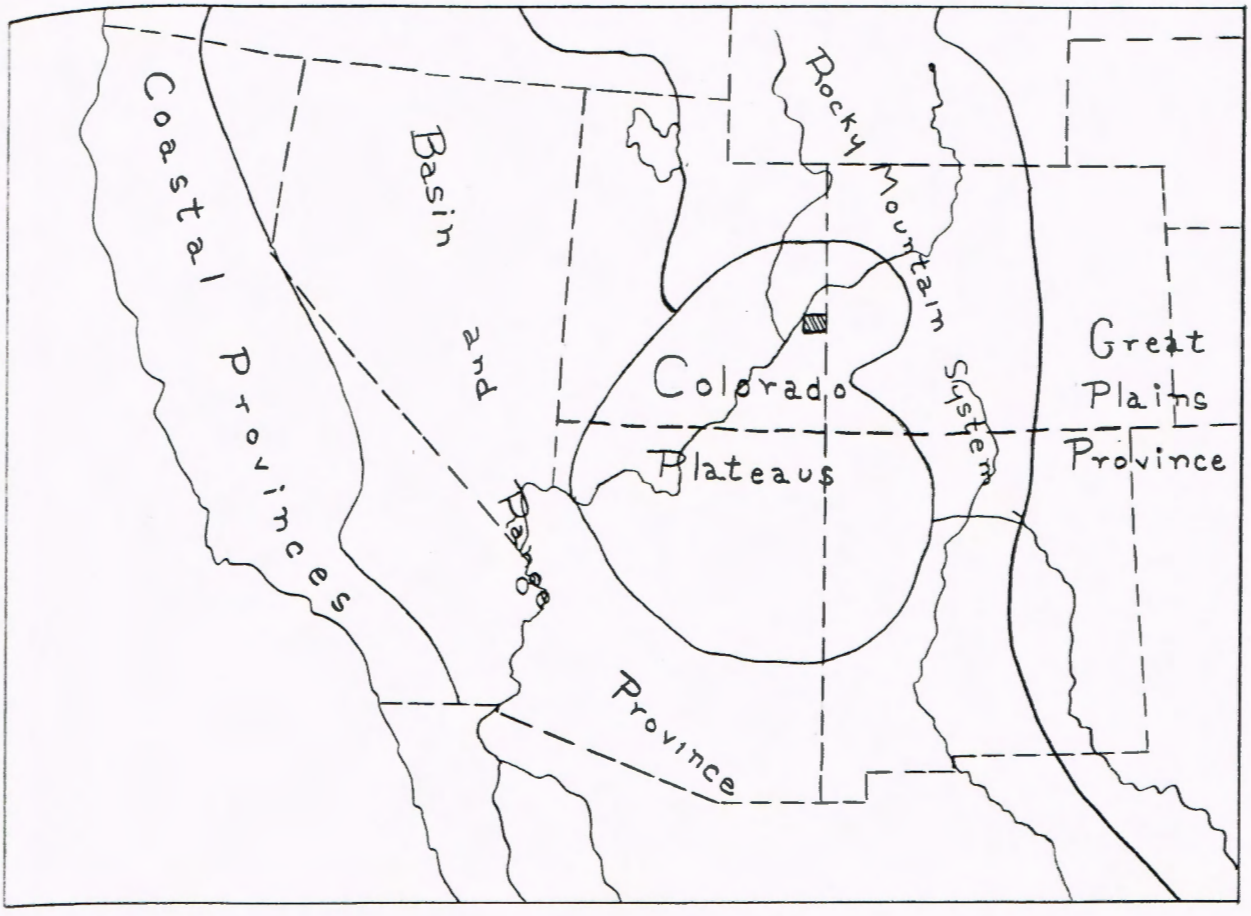


Figure 1. Index map showing location of La Sal Mountain area (shaded area).

of trade or travel between the northern part of the Basin and Range Province and the southern and eastern parts of the Colorado Plateaus is inferred from the data in this paper.

Climate

The climate of the La Sal Mountain area, below about 7,500 feet, is semi-arid. In the lowest part of the area, the canyons, annual precipitation is 7 to 12 inches. In the foothills around the base of the mountains, the annual precipitation is 12 to 15 inches; on the mountains it is 15 to 25 inches (Stoddart, 1946, Figs. 4, 5).

Summer rains come usually as hard storms that last only a few minutes, but these may cause floods in the streams. Below about 7,500 feet there are occasional snow storms during the winter, but the snow rarely lasts on the ground more than a few days. In the mountains, on the other hand, the annual snowfall is more than two feet and in wet years may be as great as five feet.

Monthly mean temperatures at Moab, which probably is typical of the canyon area, range from a January low of 28.8 degrees to a July high of 77.7 degrees, and from an absolute low of -18 degrees (January) to an absolute high of 109 degrees (July). Monthly mean temperatures at the town of La Sal, which is typical of the foothills, range from a January low of 24.7 degrees to a July high of 67.1 degrees, and from an absolute low of -22 degrees (January) to a high of 94 degrees (June, July) (Baker, 1933, p. 9). Correspondingly lower temperatures, of course, prevail in the mountains.

It seems highly probable that in prehistoric times, as now, the mountainous parts of the area would be occupied only seasonally, and that the canyons would be the most suitable part of the area for permanent settlement.

Flora

The 9,000 foot range in altitude in the La Sal Mountain area results in a wide variety of edible shrubs and herbs, an environment favorable to gathering cultures. These shrubs and herbs grow in three distinct vegetation zones: 1) the Northern Desert shrub zone of the canyons and valleys (4,000 feet to 6,000 feet); 2) the piñon-juniper zone of the foothills (6,000 feet to 8,000 feet); 3) the mountain zone of aspen-spruce forest and alpine meadow-land, above 8,000 feet. Each vegetation zone has a distinct flora. The zone of Northern Desert shrub, of course, offers a variety of bushes whose seed the Indians ground into flour and made into bread or mush. The piñon-juniper zone is named in part for the piñon tree whose nut has long been a staple in Indian diet. But, and this is too rarely emphasized, the mountain zone provides the greatest variety and greatest abundance of roots, herbs, and berries which could be eaten fresh, or ground and dried.

Plants in the canyons, belonging to the Northern Desert shrub, from which the Indians are known to have gathered seeds in historic times, include:

Plant	Part Used
Indian rice grass (Oryzopsis hymenoides)	seed
goosefoot (Chenopodium album)	seed and stalk
pigweed (Amaranth)	seed
salt brush (Atriplex canescens)	seed
shadscale (Atriplex confertifolia)	seed
sunflower (Helianthus)	seed
princes plume (Stanleya pinnata)	seed and stalk
yucca (Y. angustifolia)	stalk
beeplant (Cleome lutea)	stalk
mariposa lily (Calochortus gunnosoni)	bulb
wild onion (Allium palmeri)	bulb
prickly pear (Opuntia)	fruit
Spanish bayonet (Yucca bacata)	fruit, flower bulbs
squawberry bush (Rhus aromatica)	berries, wood for baskets

Bushes and trees of the piñon-juniper zone, between 6,000 feet and 8,000 feet, which provide edible berries or nuts, include:

Plant	Part Used
piñon tree (Pinus edulis)	nut
juniper tree (Juniperus scopulorum)	berry
service berry (Amelanchier alnifolia)	berry
squaw apple (Peraphyllum ramosissimum)	fruit
watercress	stalk

The piñon nut and the service berry have long been staples of Indian diet. The Utes shell the piñon nuts by striking them with a mano, and then grind them into flour (Lowie, 1924). The service berry is eaten fresh or dried for winter use. When boiled in a broth of fat, they were used in many Indian feasts (Palmer, 1870).

The greatest variety and abundance of plant foods, however, is found above 8,000 feet in the more humid, aspen-spruce forests and meadows of the mountain zone. These include:

Plant	Part Used
scrub oak (Quercus)	acorn
choke cherry (Prunus melancarpa)	berry
strawberry (Fragaria ovalis)	berry
raspberry (Rubus strigosus)	berry
currants (Ribes montigenum and R. wolfi)	berry
bearberry honeysuckle (Lonicera involucrata)	berry

mountain blueberries (Vaccinum caespilosum and V. areophilum)	berry
western thimbleberry (Rubus parviflorus)	berry
blue and red berried elder (Sambucus racemosa and S. coerulea)	berry
buffalo berry (Shepherdia argentea)	berry
spring beauty (Claytonia rosea)	root
snow lily (Erythronium grandiflorum)	root
valerian (Valeriana edulus and V. occidentalis)	root
green gentian (Swertia radiata)	root
cow parsnip (Hercleum lanatum)	root
sulphur flower (Erioganum umbellatum)	root
bracken fern (Pteris aquilina)	root
hyacinth (Camassia quamash)	root
yellow monkey flower (Mimulus guttatus)	leaves
purple vetch (Vicia americana)	leaves
wild sweet pea (Lathyrus utahensis)	peas and pods
golden pea (Thermopsis pinetorium)	peas and pods

The choke cherry grows along the streams as high as 9,000 feet. It has long been relished by the Indians, and the berries were eaten both fresh and dry. An informant living at Moab described how, as a child, she had watched the Indians gather choke cherries, mash them with the pits on a metate, form them into round cakes and allow them to dry for future use.

The gathering and drying of the abundant berries and roots which are most plentiful in the mountain zone, may have been a more important activity than hunting game, which was equally available in the lower zones, especially in the piñon-juniper zone. This gathering and drying of berries and roots probably explains the amazingly large numbers of grinding stones that were found at high altitudes in the mountains.

Fauna

Wild animals which have been reported in the La Sal Mountain area in historic times include the following:

Mammals	Birds
mountain sheep	prairie chicken
deer	sage hen
elk	ruffled grouse
antelope	mourning dove
bear	migratory duck
coyote	migratory pigeon
wolf	
bobcat	
fox	

Mammals	Fish
beaver	carp
muskrat	sucker
marmot	catfish
martin	trout
porcupine	
weasel	Insects
prairie dog	grasshopper
pocket gopher	
ground squirrel	
jack rabbit	
cottontail rabbit	

No doubt all these animals were sought by the prehistoric Indians, for the bones of all of them, excepting bear and fish, have been identified at sites in northeastern Arizona (Beals, Brainerd and Smith, 1945), in central Utah and Nine Mile Canyon, Utah (Gillin, 1941, 1938) and in northwestern Colorado (Burgh and Scoggin, 1948). It is doubtful if there were many buffalo in the La Sal Mountain area for they were not abundant anywhere in the canyon country. The buffalo petroglyph does not appear in the La Sal Mountain area, although it is found along Indian Creek, 50 miles south.

THE OCCUPATIONS

Relation to the Natural Environment

The natural environment of the La Sal Mountain area, as brought out in the preceding pages, is favorable for hunting-gathering cultures. Reflecting this is the fact that over 90 per cent of the sites are campsites; dwelling sites comprise less than 10 per cent. Stonework, including projectile points, knives, metates and manos are common at all sites. Pottery and architecture are scarce even at the dwelling sites and are virtually absent at the campsites.

The traits represented at the 350 sites found in the La Sal Mountain area are distributed in an orderly way with respect to the three major altitudinal zones of the area. The three major altitudinal zones are: 1) the mountain zone, above 8,000 feet, where water is plentiful and berries and plants are abundant; 2) the piñon-juniper zone between 6,000 feet and 8,000 feet, where springs are numerous but few streams carry running water; and 3) the canyons, below 6,000 feet, where water is available only along the main tributaries of the Colorado River. One hundred nineteen sites were found in the mountain zone, 84 sites were found in the piñon-juniper zone, and 151 sites were found in the canyons. Sites similar to those found in the mountains also occur in the two lower zones, but several kinds of sites are found in the canyons and piñon-juniper zone which are not represented in the mountains. The distribution of traits in these three zones is illustrated in Figure 2 and listed separately in a later portion of the paper.

All the mountain sites are believed to have been seasonal camps. Most are small and are presumed to represent use by family-size units or other small groups. They are located on the tops of high ridges along natural access routes to the mountains and on the passes between the mountains. No sites are found within the forests; practically all the sites are at the edges of meadows where they are surrounded by forest; the locations are such places as one would choose for camping today. The boundaries between the meadows and forests do not seem to have retreated or advanced very much since the sites were occupied; further study of the distribution of such prehistoric campsites might contribute some surprising information about the climax stability of our forests. The artifacts found at these mountain campsites are, in order of abundance, manos and metates, knives, projectile points, drills, and a few scrapers and choppers. Less than a dozen sherds of pottery and no dwellings were found.

The typical mountain metate is a flat, thin slab or thick boulder, on which a grinding surface is pecked to within about two inches of the edge. Deep-basin metates, which occur at dwelling sites in the canyons, are absent from mountain sites. The mano found with the mountain metates also is of a type not found at dwelling sites in the canyons. It is one-hand size, made from an oval-shaped stream cobble, and has a distinctive trailing edge (Fig. 66). Judging by the large number of manos and metates to be found at mountain sites, the gathering of the abundant edible berries, roots, and herbs of this zone could be regarded as the major food quest occupation and may very well have exceeded the hunting of game in importance.

Projectile points found in the mountains are large and of a type not found at dwelling sites in the canyons. They are mostly corner notched with expanding stems. Small projectile points, which are common at dwelling sites in the canyons, are virtually absent at mountain sites.

All types of knives are found in the mountain zone, including large stemmed knives of a type not found in the canyons. Drills, scrapers and disc choppers found at mountain sites resemble those found in the canyons. On the other hand, scraper planes, which are plentiful at lower altitudes, are virtually absent. Pottery was found at only four of the 119 mountain sites, and these sites are atypical of the mountain zone.

The contrast between the types of artifacts found at mountain campsites and those found in the dwellings in the canyons suggests that a) the horticultural canyon dwellers rarely visited the mountains, or b) if they did visit the mountains, they used an entirely different tool assemblage while there. But the differences between the mountain sites and canyon sites are so numberous I infer that the horticultural canyon dwellers rarely went higher than the piñon-juniper zone, and that the mountains were occupied by a different people, perhaps at a different time, than were the canyons.

Although the mountain sites are all of one kind, in the canyons three types of sites have been distinguished. These are: 1) sites with masonry, petroglyphs, small arrowheads and moderately abundant pottery of Pueblo type; 2) non-pottery campsites with artifacts like those at the mountain sites; 3) campsites with a little non-Anasazi micaceous or yellow utility pottery, small arrowheads, and little or no architecture.

The masonry sites in the canyon zone are distinguished by deep basin metates, loaf-shaped manos, abundant corn cobs, small projectile points, petroglyphs, and Anasazi type pottery. The best architectural structures are the granaries; most of the dwellings are crudely constructed, circular, single rooms. The deep basin metates, which are characteristic of the masonry sites, probably were used for grinding corn. Associated with these basin metates are flat slab metates like those found at campsites; perhaps these

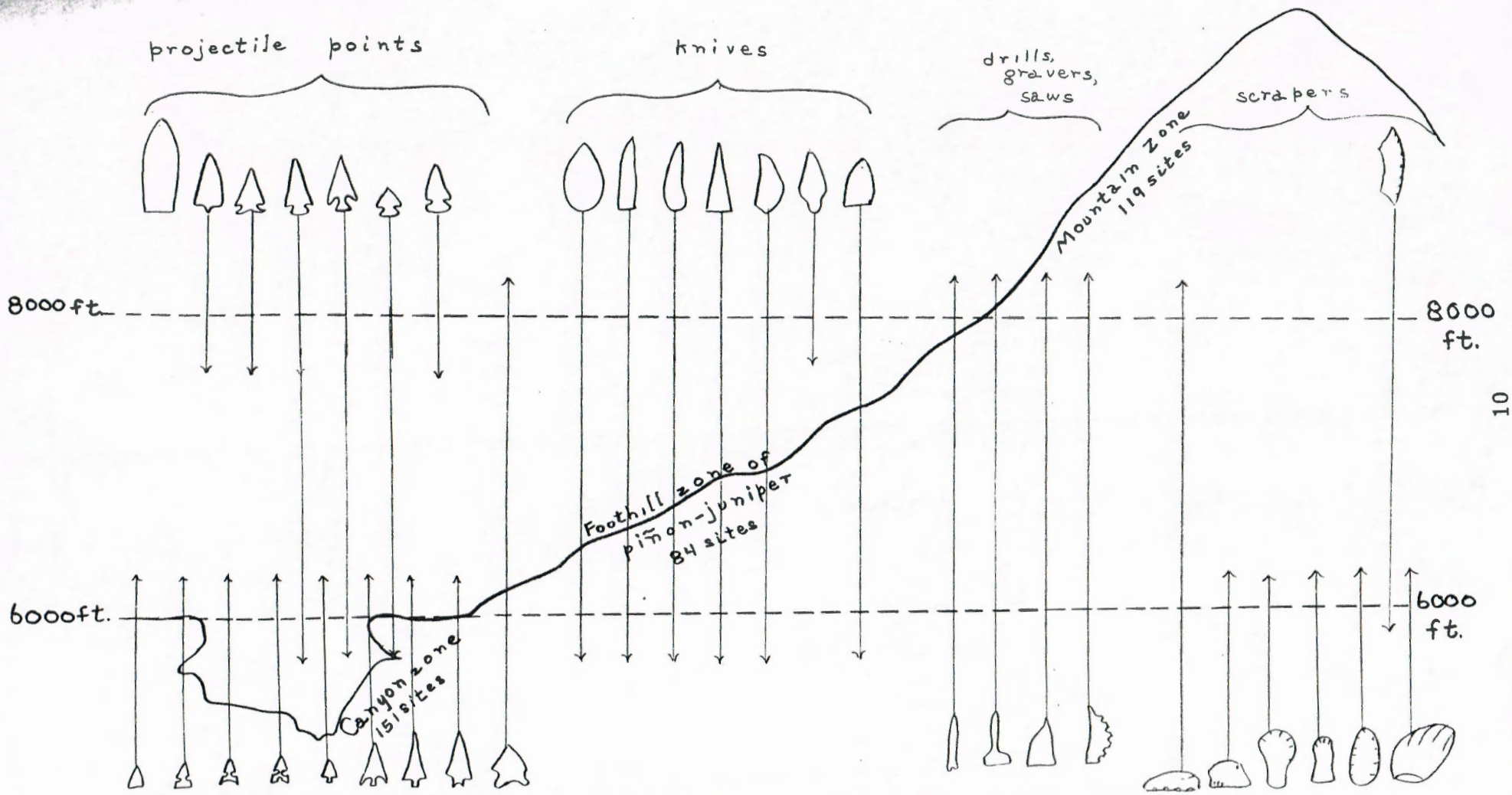


Figure 2A. Distribution of traits in the three major altitudinal zones in the La Sal Mountain area.

NOTE: INCREASED SIZE OF PROJECTILE POINTS AS TO ELEVATION (ELK?)

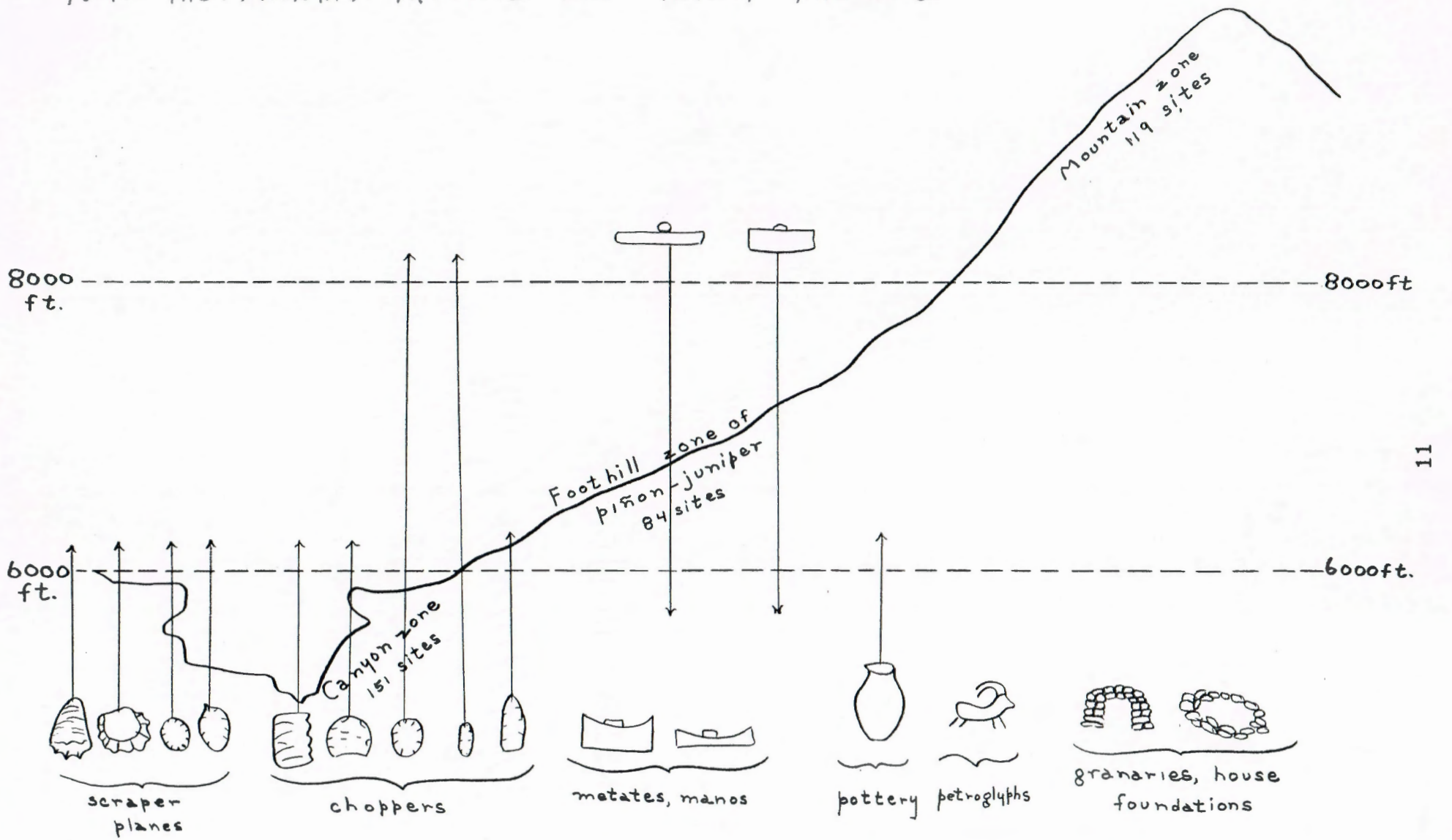


Figure 2B. Distribution of traits in the three altitudinal zones in the La Sal Mountain area (continued).

slab metates were used for grinding wild seeds. The masonry sites differ somewhat depending upon the date of occupation, but it is only important to note here that masonry sites do not occur in the piñon-juniper or mountain zones. Apparently then, as now, the canyon bottoms were the most favorable parts of the area for horticulture.

Campsites, resembling those in the mountain zone, are found on the plateau surface around the west and south base of the mountains and on the alluvial valley bottoms. Some of the sites on the plateau surface may be quarries, for they are in areas where quartz nodules are abundant and these sites have pointed choppers or picks and core choppers, in addition to the kinds of artifacts commonly found at mountain sites.

The other type of canyon campsite is characterized by small, side and base-notched projectile points, small keeled, snubnose scrapers of a Plains type, and a flat-topped, snubnose scraper of a Basin and Range type. Metates at these sites are flat or slightly basin shaped, and the manos have a trailing edge which is not found on manos at dwelling sites. Pottery, which is scarce, includes a micaceous and granitic non-Anasazi pottery, and a yellow ware much like Awatobi utility ware, and Navaho pottery. Architecture consists of a few small, low, circular walls. The scantiness of pottery and architecture, the abundance of stone tools, and the scarcity of similar sites in the mountain zone, suggests that the occupants of these sites were a nomadic people who generally preferred the lower altitude zones though they did occasionally visit the mountains.

The piñon-juniper zone, between 6,000 and 8,000 feet in altitude, is too high for comfortable winter living. Springs are numerous but few streams carry running water. The woods are interrupted by treeless areas of sagebrush and, as in the mountains, the edges of these open areas are the favorite locale for sites. Of the 83 sites found in the piñon-juniper zone, all but one are campsites. Some resemble the campsites of the mountain zone, others are like those found in the canyons; some, evidently the most frequented sites, have elements of both. About half the 102 projectile points found in this zone are the large type typical of the mountain zone; the other half are small like those typical of the canyon zone. Knives are numerous (156), as are flat or slightly basin-shaped metates. None has a deep basin like those found at masonry sites in the canyons. A few sherds of pottery are found at the most frequented sites. The abundance of knives and projectile points in the piñon-juniper zone again seems to indicate the importance of hunting.

Regional Affiliations

The La Sal Mountain area, located along a natural route of travel between the southern part of the Colorado Plateaus and the northern part of the Basin and Range province, has been subject to many influences from other regions. The stonework of the area has strongest affinities with the Basin

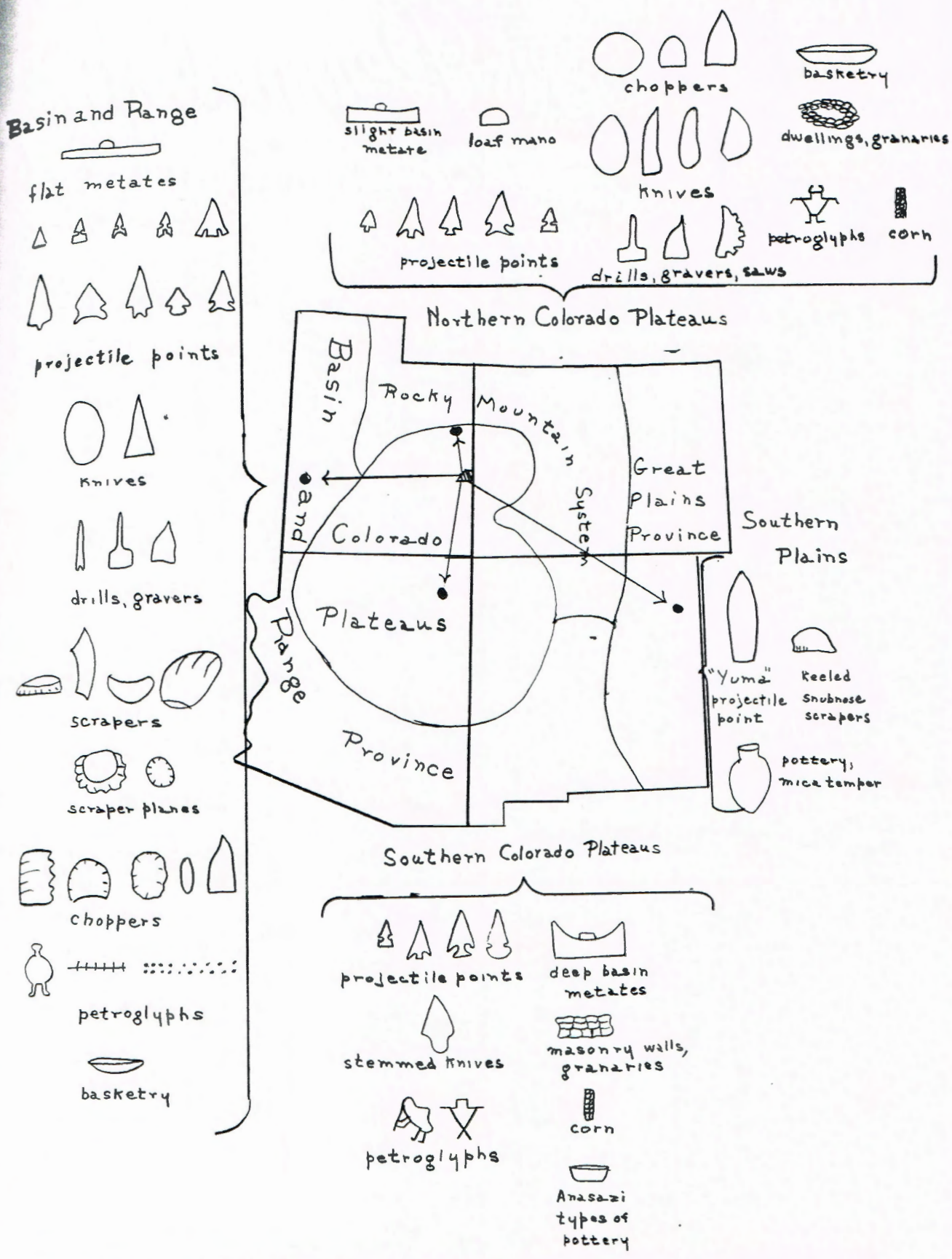


Figure 3. Regional distribution of traits found in the La Sal Mountain area.

MULTIPLE CULTURE USE/VISITATION?

and Range province; the pottery and architecture show influences from the Four Corners region; a few artifacts, but highly distinctive ones, are similar to those found on the Plains. Almost all the traits represented in the La Sal Mountain area are also recorded from other parts of the northern Colorado Plateaus.

Traits of the Basin and Range province are well represented in the La Sal Mountain area, as can be seen in Figure 3 and in the tabulation in the chapter discussing traits. The occupants in both areas had, for the most part, a similar gathering and hunting culture, and their basic tool kit appears to have been much the same. Similarities in the stone tool complex include flat slab and boulder metates, knives, plano-convex and concavo-convex tools such as end-scrapers, side-scrapers, and scraper planes. Several of the La Sal Mountain area projectile point types are unmistakably Basin and Range in inspiration if not in origin, such as the projectile points with tapering or bifurcated stems (Figs. 9, 20, 21d), and the small triangular and base-notched arrowpoints (Figs. 2, 18, 21e). In the La Sal Mountain area these types of projectile points are common at campsites but are rare or lacking at dwelling sites. The coiled split rod and bundle basketry found in the La Sal Mountain area is found also in Nevada and around the Great Salt Lake.

Most of the traits similar to those of the Basin and Range province are found at campsites in the La Sal Mountain area, but a few traits, mostly similar to some in central and western Utah, occur at or near dwelling sites. These include petroglyphs depicting abstract designs, and the distinctive petroglyph of a man behind a shield (Site 104-50*). At some sites (104-50, 33-51, 34-51) abstract design petroglyphs occur near such typical Anasazi petroglyphs as the humpbacked flute player and with Anasazi pottery, suggesting a mingling of influences. Other traits which are found at dwelling sites in the La Sal Mountain area, which also are found in western Utah, include the Utah and trough metates (45-52), loaf-shaped manos, and the adobe turtleback walls reported by Cummings. However, the use of adobe turtleback construction also is reported in northeastern Arizona, although uncommon there (Kidder and Guernsey, 1919, p. 43; Beals, Brainerd, and Smith, 1945, p. 85; Morris, 1939, p. 30).

Another large number of traits in the La Sal Mountain area is shared with the Four Corners region of the southern Colorado Plateaus. These traits, found mostly at dwelling sites in the canyons, include the use of masonry for granaries and dwellings, petroglyphs like the hump-back flute player, deep basin metates, corn, and several kinds of projectile points (Figs. 3, 11).

*The site designations here are not those used by the Archeological Survey of the University of Utah. The two elements of the designators used by Mrs. Hunt simply refer to number of any given site and to the year of discovery. Site 104-50, then, is read as the 104th site discovered during the 1950 season. Sites 1 to 129, lacking a second group of digits were found during the 1949 season. For the trinomial University of Utah designators see the tabulation in Table 3.

Most of the pottery in the La Sal Mountain area resembles Anasazi types, although much of it probably is indigenous to the area, judging by the use of local materials. Such pottery occurs at dwelling sites. A yellow utility ware, resembling Awatobi ware, is found at campsites in the area and may be similar to that found in central Utah which Gillin (1941, p. 42) described as resembling Awatobi ware except for the black temper. Artifacts common in the La Sal Mountain area, especially in the canyons, but uncommon in the Four Corners region, include plano-convex end scrapers, side scrapers, and scraper planes. Some traits typical of Four Corners that are rare or absent in the La Sal Mountain area include troughed metates (found only at site 45-52), the long two-hand mano and accompanying metate which shows equal use over the entire surface, grooved axes and mauls, and dwellings composed of contiguous rectangular rooms. Most archeological work in the Four Corners region has been done at dwelling sites; further work with hunting-gathering cultures in this region may disclose additional similarities in projectile points and stonework with the La Sal Mountain area.

There appears to have been some contact also between the La Sal Mountain area and the southern Plains, probably by way of the plateaus south of the San Juan Mountains. Plains-like traits, found at campsites in the La Sal Mountain area, include small, high keeled snub-nose scrapers, micaceous pottery suggestive of Taos-Picuris and other pottery of the Upper Rio Grande region, and large lanceolate projectile points of Plainview or Angostura type.

The overwhelming majority of the stonework found in the La Sal Mountain area is made of materials obtainable locally. However, about 25 of the approximately 1500 artifacts are made of materials known to be foreign to the area, like novaculite, obsidian, and an opalescent black chert. Novaculite, used in making the Angostura or Plainview type projectile point, is not known in the Colorado Plateaus or Rocky Mountains but does occur in west Texas, where points of this type are common. Obsidian, used in making projectile points having bifurcated stems, was a favorite material of the prehistoric people of western Utah, where this type of point is common. Black, opalescent chert used for making a keeled side scraper (Fig. 44, f), is like that in the Bridger formation of southern Wyoming (W. H. Bradley, personal communication). The only other side scraper like this one also is made of a chert foreign to this part of the Colorado Plateaus.

Probable Chronology

At least five and possibly nine different occupations, lasting over a period of many thousands of years, are represented in the La Sal Mountain area (Fig. 4).

There can be no doubt about the relative dating of three of these occupations. Two of them are separable stratigraphically. The earlier, a pre-pottery lithic culture, occurs in alluvium that underlies pottery sites.

Typologically the pottery on top of the alluvium is Anasazi, and this correlation is supported by a radiocarbon age determination. The third occupation, that of the Utes observed when the whites first entered the area, is an historical fact.

In addition to these three clearly identifiable occupations, several other quite different types of sites have collections of traits that certainly represent additional and different cultures or occupations. Two of these types of sites are identified by a large number of traits and almost certainly represent distinct cultures; four other possible occupations are suggested by an incomplete assemblage of traits. The evidence for the relative ages of these is brought out in the following pages.

The most recent occupation was by Utes who were in the area as late as the 1880's. In 1882 a band of Utes ambushed and killed a posse of Moab citizens. In 1875 a party of geologists on the Hayden Survey was treated to a banquet of green corn, but later was attacked and driven from the area by Ute Indians. When the Mormons unsuccessfully attempted to settle Moab, in 1855, a band of Utes living in the valley was raising corn, squash, and beans by flood irrigation. Still earlier, in the 18th century, Father Escalante encountered Tabeguache Utes along the Dolores River east of the La Sal Mountains. There is, as yet, no clue as to when the Shoshonean peoples first reached the La Sal Mountain area, but in historic time the Utes roamed widely, even into the Plains.

A recent but prehistoric Shoshonean occupation of the area is indicated with some certainty at a half dozen campsites and probably is represented at about 25 other sites. These sites yielded Shoshonean types of artifacts but no evidence of white contact, such as glass beads or metal work. These sites are in the canyon and piñon-juniper zones; none were found in the mountains. The following artifacts were found at these sites:

Projectile points: small side notched (Figs. 17, 18) and small triangular (Fig. 8).
Knives: oval; rectangular; wide angle knife tips.
Drills: large flanges, small flanges.
Gravers: flake.
End-scrapers: small, flat snubnose; keeled snubnose; spatulate.
Side-scrapers: with doubly convex edge; oval; concave; keeled.
Scraper planes: small disc.
Choppers: cobble, core.
Metates: flat; slightly basin shaped.
Manos: biface oval.
Pottery: unidentified plain brown; yellow utility ware (Awatobi?); Navaho.
Architecture: absent except for low rock circles and walls (86-50) and remains of masonry dwelling at mixed site 12-51, perhaps Navaho (?)

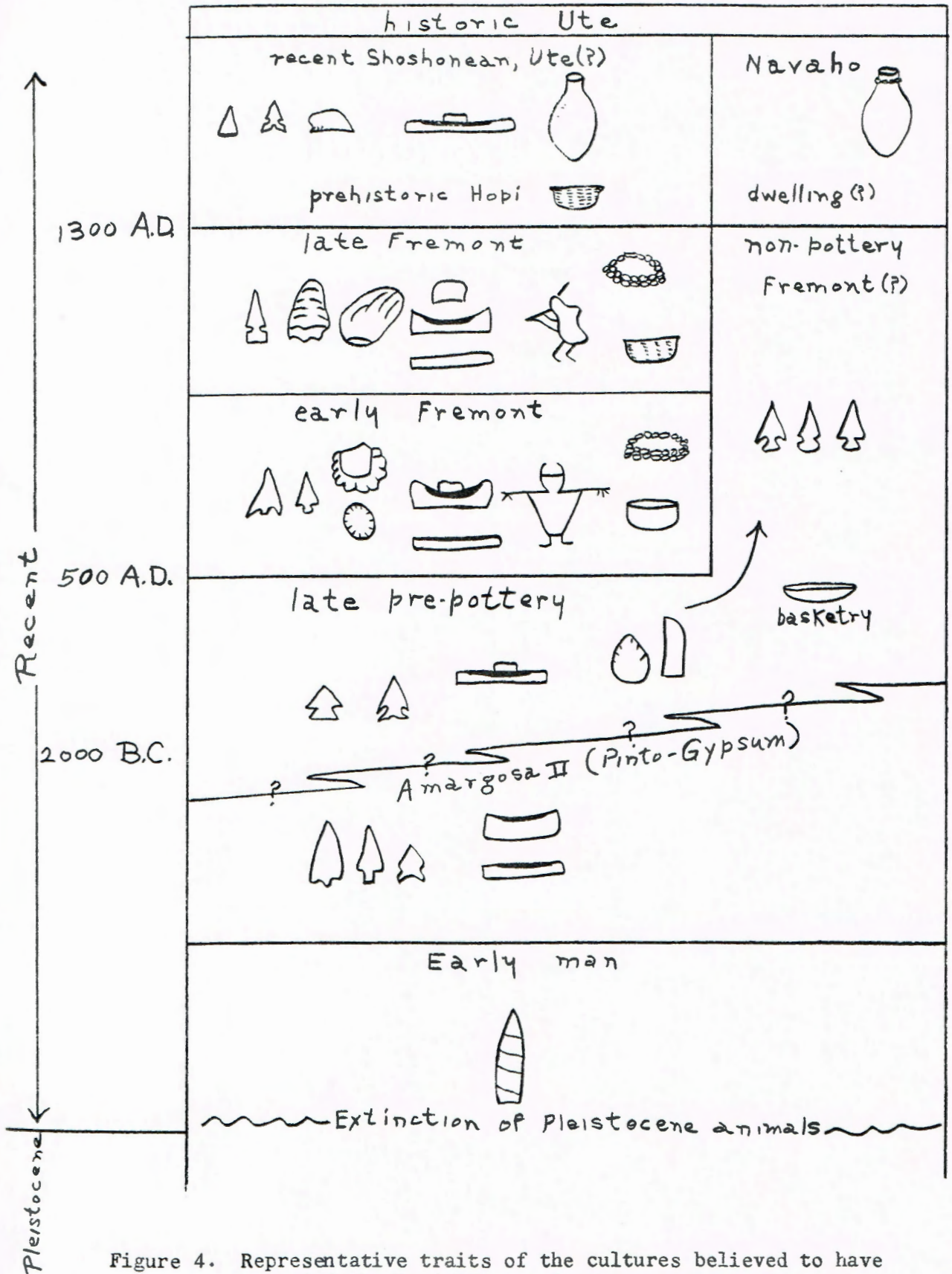


Figure 4. Representative traits of the cultures believed to have occupied the La Sal Mountain area.

Bands of prehistoric Hopi Indians may have visited the area, as suggested by the occurrence of a yellow utility ware resembling Awatobi utility ware (cf. Jeddito Plain, Corrugated and Incised). These wares were found at five campsites, two in the canyon zone, two in the piñon-juniper zone, and one in the mountain zone. Several of the sites yielded Shoshonean type stonework, and one yielded some Navaho pottery. It is possible, therefore, that the yellow ware was carried in by Shoshoneans or Navahos, but the fact that the ware is utility ware, and not the more spectacular, painted, Jeddito Black-on-yellow, which was widely traded, favors the interpretation that the wares were brought here by the Hopi.

Prior to about 1300 A. D. and probably beginning as early as 500 A. D., a corn raising, semi-sedentary people of the Fremont culture occupied the area. Good evidence of this occupation was found at about 100 sites. The Fremont culture is a horticultural and hunting culture with its earliest manifestations at Castle Park, Colorado, where it is dated from 400 to 800 A. D. (Burgh and Scoggin, 1948; Lister, 1951). This culture also is found in the Fremont River area, Utah, where it flourished into Pueblo II times (Morss, 1931, p. 78). These people with the Fremont culture, through Basketmaker III times, had a common culture with the Anasazi people who occupied the Four Corners area, but from then on they developed their own distinctive culture. They lacked such typical Anasazi traits as the compact, cellular pueblo and the side-notched or fully grooved axe, although they did adopt stone masonry and pottery styles from their southern neighbors.

The dwelling sites of the Fremont people in the La Sal Mountain area are found only in the canyons. Their campsites are found in the piñon-juniper zone, but are virtually absent in the mountain zone. Probably the growing of corn lessened their need for the edible berries and roots of the high mountain zone, and game is ample in the piñon-juniper zone.

As might be expected from an 800 year occupation, differences in the sites can be distinguished, and some sites appear to be later than others. However, there are many traits that are characteristic of most or all of the sites of the Fremont culture found in the La Sal Mountain area. These are:

Deep basin metates, for corn (?), flat slab metates, and metates with one side basin-shaped, the other side flat. All found on the same site. Trough and Utah type metates were found at one site only (47-52).

Loaf shaped manos are diagnostic. Sub-rectangular biface manos also found.

Abundant hammerstones.

Individual one-room dwellings on open sites and in shelters. Walls circular and both high and low, mostly dry-laid masonry.

Masonry granaries of various kinds abundant. Granary at site 16-51 dated by C^{14} at 1000 A. D. $\pm$ 150.

Cultures believed to be represented in the La Sal Mountain area
(Cultures represented by many traits are marked with double asterisk; those represented by few traits are marked by single asterisk.)

TIME	Northern Colorado Plateau	Southern Colorado Plateau	S. Basin & Range S.E. Ariz. Lower Colo. R. Basin	Northern Basin & Range	Southern Plains & S. Rocky Mts.
PRESENT				Shoshonean**	
1700-	Recent Shoshonean**		Yuma III	Promon-	Dismal River
1500-	Early Shoshonean**	Athabascan*	Yuma II	Pueb- tory*	Upper
-1 1000-	Fremont	Pueblo II**, III**	Yuma I	loid*	Republican
- 500-	Culture**	BM III**, PuebloI*	(Mogollon)		
-2 A.D. 1-	(Corn and Pottery)				Woodland
-3 1000-			San Pedro / Amargosa III		
-4 2000-	Basket-	Basket-		Generalized	
-5 3000-	maker II**	maker II*		Bonneville	
-6 4000-				Culture**	
-7 5000-		Amargosa II*	Chiricahua* / Amargosa I-II**		
-8 6000-		(Concho)			
-9 7000-					
-10 8000-					"Yuma"*
Millennia Ago					Folsom
			Sulphur Spring / San Dieguito III, II I		

Figure 5

Typical Fremont petroglyphs, including life-size painted figures and pecked, square-shouldered, horned and ornamented figures. Other petroglyphs include the humpbacked flute player, and figures with shields.

"Miniature" (Fig. 10, a-g) projectile point; also Basketmaker III projectile points with narrow stems and long raking barbs (Fig. 11) and side notched projectile points (Fig. 17).

Pottery not abundant. Types are mostly Anasazi plain and corrugated gray, Black-on-white, and a few red wares.

Basketry is typical Fremont and Basketmaker II type of coiled split rod and bundle, and two rod foundations.

Other associated stonework including projectile points with slightly expanding stems, short tangs (Fig. 10, h-q); oval and rectangular knives; narrow and broad blade end scrapers (early); oval and doubly convex side scrapers; cobble, disc, and pointed (late only) scraper planes; cobble and core choppers.

Traits believed to be distinctive of a late Fremont occupation are Pueblo II-III Anasazi types of pottery, side notched and "miniature" projectile points, petroglyphs of the humpbacked flute player, figures with shields, small pottery gaming pieces, trough and Utah-type metates and high-walled, circular dry-laid masonry structures. These traits, found at about twenty sites resemble those reported from Nine Mile Canyon, Utah, and reflect a stronger puebloid influence than is apparent in the earlier Fremont occupation.

A radiocarbon age determination of 1000 A. D. - 150 years (Lamont Laboratories) was obtained from a roof pole of a granary (site 16-51) on the Colorado River. The pole was completely encased in adobe, and thus was, to some extent, protected against contamination. Gray, corrugated pottery found at the site, and ornamented type petroglyphs (Fig. 76, c) found near it, suggest that the occupation was late Fremont.

Traits distinguishing the other, and seemingly earlier Fremont occupation include early types of Anasazi pottery, Basketmaker III-Pueblo I type of long tanged projectile points (Fig. 11) and "miniature" projectile points (Fig. 10, a-g). The small, side-notched projectile points of the later period are lacking. Petroglyphs include large painted V-shaped figures, and trapezoidal horned figures. The humpbacked flute player petroglyph is not found at these sites. These traits, found at about twenty sites, resemble those reported at Castle Park in northwestern Colorado and in the Fremont River area, Utah.

While the Fremont people in the canyons were raising corn, there seem to have been nomadic hunting and gathering peoples in the area also. I will refer to this occupation as Fremont (?); it is represented at a third of the sites in the area. The artifact believed to be most characteristic of the Fremont (?) nomads is the large, corner-notched projectile point (Figs. 13, 14, 15, 16). These are found at campsites at all altitudes but are not found at

Fremont culture dwelling sites; their absence at dwelling sites is indicated not only by my collections but also by large local collections from dwelling sites.

These nomads, however, were in the area in prepottery times also. Evidence of a pre-Fremont occupation are the dozen prepottery hearths that are buried in the alluvial fill of the valley bottoms. This alluvium, correlated with the Tsegi alluvium in northeastern Arizona, underlies pottery sites and probably dates from the first or second millennium B. C. Associated with these buried hearths are fragments of flat slab metates, burned bone, and corner notched projectile points (Fig. 12). This occupation I refer to as the late prepottery occupation. Typologically I am unable to distinguish it from the Fremont (?) and accordingly it is probably represented at a good many of the hundred or so sites attributed to the Fremont (?) culture.

The finding of Amargosa II type projectile points (Figs. 9, 20) at twenty-six sites may indicate a still earlier prepottery occupation. Many of the projectile points are strikingly like those found in the Concho, Arizona complex (Wendorf and Thomas, 1951), and the complex may have been widespread over the Colorado Plateaus, as it was over the southern Basin and Range province. In the La Sal Mountain area the following artifacts are found with the Amargosa II type of point:

Knives: stemmed; rectangular; wide angle knife tips.
Drills: with small flanges.
Gravers: flake.
Side scrapers: keeled, elongate flake; oval.
End scrapers: flat snubnose.
Scraper planes: large disc.
Choppers: elliptical; disc; small core.
Metates: flat or slightly basin shaped slab or boulder.

Finally a still earlier occupation, shortly after the end of the Pleistocene period, may be inferred if the several Angostura or Plainview type points that have been found in the area were brought there by the people who made them. They could, of course, have been brought in from the Plains at a later time.

Figure 5 shows graphically the regional affiliations and probable chronology of the cultures believed to be represented in the La Sal Mountain area.

THE EVIDENCE

Stonework

Stonework forms the bulk of the collection from the La Sal Mountain area. The sites in this area, like most of those in other parts of the northern Colorado Plateaus, are marked by an abundance of stone tools, including metates and manos, and by a scarcity of pottery sherds and architecture. The collection of stonework includes more than 1,500 stone tools, consisting of about 300 projectile points, 500 knives, 100 drills, gravers and saws, 400 scrapers and scraper planes, and 150 choppers. In addition, hundreds of manos and metates were found.

The collection is divided into several broad classes of tools: the doubly convex knives, projectile points and choppers; the plano-convex and concavo-convex end and side scrapers and scraper planes; the drills, saws, and gravers. These broad classes of tools are further subdivided into types, largely on the basis of outline of the tool.

Each type of artifact is illustrated. Opposite each illustration is a description of the artifact, its abundance and distribution in the three environmental zones, and a list of references to similar artifacts found in other areas. In addition is offered an opinion as to the probable cultural affiliation of most of the artifacts.

It would be desirable to indicate on some sort of scale the degrees of similarity between the La Sal Mountain artifacts and those of other areas. This has not proved feasible because: 1) the illustrations and descriptions of the stonework in many published reports are inadequate for the establishment of precise degrees of similarity; 2) variation or range of artifacts within a type, both in the La Sal collections and in the collections cited for comparison, usually are great enough to include different degrees of similarity; 3) references have not been included where the similarities are not considerable.

Any interpretation herein that allocates an artifact to a particular culture is based largely on the complex of traits in which the artifact occurs rather than on similarities between the individual artifacts. Very few of the artifacts are, by themselves, diagnostic of a particular culture. The fact that one is common to two cultures therefore is not, in itself, reliable evidence of contact between the cultures; but if a considerable number of artifacts are alike, the probability of contact is greatly increased. Thus the "references"

which form integral parts of the descriptions which follow include occurrences of similar artifacts in complexes other than those represented in the La Sal Mountain area.

Projectile points. Three hundred classifiable projectile points were found in the La Sal Mountain area. Ninety per cent of these were broken beyond use. Most of the projectile points are made of materials available in the area--quartz, quartzite, jasper and flint. Four points are of materials known to be foreign to the area. One of these, a "Yuma type" projectile point, is made of novaculite, probably from western Texas. Three other projectile points are made of obsidian.

The nomenclature of the parts of projectile points used in this report is given in Figure 6 and is modified from Haury (1950, Fig. 51). The system used in the classification of the points into various types is based on the presence or absence of a stem. Stemless points are subdivided on the basis of shape; stemmed points are subdivided on the basis of the width and shape of the stem and on the form of the tang. The classification is as follows:

Stemless projectile points
- Lanceolate (Fig. 7)
- Triangular (Fig. 8)

Stemmed projectile points
- Stem narrower than blade
  - Tapering stem (Fig. 9)
  - Slightly expanding stem, short tangs (Fig. 10)
  - Slightly expanding stem, long tangs (Fig. 11)
  - Greatly expanding stem, short tangs (Figs. 12, 13)
  - Greatly expanding stem, long tangs (Fig. 14)
- Stem as wide or wider than blade
  - Corner notched (Fig. 15)
  - Side notched with rounded stem (Fig. 16)
  - Side notched with straight edged stem (Figs. 17, 18)
  - Saw-tooth edges (Fig. 19)
  - Bifurcated stem (Fig. 20)
  - Miscellaneous (Fig. 21)

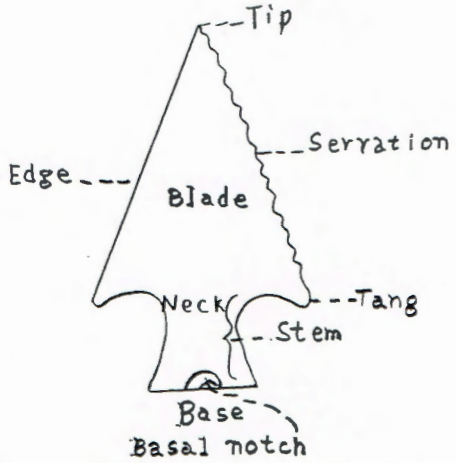


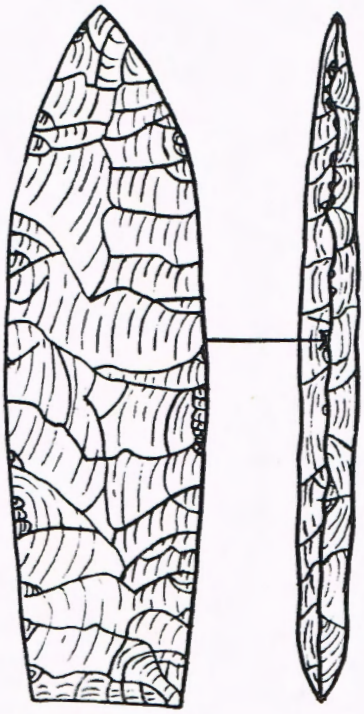
Figure 6. Nomenclature of projectile points.

Lanceolate projectile point without stem (Fig. 7)

Description: Elongate, narrow; widest and thickest at midsection. Straight base, thinned. Primary flaking irregular but tending to be parallel oblique; fine secondary flaking. Irregular and indistinct median ridge. Material used: white novaculite, nearest known source, west Texas.

Distribution in La Sal Mountain area: 1 specimen only, unique in collection found at mountain site 8-50, altitude 10,500 feet, on Beaver Creek drainage. No other artifacts found in locality. Four similar points from the area have been reported by local collectors.

General distribution: Resembles Angostura points (Hughes, 1949, Fig. 68) dated ca. 4,000 B. C. Also resembles points of undetermined age which have been reported from Cook Inlet, Alaska (Hibben, 1943, Pl. XV, b) and from near Fairbanks, Alaska (Rainey, 1940, Fig. 16, 3). Points of this general type have been dated at between 10,000 B. C. and 5,500 B. C. (Krieger, 1950, Fig. 8, Row II, F).



"YUMA TIPE" (FOLSOM)
WHITE NOVACULITE
NEAREST KNOWN SITE: WEST TEXAS
ALTITUDE: 10,500. BEAVER CREEK DRAINAGE
SITE 8-50

Figure 7

TO SCALE

Triangular projectile points without stem (Fig. 8)

Description: Three varieties: 1) short (a-f); 2) elongate and small (g-p); 3) elongate and large (q-t). Edges straight or convex; bases straight or slightly concave (t is exceptional). Thickness: short points, 2 to 3 mm.; elongate small points, 1.5 to 4.5 mm.; elongate large points, 3 to 5 mm. Fine secondary flaking. Materials: mostly quartz, some quartzite and jasper; one is imported obsidian. Elongate large projectile points grade into triangular knives.

Distribution in La Sal Mountain area: Common (35 specimens); 13 with pottery; 20 from canyon sites, 14 from piñon-juniper sites, 1 from mountain site. At a few campsites this projectile point is associated with a yellow utility ware (cf. Awatobi), an unidentified brown non-Pueblo ware, and Mancos Black-on-white.

General distribution: In the La Sal Mountain area these projectile points are associated with traits believed to be representative of the Shoshonean and Fremont cultures. Similar points are widely distributed on the Colorado Plateaus, Basin and Range province and Great Plains. Time range: Fremont culture and Pueblo II-IV on Colorado Plateaus; Paiute and Shoshonean, early Desert Mohave in Basin and Range province; Woodland and Upper Republican on High Plains. References to similar artifacts are as follows:

Fremont River, Utah (Morss, 1931, Pl. 32, b, 2; c, 3; d, 3).
Marsh Pass, Ariz. (Kidder and Guernsey, 1919, Fig. 48, h).
Kayenta, Ariz. (Beals, Brainerd and Smith, 1946, p. 73)
La Plata district, Colo. (Morris, 1939, Pl. 117). Surface finds.
Southwestern Colo. and northwestern N. M. (Holmes, 1878, Pl. 46)
Mohave Desert, Calif. (Rogers, 1939, Pl. 18, k, l, m, s).
Pecos, N. M. (Kidder, 1932, Fig. 3, g-l).
Rich Lake, Llano Estacado, Texas (Watts, 1939, Pl. 19, B7).
Yuma County, Colo. (Gebhard, 1949, p. 138a)
Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 1, h).
Texas County, Okla. (Watson, 1950, Pl. 311, E).
Ash Hollow Cave, Neb. (Champe 1946, Pls. 10, 11, 12).
Birdshead Cave, Wyoming (Bliss, 1950, p. 189, Fig. 58, IV, V).

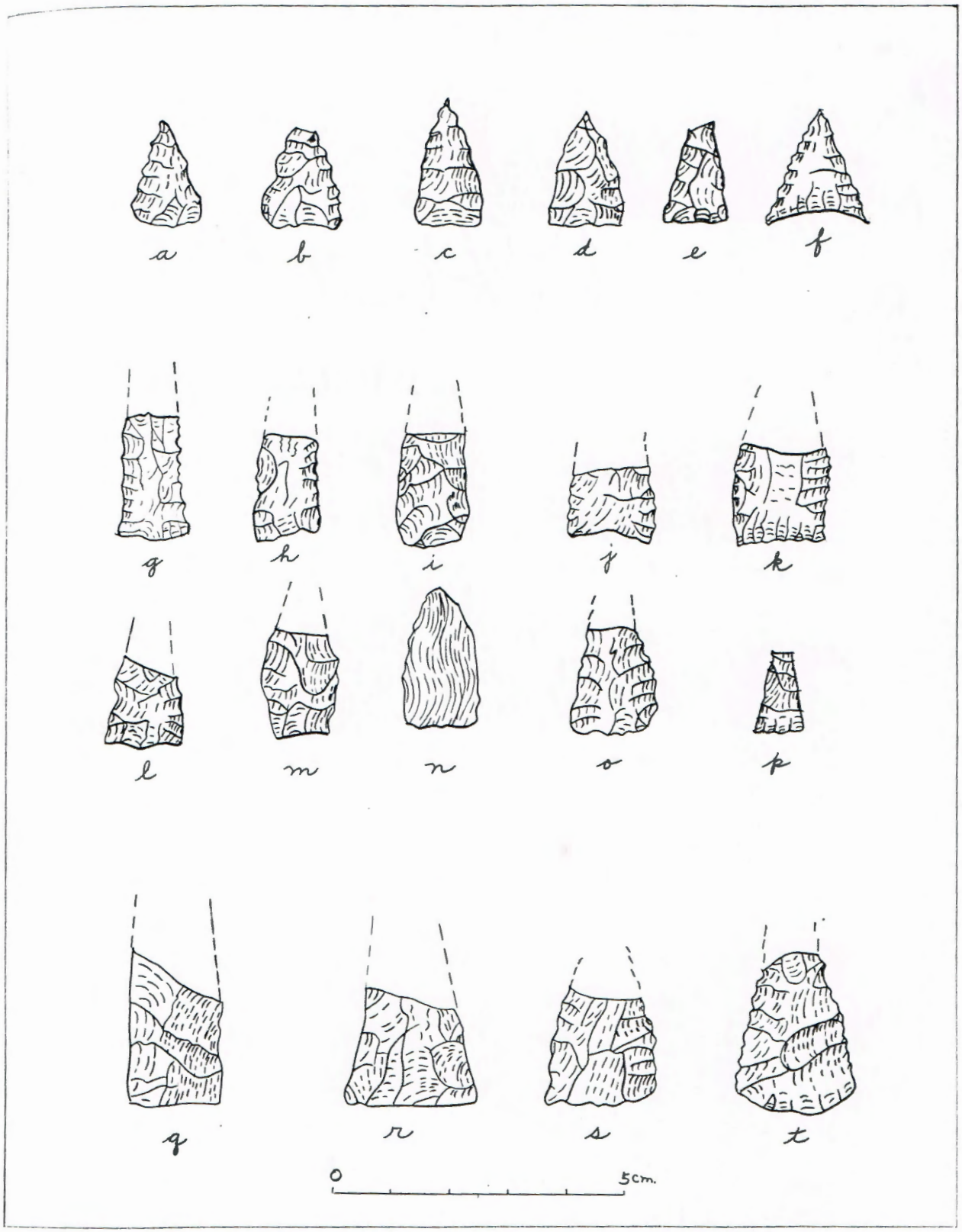


Figure 8

ASSOCIATED WITH YELLOW UTILITY WARE (AWATOBI), NON-PUEBLO & BLACK ON WHITE
MOSTLY QUARTZ
TIME RANGE: FREMONT / PUEBLO II TO PUEBLO IV
ONE IS OBSIDIAN (IMPORTED)

Projectile points with stems narrower than blades

Tapering stems (Fig. 9)

Description: Two varieties, one with pointed tapering stems (a-g), the other with a straight based tapering stem (j-l). Tanged. Edges of blades generally straight; some slightly concave; others slightly convex. Thickness of small points 4.5 to 5.5 mm.; thickness of large points 5 to 7 mm. Specimens a and h are made from curved flakes and are slightly concavo-convex in cross section. Coarse and irregular primary flaking; little or no secondary flaking. Materials used: quartz, quartzite, jasper, flint, and chert. Points a and h are of brown and black cherts, respectively, materials foreign to the area. The points probably were imported. Variations in the tapering stem may be significant; points a, b, c, e and f most closely resemble the Gypsum Cave type point.

Distribution in La Sal Mountain area: Fairly common (14 specimens): 8 found at mountain sites, 5 at piñon-juniper sites, 1 at a canyon site. Specimen a was found at mixed site 85 with yellow utility ware (cf. Awatobi ware). Associated artifacts include stemmed and rectangular knives; wide angle knife tips; drills with small flanges; gravers; flat, snubnose end-scrapers; keeled, elongate, flake side-scrapers; elliptical choppers; flat slab or boulder metates; ellipsoidal, asymmetrically convex, subrectangular and oval manos.

General distribution: These projectile points have a Basin and Range tradition. They belong to non-pottery horizons and probably are prepottery in the La Sal Mountain area, and may be as early as Amargosa II. Similar projectile points are reported from both the northern and southern Basin and Range province and from the Colorado Plateaus. Time range: Amargosa II in southern Basin and Range (but this type persisted in the Big Bend area, Texas, possibly as late as 900 A. D.); prepottery in northern Basin and Range (Etna Cave); dated at about 1,000 A. D. at Luster Cave on the northern Colorado Plateaus; early prepottery at Concho, Arizona on the southern Colorado Plateaus. References are as follows:

Luster Cave, Colo. (Lister and Dick, 1952, p. 75). Like i and j.
Concho, Arizona (Wendorf and Thomas, 1951, Fig. 49, a, f).
Montrose County, Colo. (Hurst, 1944, Pl. III).
Gypsum Cave, Nev. (Harrington, 1933, p. 42, Fig. 19, a, b, d).
Mohave Desert, Calif. (Rogers, 1939, Pl. 14, a, b).
Ventana Cave, Ariz. (Haury, 1950, Fig. 59).
Texas Big Bend (Kelley, Campbell and Lehmer, 1940, Fig. 1, Pl. XX, Figs. 1, 2, and p. 162).
Etna Cave, Nev. (Wheeler, 1942, Fig. 36, h, i).

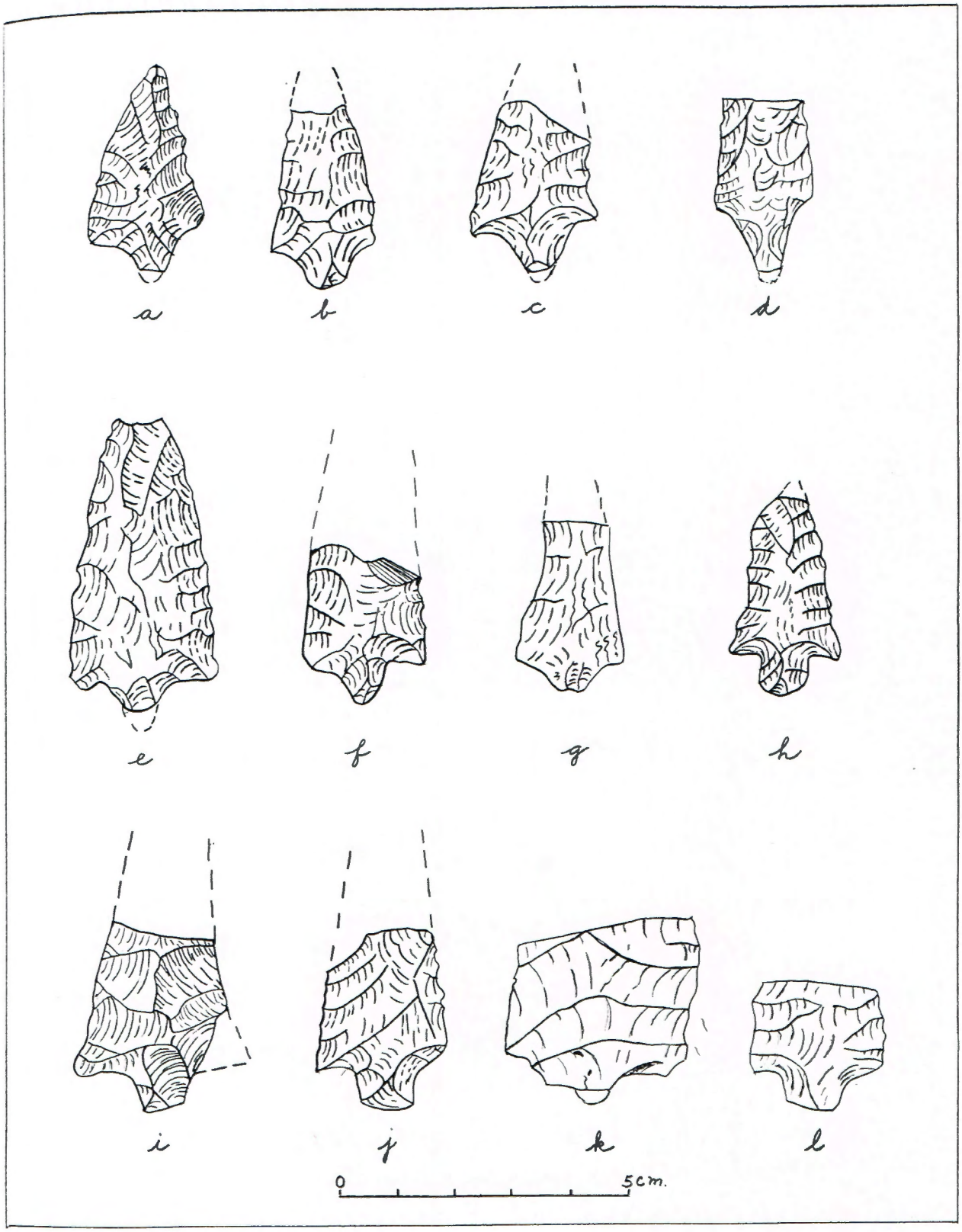


Figure 9

A & H IMPORTED (BROWN & BLACK CHERTS)

A–F RESEMBLE GYPSUM CAVE TYPE

A FOUND WITH YELLOW UTILITY WARE (AWATOBI)
BASIN & RANGE / PREPOTTERY (AMARGOSA II)
SOUTHERN BASIN & RANGE

Projectile points with stems narrower than blades

Slightly expanding or straight stems; short tangs (Fig. 10)

Description: Three varieties: 1) thin, delicate, elongate, thickness 1 to 3 mm. (a-g); 2) h-q, long and thin, straight or convex bases, blade edges generally straight, some convex, most finely serrate. Stems and blades of m, n, o are asymmetrical; they are made from curved flakes and are slightly concavo-convex in cross section. Thickness 3 to 5 mm. Fine secondary flaking. Materials used: quartz and jasper.

The third variety has long straight sided stems (r-v). Edges of blade generally straight. Several (r, s, u) show wear on one edge and probably have been used as knives. Thickness 5 to 7 mm. Materials used: quartz, jasper, flint, and a bluish chert foreign to the area (v).

Distribution in La Sal Mountain area: Common.

	Total	Canyon	Pinon-Juniper	Mtn.	With pottery
Variety 1 "miniature"	31	19	12	0	9
Variety 2	16	8	6	2	8
Variety 3	7	0	6	1	3

Projectile point h was found in a small shelter beside a granary (59-50). The Variety 3 projectile points associated with pottery were all found at mixed site 85 with yellow utility ware (cf. Awatobi ware). A Gypsum type of point also was found at this site.

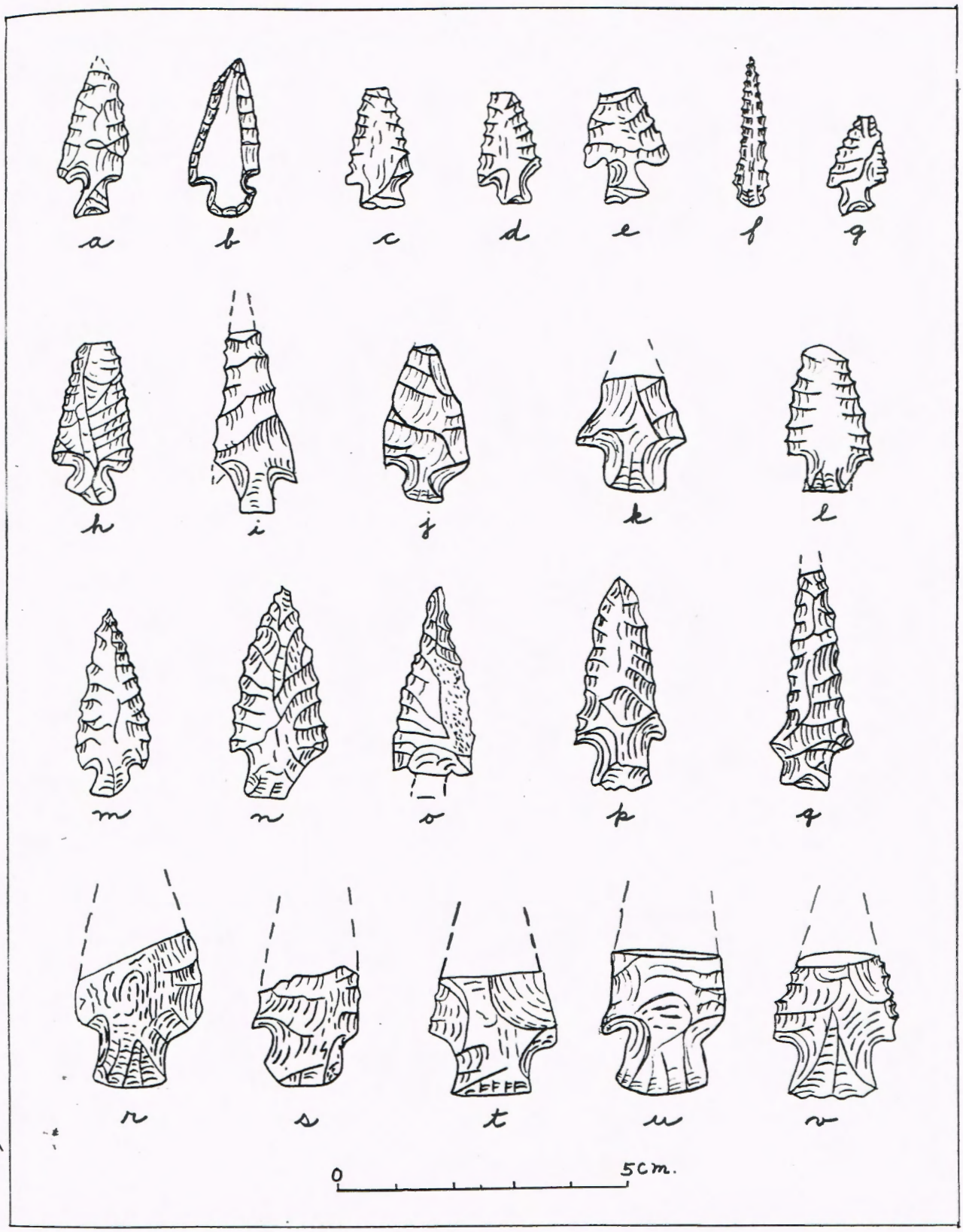
General Distribution: Variety 1 and Variety 2 projectile points are associated with traits believed to represent the Fremont culture in the La Sal Mountain area. Variety 3 somewhat resembles a Pinto Basin point without the basal notch, and may be an early prepottery point. Projectile points similar to Varieties 1 and 2 are reported from the southern Basin and Range province, and the northern Colorado Plateaus. Time range: both pottery and prepottery levels on northern Colorado Plateaus; non-ceramic upper levels and southern Paiute in southern Basin and Range province. References are as follows:

Varieties 1 and 2

Fremont River, Utah (Morss, 1931, Pl. 32, c4).
Hells Midden, Colo. (Lister, 1951, Fig. 4). Warped like m, n, o.
Southern Paiute (Jesse Jennings, University of Utah, personal communication). Like m, n, o.

Variety 3

Fremont River, Utah (surface of high plateau, 1951, U. S. Geological Survey field party).
Ventana Cave, Ariz. (Haury, 1950, Fig. 27, e, g, h).
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 13, n).



V- BLUEISH CHERT (IMPORTED)

H- FOUND IN SMALL SHELTER BESIDE GRANARY

Figure 10

Projectile points with stems narrower than blades

Slightly expanding stems; long tangs (Fig. 11)

Description: Stems slightly expanding or straight sided. Long tangs. Bases straight or convex. Two varieties: one has straight or concave edges (a-j); the other has convex edges (k, l). Most edges are serrate. Fine secondary flaking. One face of specimens (a) and (e) has been ground. Materials used: quartz, quartzite, jasper, black chert.

Distribution in La Sal Mountain area: 13 specimens.

	Total	Canyon	Piñon-Juniper	Mtn.	With pottery
Variety 1	11	8	2	1	8(7 with masonry)
Variety 2	2	2	0	0	1

Associated artifacts include:

Projectile points: "miniature" (Fig. 10, a-g)
Knives: wide angle tips and bases; small oval flake; rectangular with convex base; asymmetrical
Drills: large flange
End scrapers: crude snubnose keeled; broad blade
Side scrapers: doubly convex; concave
Scraper planes: disc; core; cobble
Choppers: large core
Hammerstones
Metates: deep basin; slight basin
Manos: loaf; subrectangular biface; flat biface

General Distribution: Variety 1 is associated with traits interpreted to be early Fremont culture in the La Sal Mountain area. Variety 2, not reported in the literature may extend back into pre-pottery horizons. Projectile points similar to variety 1 are widely distributed on the Colorado Plateaus, also in northern Texas. Time range: typical Basketmaker-Pueblo I point of the southern Colorado Plateaus; Fremont culture extending back into non-pottery horizons on the northern Colorado Plateaus; Wichita in northern Texas. References as follows:

Alkali Ridge, Utah (Brew, 1946, Fig. 172, a-g).
Southwestern Colo. and northwestern N. M. (Holmes, 1878, Pl. 46)
La Plata Dist. Colo. (Morris, 1939, Pl. 126, a-j)
Shabikeshchee Village, N. M. (Roberts, 1929, Pl. 28, o, p, r)
Ackmen-Lowry area, Colo. (Martin, 1939, Fig. 117)
Piedra District, Colo. (Roberts, 1930, Pls. 51, 52)
Whitewater District, Ariz. (Roberts, 1940, Pl. 45, i; Pl. 46, h)
Gypsum Cave, Nevada (Harrington, 1933, p. 125 and Fig. 56, a-d)
Castle Park, Colo. (Lister, 1951, Figs. 4 and 7)
Luster Cave and site C2-2, Colo. (Lister and Dick, 1952, Pl. 1, c; Pl. 2, e)
Marysvale, Utah (Gillin, 1941, Pl. VII, 22; Pl. IV, 6, 7)
Texas, northcentral Plains (Sayles, 1935, Pl. XXIV, f)

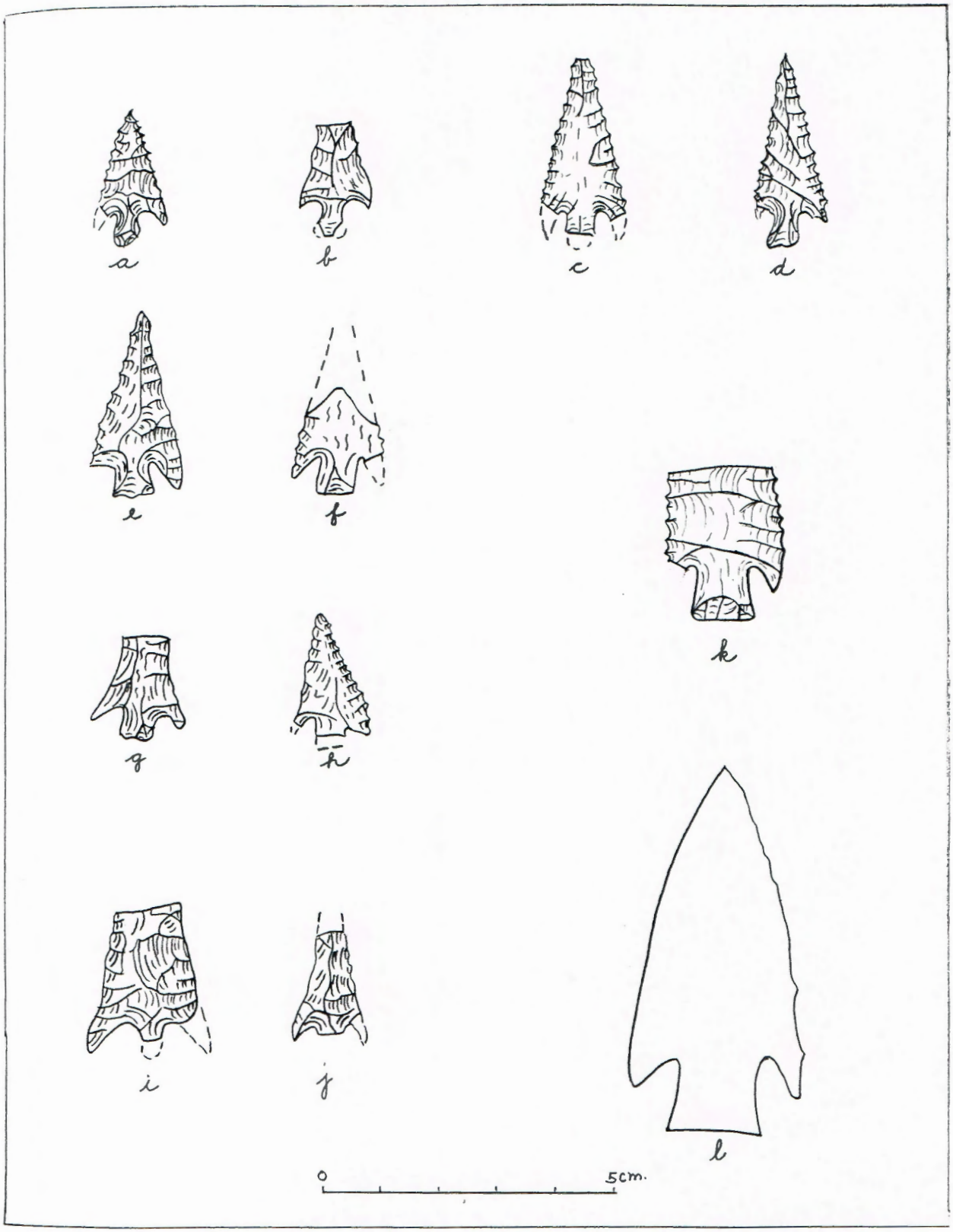


Figure 11

VARIETY 1 – FREMONT

VAR. 2 – PAS POTTERY

Projectile points with stems narrower than blades

Greatly expanding stems; short tangs; short (Fig. 12)

Description: Stems greatly expanding, almost as wide as blade on some specimens; tangs short. Two types: one short (Fig. 12), the other long (Fig. 13).

Short (Fig. 12) projectile points are small (a-h) or large (i-k). Blade edges straight or convex. Stems large; base straight or convex. Thickness of small points, 3 to 5 mm.; large ones 5 to 7 mm. Fine secondary flaking. Materials used: quartz, jasper, quartzite and green, blue and purple chalcedony.

Distribution in La Sal Mountain area: Common (22 specimens). 3 specimens found at canyon sites, 9 at piñon-juniper sites, 10 at mountain sites. Only 1 specimen found at a pottery site. Associated artifacts include:

Projectile points: greatly expanding stem, long tangs (Fig. 14); greatly expanding stems, short tangs, long (Fig. 13); long straight stem, short tangs (Fig. 10, r-v)
Knives: large oval, thin and thick; wide angle tips and bases; asymmetrical; stemmed; rectangular, convex base.
Saws
End scrapers: snub nose, flat.
Side scrapers: keeled thin flake; doubly convex, small oval.
Choppers: core; disc.
Metates: uniface flat slab and boulder; biface, one side flat, one side slight basin; biface, both sides flat.
Manos: Oval; sub-rectangular; cobble.

General distribution: This projectile point appears to be non-pottery, and is probably of prepottery age in the La Sal Mountain area, judging by the associated artifacts. Similar points are widely distributed on the Colorado Plateaus and northern Basin and Range Province. References are as follows:

Cave No. 2, Great Salt Lake, Utah (Steward, 1937, Fig. 41, x)
Birdshead Cave, Wyoming (Bliss, 1950, p. 189 and Fig. 58, L II)
Castle Park, Colo. (Lister, 1951, Fig. 8)
Roth Cave, Colo. (Lister and Dick, 1952, Pl. 1, g)
Piney Creek alluvium (Segi equivalent) U. of Denver, Colo. K:4:10
Seiber site C2-1, Colo. (Lister and Dick, 1952, Pl. 2, d)
Durango, Colo. (Personal observation, Basketmaker II collection of Earl Morris)
Danger Cave, Utah (Personal observation, U. of Utah collection)

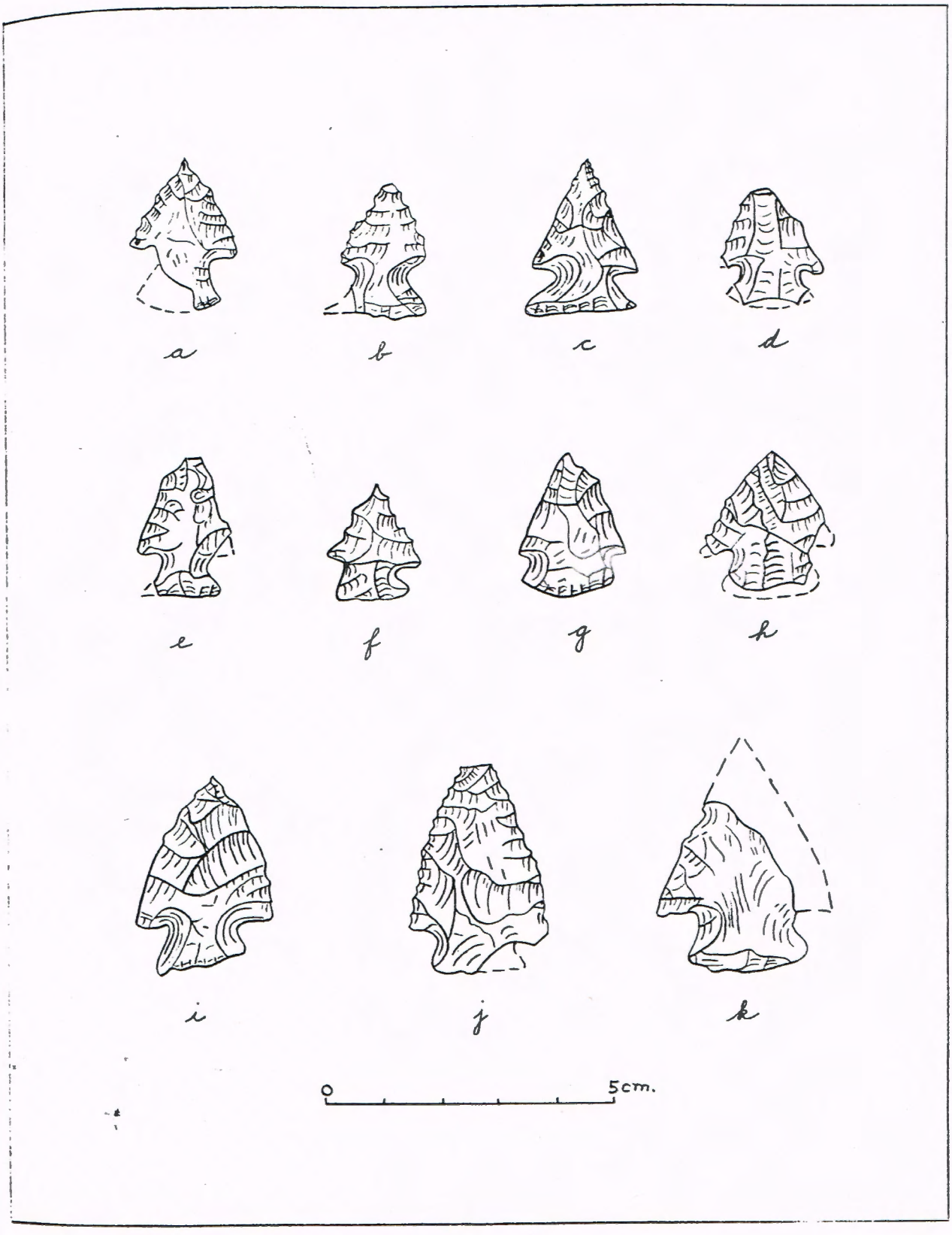


Figure 12

PRE POTTERY IN AGL
CANYON TO ALPINE
MOST IN ALPINE

Projectile points with stems narrower than blades

Greatly expanding stems; short tangs; long (Fig. 13)

Description: Stems greatly expanding; tangs short; long. Specimens (a, b, c, j) have one edge convex, the other straight and apparently were used as knives. Blade edges of others straight; some are serrate (g, h). Bases straight, rarely convex. Thickness 4 to 5 mm. Materials used: quartz, jasper, black chert, quartzite.

Distribution in La Sal Mountain area: Common (29 specimens). 5 specimens were found at canyon sites, 11 at pinon-juniper sites, 13 at mountain sites. Only 1 was found at a site with pottery. Associated artifacts include:

Projectile points: greatly expanding stem, long tangs (Fig. 14); with bifurcated stem (Fig. 20); "miniature" (Fig. 10, a-g); triangular, large and small (Fig. 8).
Knives: rectangular, convex base; stemmed; wide angle tips; oval.
Drills: with large flange.
End scrapers: snubnose flat; keeled thin and thick; narrow
Side scrapers: doubly convex; oval.
Scraper planes: disc.
Choppers: core, disc, elliptical.
Metates: uniface flat slab and boulder.
Manos: biface oval and subrectangular.

General distribution: This projectile point appears to be Fremont (?) and late prepottery age in the La Sal Mountain area. The associated artifacts show a mixed pattern. Similar points are widely distributed on the Colorado Plateaus and northern Basin and Range Province. References are as follows:

Fremont River, Utah (Morss, 1931, Pl. 32, a 3)
Hells Midden, Castle Park, Colo. (personal observation, U. of Colo.)
La Plata District, Colo. (Morris, 1939, Pl. 119, b, c)
Whitewater District, Ariz. (Roberts, 1940, Pl. 45, H)
Birdshead Cave, Wyoming (Bliss, 1950, Fig. 58, L IV)
Cave No. 2, Great Salt Lake, Utah (Steward, 1937, Fig. 41, a-f)

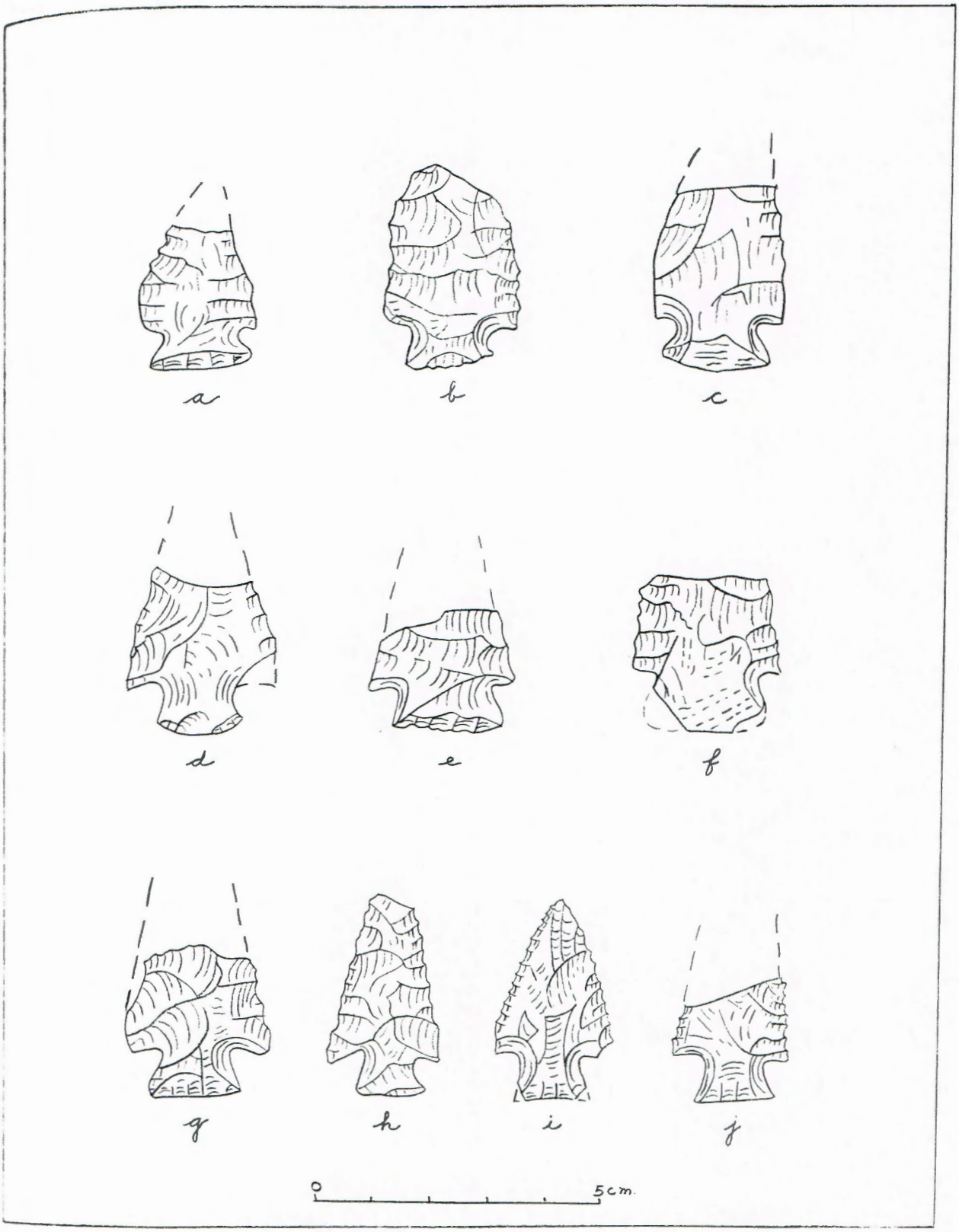


Figure 13

LATE PREPOTTERY TO FREMONT
SOME MAY BE KNIVES

CANYON TO ALPINE
MOSTLY ALPINE

Projectile points with stems narrower than blades

Greatly expanding stems; long tangs (Fig. 14)

Description: Stems greatly expanding; tangs long. Two varieties; one has wide neck (a-e), the other with narrow neck (f-p).

The wide-neck variety has a short wide stem, convex or straight base and deep narrow corner notches. Blade edges are straight; some serrate. Thickness 3 to 4 mm. Fine secondary flaking. Materials used: quartz, flint.

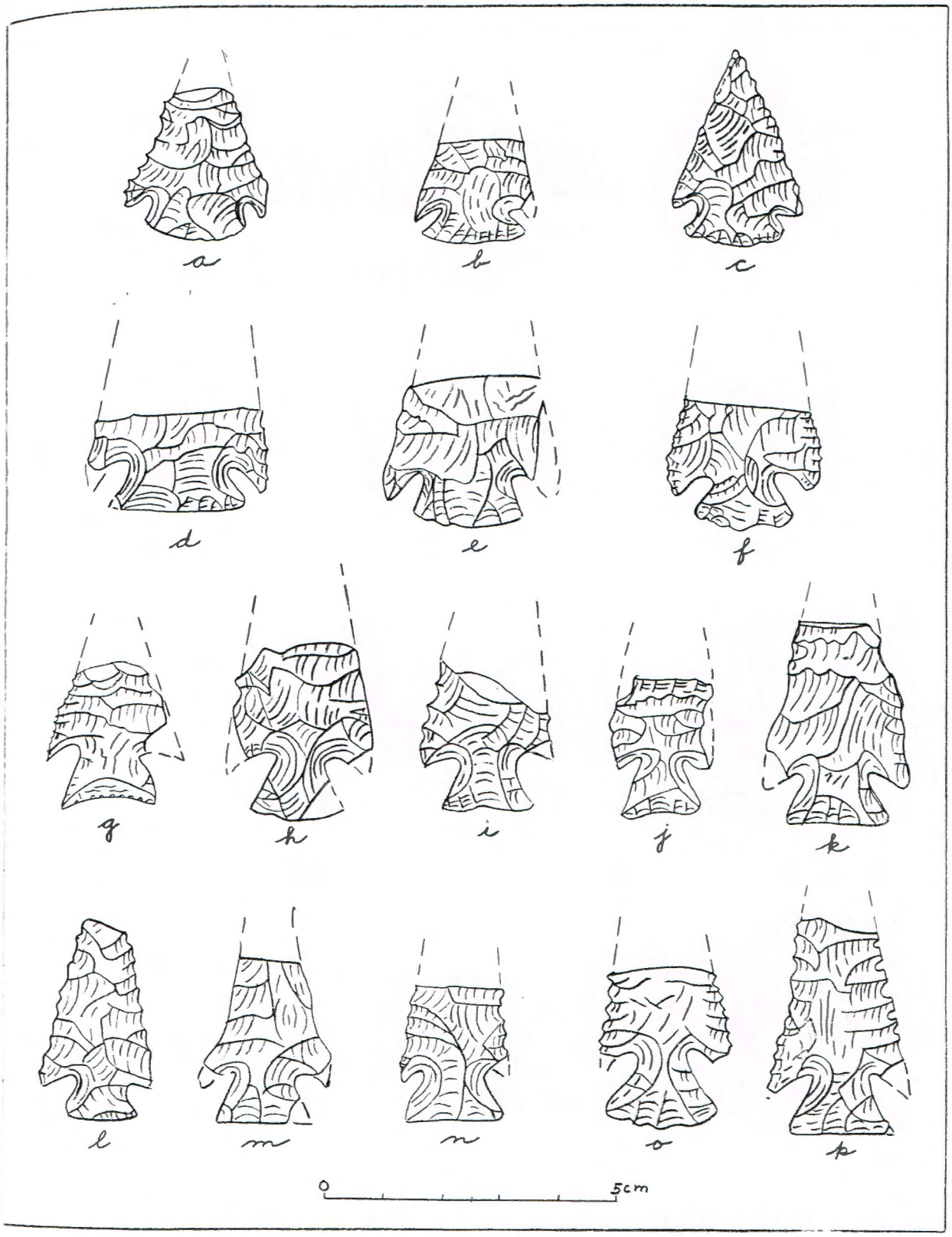
The narrow-neck variety (f-p) has a long stem with narrow neck; concave or straight base; deep narrow corner notches. Blade edges are straight or concave, some serrate. Edges of some specimens (p) show wear. Thickness: 3 to 5 mm. Fine secondary flaking. Materials used: quartz, quartzite, jasper.

Distribution in La Sal Mountain area: Wide neck variety not common (5 specimens); 3 from canyon sites, 2 from piñon-juniper sites, without pottery. Narrow neck variety common (34 specimens); 12 from mountain sites, 16 from piñon-juniper sites, 6 from canyon sites; 5 with pottery. Associated artifacts include: projectile points with greatly expanding stems, short tangs, short and long (Figs. 12, 13); small side notched points with concave base (Fig. 17); wide angle knife tips and bases; oval, rectangular, triangular, and stemmed knives; drills; flat and broad blade end-scrapers; keeled flake side scrapers; disc scraper planes; small core and disc choppers; flat slab and boulder metates; cobble, sub-rectangular and oval manos.

General distribution: Most of the narrow neck variety appear to be Fremont(?) points. Probably some of the thicker heavier specimens go back to prepottery horizons, although so little is reported about stonework from early Basketmaker sites that this is conjectural. Wide stem variety, excepting (b), probably is prepottery. Similar projectile points are reported from the Colorado Plateaus and northern Basin and Range province. Time range: wide-neck variety 1 is Basketmaker III-Pueblo II on the southern Colorado Plateaus, prepottery on the northern Colorado Plateaus and northern Basin and Range; narrow neck variety is Basketmaker III-Pueblo II on the southern Colorado Plateaus, Fremont culture on the northern Colorado Plateaus, and found in both upper and lower non-ceramic levels in the northern Basin and Range Province. References are as follows:

Wide neck variety (a-e)
- Northeastern Arizona (Kidder and Guernsey, 1931, Pl. 35, d)
- Northeastern Arizona (Kidder and Guernsey, 1919, Fig. 48, c)
- Castle Park, Colo. (Lister, 1951, Fig. 7)
- Danger Cave, Utah (Personal observation, U. of Utah, levels III, V)

Narrow neck variety (f-p)
- Alkali Ridge, Utah (Brew, 1946, Fig. 170, b) Like (g)
- Whitewater District, Ariz. (Roberts, 1940, Pl. 45, h and p. 124)
- Northeastern Arizona (Kidder and Guernsey, 1919, Fig. 48, d)
- Southwestern New Mexico (Cosgrove and Cosgrove, 1932, Pl. 49, h, j, k and Pl. 50, j)
- Castle Park, Colo. (Personal observation, U. of Colo., level 3)
- Southcentral Oregon (Cressman, Krieger and Williams, 1940, Fig. 10)



PRE POTTERY TO FREMONT
MOST FREMONT

VAR. 1
VARIETY 2

Figure 14

Projectile points with stems as wide or wider than blades

Corner notched (Fig. 15)

Description: Deep, narrow corner notches. Specimen (e) has notches in base and blade edges as well as corner notches. Stem ends pointed or rounded. Two varieties: one with a concave or bifurcated base (a, b, c, f, i, j, k), the other with a straight base (d, e, g, h). Blade edges straight, generally serrate. Specimens (i-l) have been used as knives. Thickness: 2 to 4 mm. Secondary flaking. Materials used: quartz, flint, jasper and imported obsidian (b).

Distribution in La Sal Mountain area: Common (18 specimens); 7 from mountain sites, 9 from piñon-juniper sites, 2 from canyon sites; 3 specimens with pottery.

General distribution: Probably a Fremont (?) culture projectile point in the La Sal Mountain area, judging by the complex of traits with which it is most commonly associated. Similar points are reported from northern Basin and Range Province and Colorado Plateau. Time range: prepottery in northern Basin and Range; prepottery and Fremont culture on northern Colorado Plateaus; Basketmaker III-Pueblo I on southern Colorado Plateaus. References are as follows:

Deadman Cave, Great Salt Lake, Utah (Smith, 1941, Pl. 3, C1, B2)
Southeastern Oregon (Cressman, 1936, Pl. II)
Southcentral Oregon (Cressman, Williams, Krieger, 1940, Fig. 10)
Danger Cave, Utah (personal observation, U. of Utah, level III)
Promontory Cave #2, Great Salt Lake, Utah (marked 'general', U. of Utah)
Indian Creek, Utah (personal surface collection)
Fremont River, Utah (Morss, 1931, Pl. 32, a-l) Straight base.
Castle Park, Colo. (personal observation, U. of Colo., levels 3, 10)
Alkali Ridge, Utah (Brew, 1946, Fig. 170, a) Straight base.
Northeastern Arizona (Kidder and Guernsey, 1919, p. 183) Straight base.
Cebolleta Mesa, N. M. (Hurt and McKnight, 1949, Fig. 43, 4). Like (e). (Pueblo ruins).

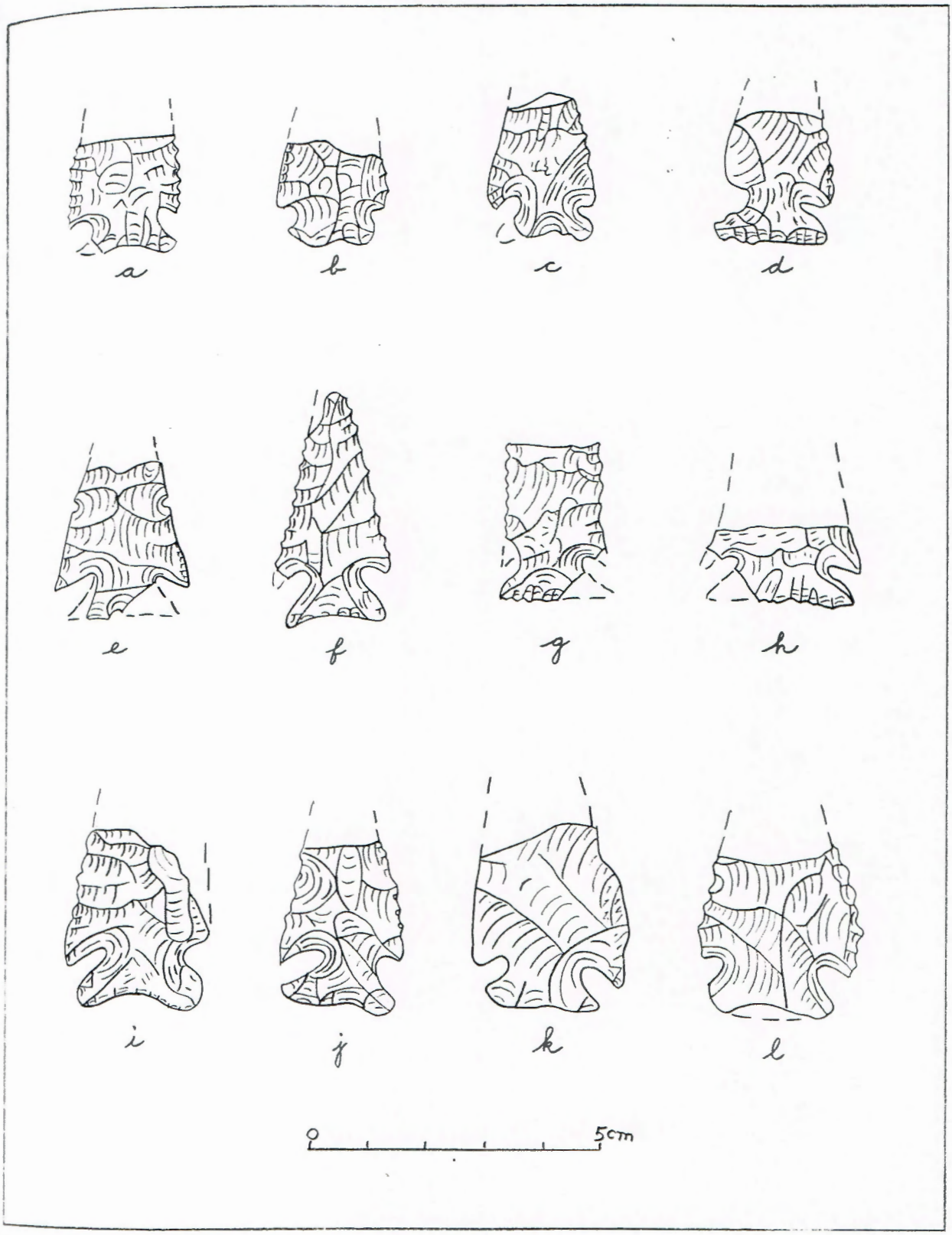


Figure 15

B- IMPORTED OBSIDIAN
CANYON TO ALPINE
MOSTLY J&P
PINEPOTIERA TO FIRMONT

Projectile points with stems as wide or wider than blades

Side notched with rounded stems (Fig. 16)

Description: Wide shallow side notches; rounded stem ends. Blade edges convex, some finely serrate. Thickness 4 to 6 mm. Materials used: quartz, quartzite, chert. These grade into stemmed knives.

Distribution in La Sal Mountain area: Not common (9 specimens): 5 from mountain sites, 3 from pinon-juniper sites, 1 from a canyon site; 1 with pottery.

Associated artifacts include projectile points with greatly expanding stems, short tangs, short (Fig. 12); oval knives; rectangular knives with convex bases; wide angle knife tips; drills with large flanges; black-on-white Anasazi type pottery at site 56-52.

General distribution: This projectile point is associated with traits believed to be late prepottery and early Fremont culture in the La Sal Mountain area. Similar points are reported from the Colorado Plateaus in Basketmaker II-Pueblo I and Fremont complexes. References are as follows:

La Plata District, Colo. (Morris, 1939, Pl. 118, b)
Durango, Colo. (Basketmaker II site, personal observation, collection of Earl Morris)
Piedra District, Colo. (Roberts, 1930, Pl. 50, f)
Shabikeschee Village, N. M. (Roberts, 1929, Pl. 28, g)
Whitewater Dist. Ariz. (Roberts, 1940, Pl. 45, b-d; Pl. 46, c, d)
Castle Park, Colo. (personal observation, U. of Colo. collection, level 3)

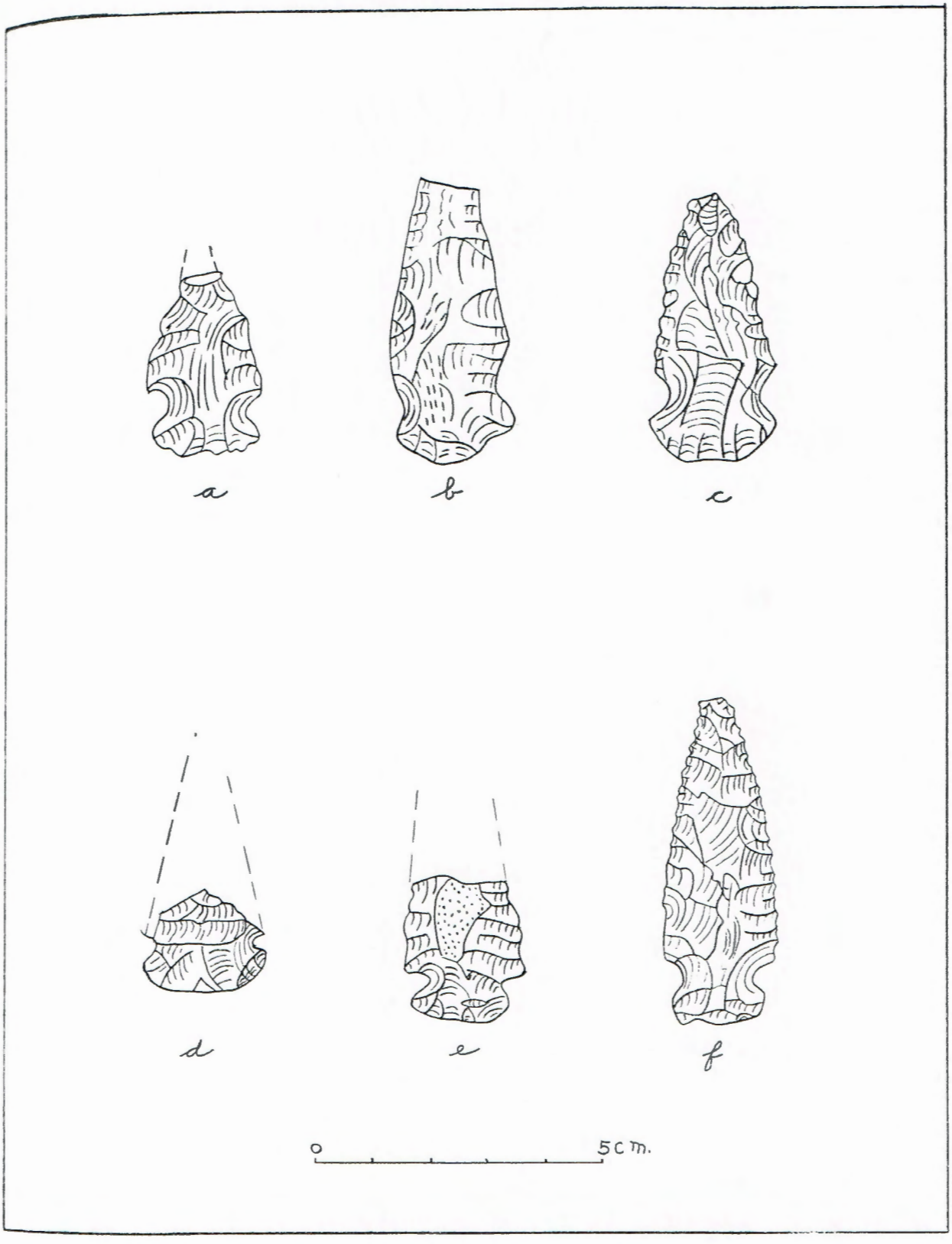


Figure 16

CANYON TO ALPINE
MOSTLY ALPINE
LATE PREPOTTERY TO FIREMONT

Projectile points with stems as wide or wider than blades

Side notched; straight edged stems
Straight base (Fig. 17, a-f); Concave base (Fig. 17, g-o)

Description: Side notched, with straight edged stems and blades. Base straight (a-f), concave (g-o). Thickness: small points (a-m) 2 mm.; large ones (n, o) 5 mm. Fine secondary flaking. Materials used: mostly quartz, some quartzite and jasper.

Distribution in La Sal Mountain area:

	Total	Canyon	Pinon-Juniper	Mtn.	With pottery
Straight base (a-f)	10	10	0	0	4
Concave base (g-o)	11	7	3	1	5

Found at late Fremont dwelling sites with Anasazi types of pottery, or at campsites without pottery.

General distribution: In the La Sal Mountain area these projectile points are associated with two complexes, one believed to be late Fremont, the other Shoshonean. Points with straight bases (a-f) widely distributed on Colorado Plateaus, High Plains and northern Basin and Range Province. Time range: Pueblo II-III on Colorado Plateaus; Upper Republican and Dismal River on High Plains; age not given in northern Basin and Range; Paiute and Shoshonean in southern Basin and Range Province (identical to (e)).

Points with concave bases (g-o) reported from northern Basin and Range Province and High Plains. Time range: Upper Republican and Dismal River on High Plains; Promontory complex in northern Basin and Range; Pueblo III-V at Pecos; Paiute and Shoshonean in southern Basin and Range Province (identical to (m)).

References to similar points are as follows:

Side notched with straight bases (a-f)
- Luster Cave, Colo. (Lister and Dick, 1952, Pl. 1, a)
- La Plata Region, Colo. (Morris, 1939, Pl. 122)
- Alkali Ridge, Utah (Brew, 1946, Fig. 172, h-n)
- Southwestern Colo., northwestern N. M. (Holmes, 1878, Pl. 46)
- Whitewater Dist., Ariz. (Roberts, 1940, Pl. 46, 1)
- Northeastern Ariz. (Kidder and Guernsey, 1919, Fig. 48, f, g)
- Southwestern New Mexico (Cosgrove, 1932, Pl. 50, f-h)
- Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 1, k)
- Yuma County, Colo. (Gebhard, 1949, p. 138 and Fig. 47, c)
- Ash Hollow Cave, Neb. (Champe, 1946, Fig. 10 and Pls. 10, 11, 12)
- Rich Lake, Llano Estacado, Texas (Watts, 1939, Pl. 19, B9)
- Antelope Creek, Texas Panhandle (Johnson, 1939, Pl. 42, 1)
- Stamper Site, Texas County, Okla. (Watson, 1950, Pl. 3 II, G, H)
- Marysvale, Utah (Gillin, 1941, Pl. III, 10; Pl. V, 3, 5)
- Mohave Desert, Calif. (Rogers, 1939, Pl. 18, p)
- Willamette Valley, Ore. (Moorehead, 1910, Fig. 110)
- Laramie, Wyoming (Moorehead, 1910, Fig. 129)

Side notched with concave bases (g-o)
- Mohave Desert, Calif. (Rogers, 1939, Pl. 18, t)
- Cave I, Great Salt Lake, Utah (Steward, 1937, Fig. 4, d, j)
- Pecos, N. M. (Kidder, 1932, Fig. 4)
- Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 1, p)
- Stamper site, Texas County, Okla. (Watson, 1950, Pl. 3, II, G, H)

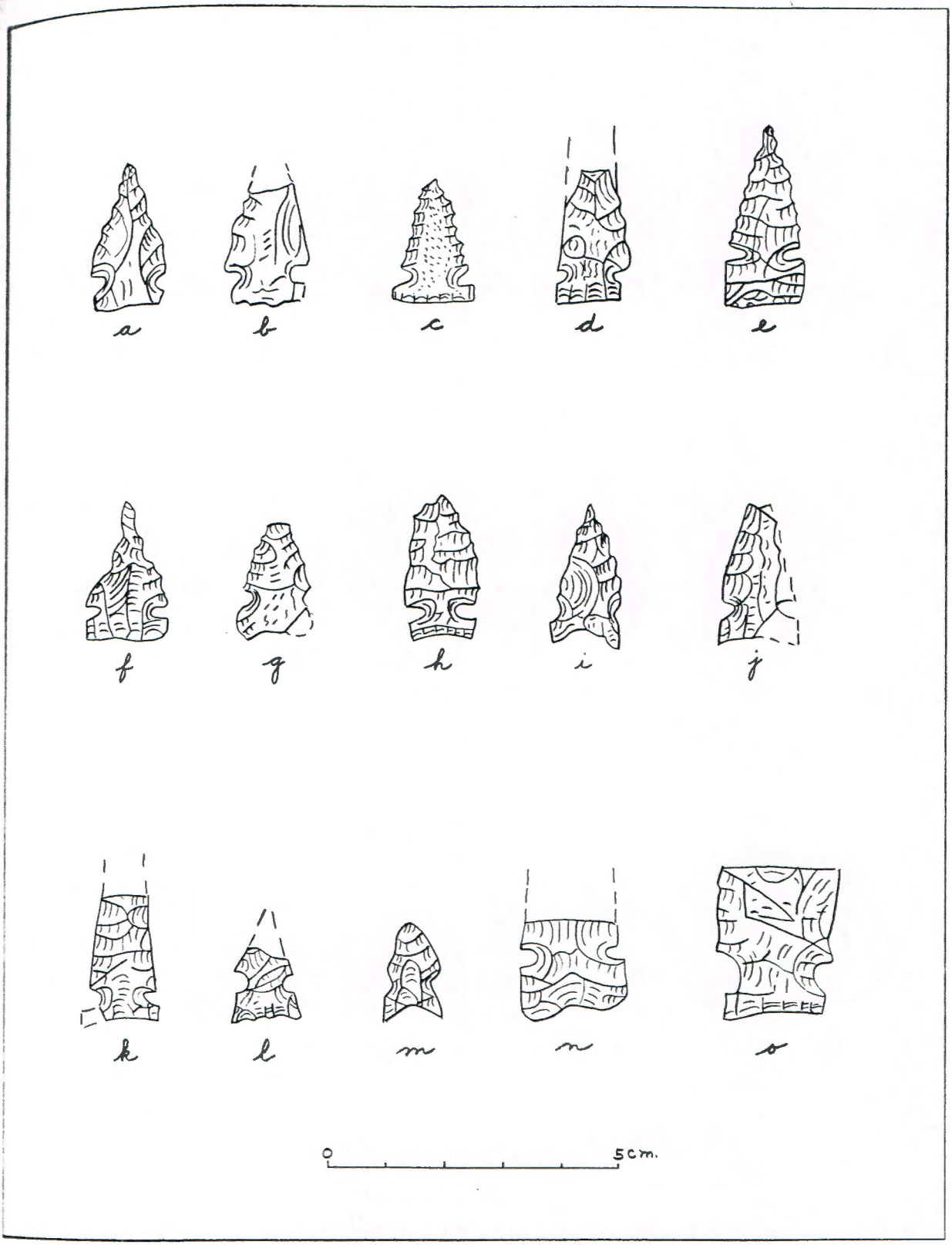


Figure 17

MOSTLY CANYON

LATE FREMONT

SHOSHONEAN (PLAINS) (ANCESTRAL UTE)

SHOSHONEAN BASIN & RANGE (SOUTHERN) SEE m

Projectile points with stems as wide or wider than blades

Side notched; straight edged stems
Notched, concave base (Fig. 18)

Description: Side notched, with straight edged stems and blades. Base notched and concave. Thickness: 2 mm. Fine secondary flaking. Specimen (h) is ripple flaked. Materials used: mostly quartz, some quartzite and jasper. Specimen (i) is atypical.

Distribution in La Sal Mountain area: Fairly common (12 specimens): 8 from canyon sites, 4 from piñon-juniper sites; 6 with pottery. Found at campsites, not at dwelling sites; at some campsites it is associated with yellow utility ware (cf. Awatobi ware) and non-Pueblo types of pottery.

General distribution: These projectile points appear to be Shoshonean (ancestral Ute?) in the La Sal Mountain area. The atypical projectile point (i) is identical, except for its small size, to larger points reported from south-central Oregon.

Points with notched concave base widely distributed in Basin and Range Province and southern Plains. Time range: Promontory culture and upper pottery-bearing levels (Shoshonean?) in northern Basin and Range Province; late Desert Mohave in southern Basin and Range Province; Wichita and Jumano on southern Plains; Ute in southwestern Colorado. References to similar points are as follows:

Montrose County, Colo. Cave II (Hurst, 1944, Pl. III)
Luster Cave, Colo. (Lister and Dick, 1952, Pl. 1, b)
Southern and western Colo. (Huscher and Huscher, 1943, p. 33)
Birdshead Cave, Wyoming (Bliss, 1950, p. 189; Fig. 58, V, VI)
Cave I, Great Salt Lake, Utah (Steward, 1937, p. 13 and Fig. 4, h, m, p)
Southcentral Oregon (Cressman, Williams and Krieger, 1940, Fig. 10; Cressman, 1936, Pls. VIII, IX, Like (i))
Willamette Valley, Oregon (Moorehead, 1910, Fig. 110)
Mohave Desert, Calif. (Rogers, 1939, Pl. 18, h)
Northcentral Plains, Tex. (Sayles, 1935, Pl. XXII, b)
Texas Panhandle (Sayles, 1935, Pl. XXII, h)
Texas Big Bend (Sayles, 1935, Pl. XXII, e)
Pecos, N. M. (Kidder, 1932, Fig. 6)
Southwestern Colo., northwestern N. M. (Holmes, 1878, Pl. 46)

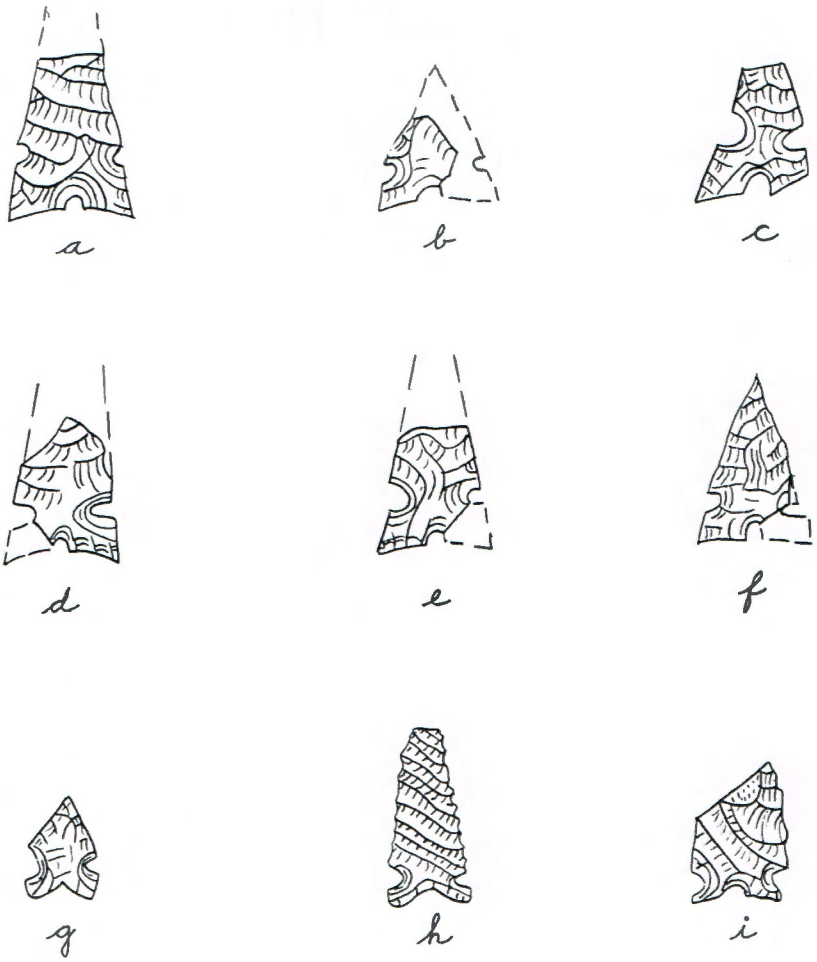


Figure 18

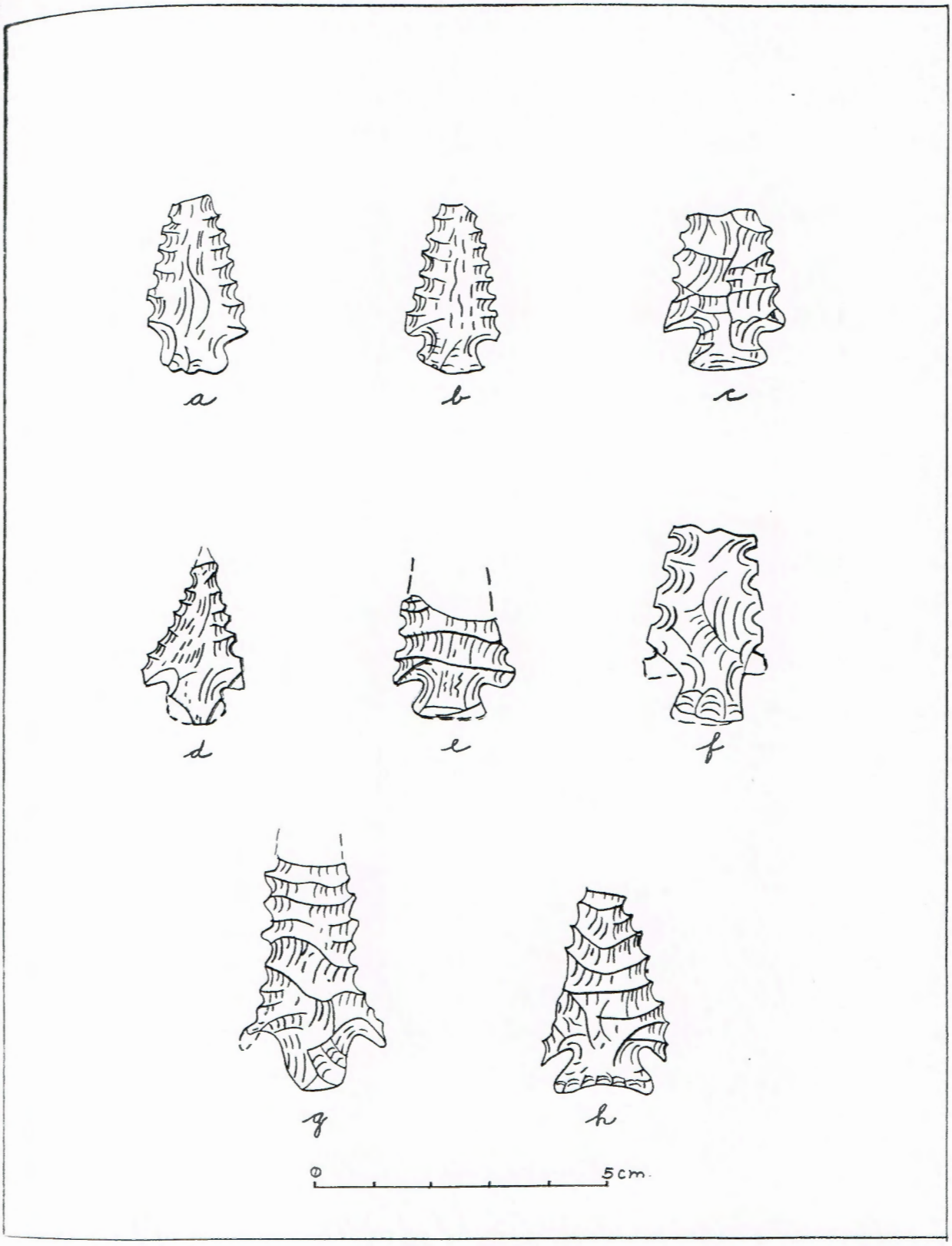
I IS ATYPICAL CANYON MOSTLY ASSOCIATED WITH CAMPSITES SHOSHONEAN

Projectile points with saw-tooth edges (Fig. 19)

Description: Blade edges exaggeratedly serrate, some saw-like. Most specimens have short, wide, slightly expanding stems, straight or slightly convex bases, short tangs, blade edges straight (a-f); (g) has long parallel-sided stem, convex base, long tangs, concave edged blade; (h) has expanding stem, concave base. Thickness: 3 to 5 mm. Fine secondary flaking. Materials used: quartzite, quartz, jasper. Point (p), Fig. 14, could be included in this group.

Distribution in La Sal Mountain area: Not common (11 specimens); 3 from canyon sites, 4 from pinon-juniper sites, 4 from mountain sites; 2 with pottery. None found at dwelling sites. Associated artifacts include projectile points with greatly expanding stems, short tangs, short (Fig. 12); with greatly expanding stems, long tangs (Fig. 14); large side notched with round stems (Fig. 16); oval and rectangular knives; wide angle knife tips; flat snubnose scrapers; saws; drills with large flanges; flat slab and slight basin boulder metates; uniface cobble and biface oval manos; plain gray, rock tempered, Anasazi type pottery. Keeled snubnose scraper at one site.

General distribution: Not reported in the literature. In the La Sal Mountain area the associated artifacts suggest that this projectile point is Fremont (?).



NOT COMMON
EVENLY DISTRIBUTED CANYON TO ALPINE
CAMPSITE SCATTER
FREMONT (?)

Figure 19

Projectile points with bifurcated stems (Fig. 20)

Description: Stems bifurcated or concave; stem narrow (a, b), or wide (c-k). Narrow-stemmed variety has straight or slightly expanding stem; short tangs; blade edges straight or slightly convex; some serrate. Thickness 5 mm. Fine secondary flaking; scars long and parallel.

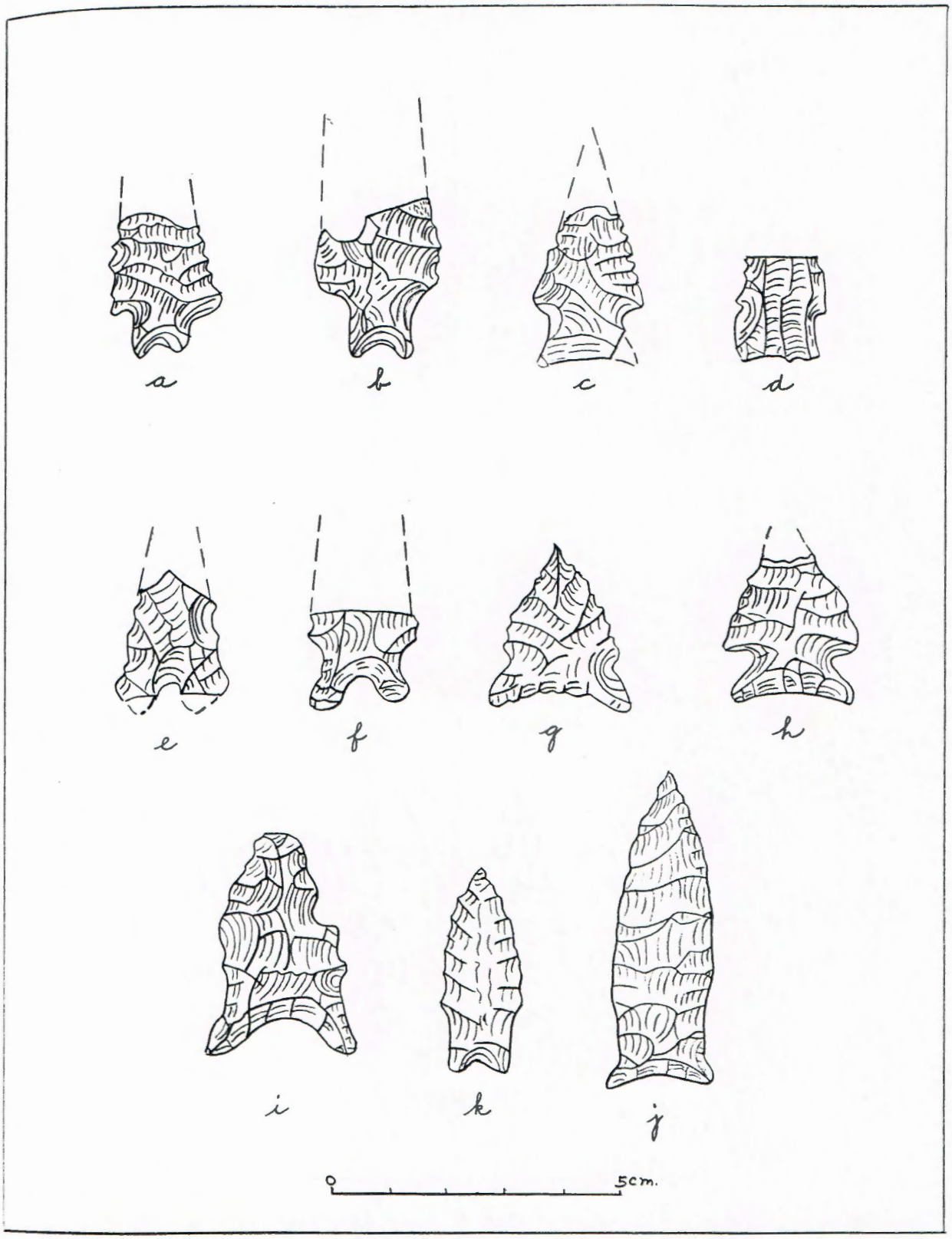
Wide-stemmed variety (c-k) generally has stem with long spurs; short tangs; blade edges straight and serrate. Thickness 5 to 7 mm. Secondary flaking; scars long and parallel. Materials used: jasper, quartz, quartzite. (e) is of imported obsidian.

Distribution in La Sal Mountain area: (12 specimens); 6 from canyon sites, 4 from piñon-juniper sites, 2 from mountain sites; all without pottery. Associated artifacts include rectangular knives with convex bases; wide angle tips and bases; keeled thin flake side scrapers; disc choppers.

General distribution: This point, which is non-pottery in the La Sal Mountain area, closely resembles the projectile points found at Concho, Arizona, an early prepottery complex. Some of the La Sal Mountain points may be as early as Amargosa II. Similar points are reported from the northern and southern Basin and Range Province, and from the southern Colorado Plateaus. Time range: Amargosa II in southern Basin and Range Province; non-ceramic in northern Basin and Range and on southern Colorado Plateaus. References are as follows:

Stem narrow (a, b)
- Southcentral Oregon (Cressman, Williams and Krieger, 1940, Fig, 10)
- Southeastern Oregon (Cressman, 1936, Pl. IX)
- Cave 2, Great Salt Lake, Utah (Steward, 1937, Fig. 41, t)
- Mohave Desert, Calif. (Rogers, 1939, Pl. 13, n)
- Concho, Ariz. (Wendorf and Thomas, 1951, Fig. 49, a, g)
- Indian Creek, Abajo Mts., Utah (personal surface collection)

Stem wide (c-k)
- Lovelock Cave, Nevada (Loud and Harrington, 1929, Pl. 56, b)
- Southcentral Ore. (Cressman, Williams and Krieger, 1940, Fig. 10)
- Mohave Desert, Calif. (Rogers, 1939, Pl. 13, k, t)
- Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 13, c)
- Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XLIII, f)
- Ventana Cave, Ariz. (Haury, 1950, Fig. 58, j, k)
- Douglas, Ariz. (Sayles and Antevs, 1941, Pl. XX, c, g)
- Concho, Ariz. (Wendorf and Thomas, 1951, Fig. 49, e, n, o)
- Grants, N. M. (Bryan and Toulouse, 1943, Pl. XXX, x, z, c')
- Rio Grande, Colo. and N. M. (Renaud, 1942, Pl. I)
- Tincup, Colo. (personal surface collection, altitude 10,000 ft.)
- Central Texas (Sayles, 1935, Pl. XII, c)
- Danger Cave, Utah (Levels II-V, U. of Utah collection) Like (i).



E IS OBSIDIAN
CANYON TO ALPINE
MOSTLY CANYON
PRE POTTERY (AMARGOSA II)

Figure 20

Miscellaneous projectile points (Fig. 21)

Projectile points (a, d)

Tangs wide and straight edged: blade edges concave. One large, one small specimen, both found at mountain sites. Identical projectile points in Basin and Range Province are found in late prepottery and Puebloid horizons. References are as follows:

Danger Cave, Utah (U. of Utah collection, Type B27, Level V-15, Level IV-0, Level III-1, Level II-0)
Black Rock Cave, Utah (Enger, 1950, Fig. 2, e) Like (a). Puebloid.
Southcentral Oregon (Cressman, Williams, Krieger, 1940, Fig. 10, 1-7373, 1-7004)

Projectile points (b, c, e, f)

Projectile point (c) was found at canyon site 115-50 with pottery and dwellings; (f) was found at mountain campsite (42) with pottery; (b) was found at large mountain campsite 8; (e) was found at piñon-juniper campsite 23-50.

Projectile points (g, h)

Fig. 21, g, is unusually thick (8 mm.) and crudely flaked, of quartz, found at campsite in piñon-juniper zone. May be a Basketmaker atlatl point, associated with keeled, thin flake, side scrapers. Fig. 21, h, is large, thin, and finely flaked, of quartz, found along Beaver Creek (9,000 feet altitude). Stem short, considering size of point.

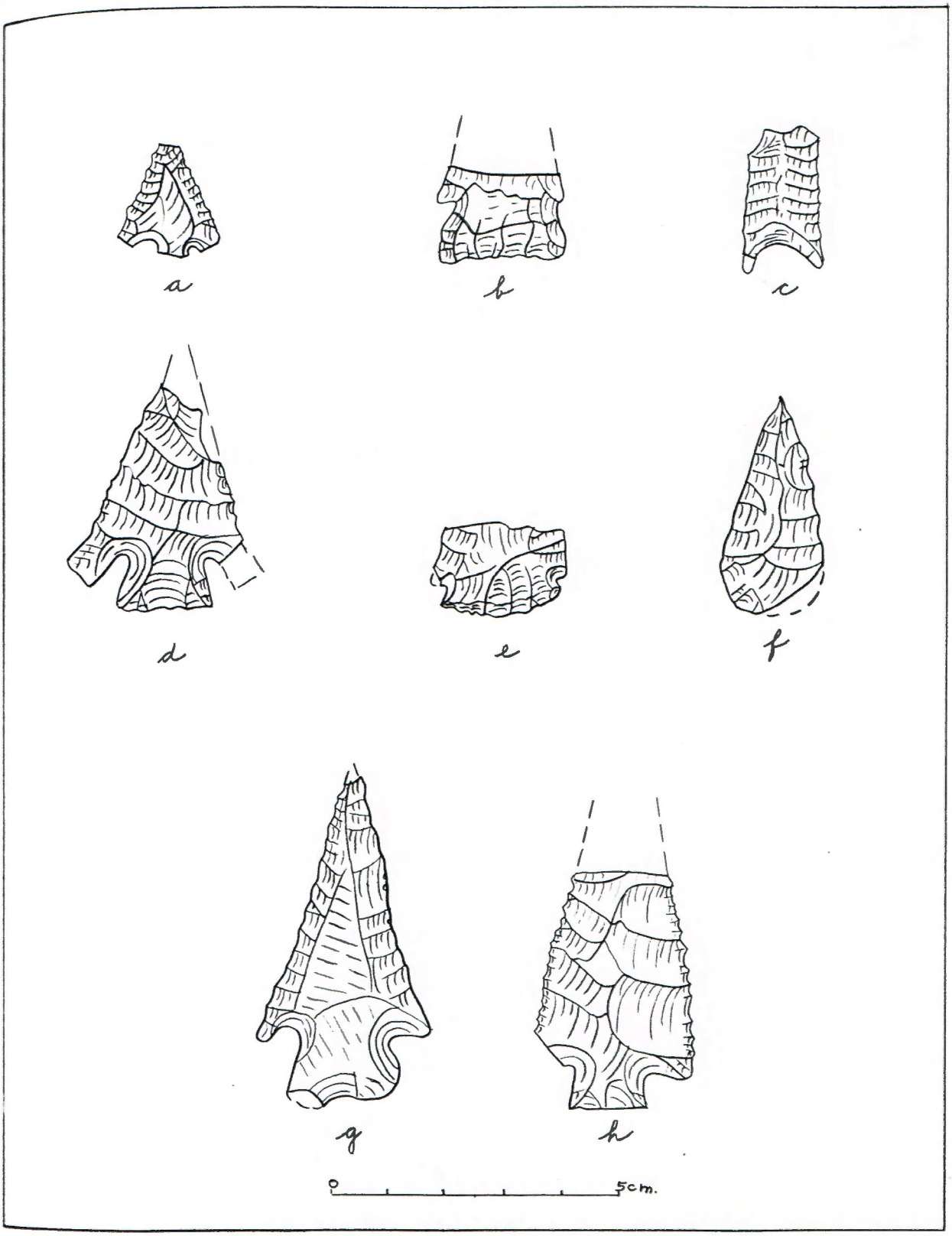


Figure 21

C FOUND WITH DWELLING, CANYON

A & D - ALPINE

F - ALPINE CAMPSITE W/ POTTERY

E - P & J CAMP

G - BASKETMAKER ATLATL(?)

H - 9000 ASL

LATE PIPOTTERY TO PUEBLO HORIZON

Knives. Knives collected in the La Sal Mountain area are doubly convex; most of them are moderately large, distinctly shaped, and worked on all edges. They show all gradations in flaking, from thick implements with only primary flaking to thin implements with fine secondary flaking. The cutting edge on the finely flaked knives is smooth and regular like the edge of a projectile point; on the coarsely flaked knives the edge approaches the sinuous irregular edge of the chopper.

The outline of the knife is the basis of classification. The nine different types recognized are as follows:

Type	Number found
1. Oval, thick	8
2. Oval, thin	90
3. Rectangular	120
4. Triangular	16
5. Asymmetrical	32
6. Stemmed	27
7. End cutters	6
8. Tips and bases	184
9. Miscellaneous unusual	9

Small oval knives are abundant at pottery and dwelling sites in the canyons. In contrast, stemmed knives are most common at mountain campsites; none was found with pottery. Large oval knives and asymmetrical knives are found at non-pottery sites in the canyons and in the mountains. The straight-based variety of the rectangular knife is most common in the piñon-juniper belt, whereas the convex-based, rectangular knife is most common at canyon sites. Both types generally occur at non-pottery sites, but are found rarely at pottery sites. Knife tips are the most common kind of knife in the area. Probably they were hafted. They are found at all kinds of sites and at all altitudes.

Oval knives, thick

Description: Moderately large, pointed implements; oval in outline, tending to be asymmetrical. These artifacts are intermediate between choppers and knives; they are thicker and larger than the rest of the knives but lighter and more definitely shaped than the choppers. No secondary flaking. Materials used: locally available granular quartzite and flint.

Distribution in La Sal Mountain area: Rare (8 specimens); 4 from canyon sites; 3 from pinon-juniper sites; 1 from a mountain site; 1 at early Fremont dwelling site (103-50).

General Distribution: Similar knives are reported from southern Basin and Range Province and northern Colorado Plateaus. Time range: Fremont complex in northern Colorado Plateaus; San Dieguita III in southern Basin and Range; pre-pottery in Wyoming basin. References are as follows:

Castle Park, Colo. (Burgh and Scoggin, 1948, Fig. 17)
Mohave Desert, Calif. (Rogers, 1939, Pl. 7)
Birdshead Cave, Wyoming (Bliss, 1950, Fig. 58, I)

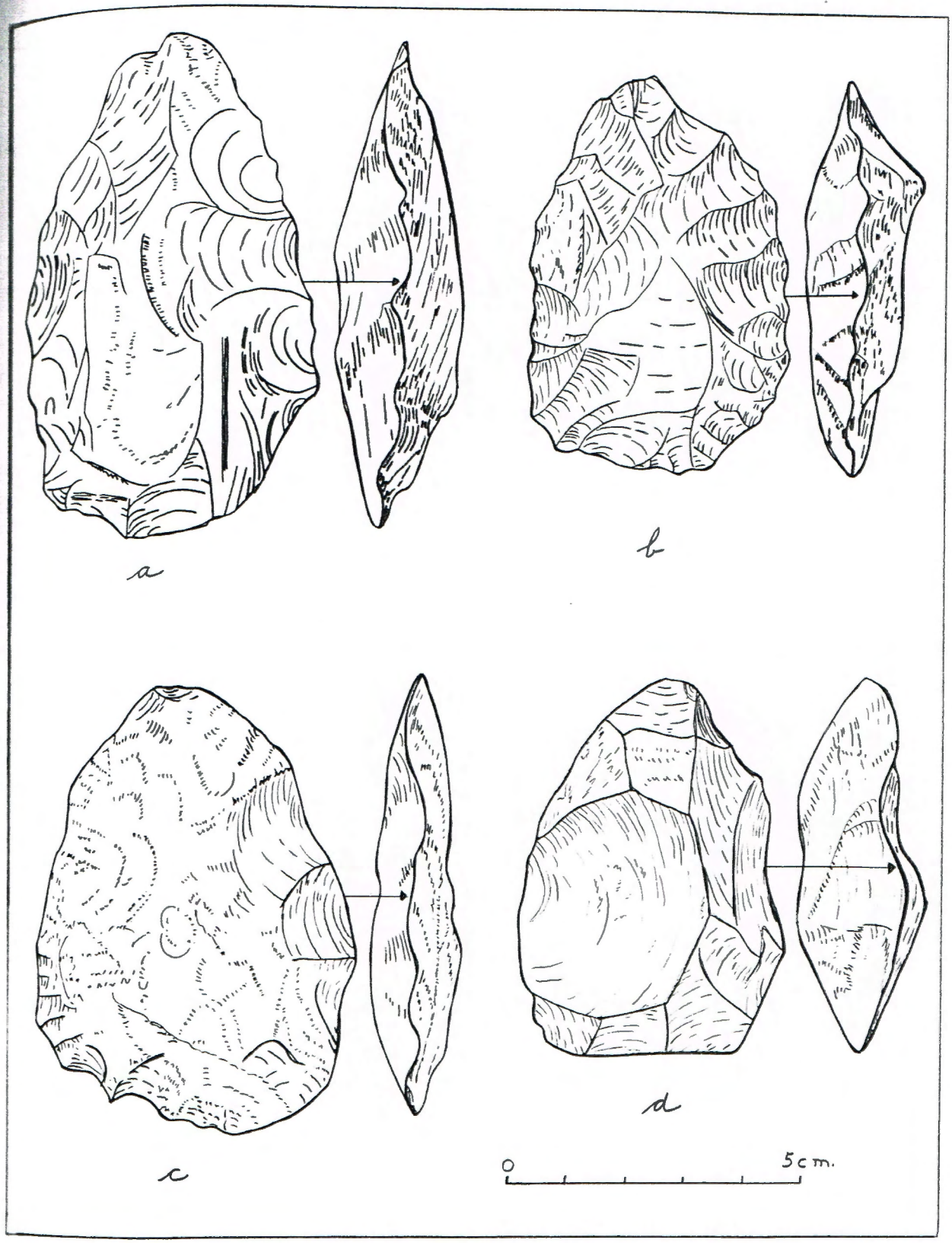


Figure 22

FARE
CANYON TO ALPINE
MOSTLY CANYON
FREMONT

Oval knives, thin

Description: Thin, oval, pointed; moderately large to small. Some specimens slightly asymmetrical. Several small ones are plano-convex, although flaked on both sides, and grade into small disc scraper planes. Most are coarsely flaked; about one-third show fine secondary flaking. One of large specimens is flaked on under-side along one edge, on upper side along opposite edge; thick patination of calcium carbonate on this specimen. Materials used: locally available granular quartzite, quartz, jasper and flint.

Distribution in La Sal Mountain area: Abundant (90 specimens). Small size most abundant in the canyons at pottery and dwelling sites; large size abundant at all altitudes, but only at lithic sites. The following table shows the distribution:

	Mountain sites	Pinon-juniper sites	Canyon sites
Large	5	4	9
Medium	8	9	9
Small	6	13	29

General distribution: Widely distributed on the northern Colorado Plateaus, Basin and Range Province and High Plains. Time range: Fremont culture and prepottery on northern ~~Colorado~~ Plateaus; Promontory culture and prepottery in northern Basin and Range; prepottery levels in general, and Amargosa II specifically in southern Basin and Range; prepottery, Woodland and Upper Republican on High Plains. Not reported from Anasazi sites. References are as follows:

Fremont River, Utah (Morss, 1931, Pl. 32, d, 1, 2; Pl. 33, d, 2, b, 3)
Castle Park, Colo. (Burgh and Scoggin, 1948, Fig. 14) (Lister, 1951, Fig. 13, s)
Cave 1, Great Salt Lake, Utah (Steward, 1937, Fig. 31, g, h)
Danger Cave, Utah (Levels III, IV and V, personal observation, University of Utah collection)
Western Utah (Steward, 1936, Fig. 13 and p. 41)
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 11, h, i)
Mohave Desert, Calif. (Rogers, 1939, Pl. 12, c, d)
Ventana Cave, Ariz. (Haury, 1950, Fig. 53, c)
Grants, N. M. (Bryan and Toulouse, 1943, Pl. XXII, h-k)
Limon, Colo. (personal collection from Upper Republican site)
Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 2i)
Pecos, N. M. (Kidder, 1932, Fig. 2, f-i)

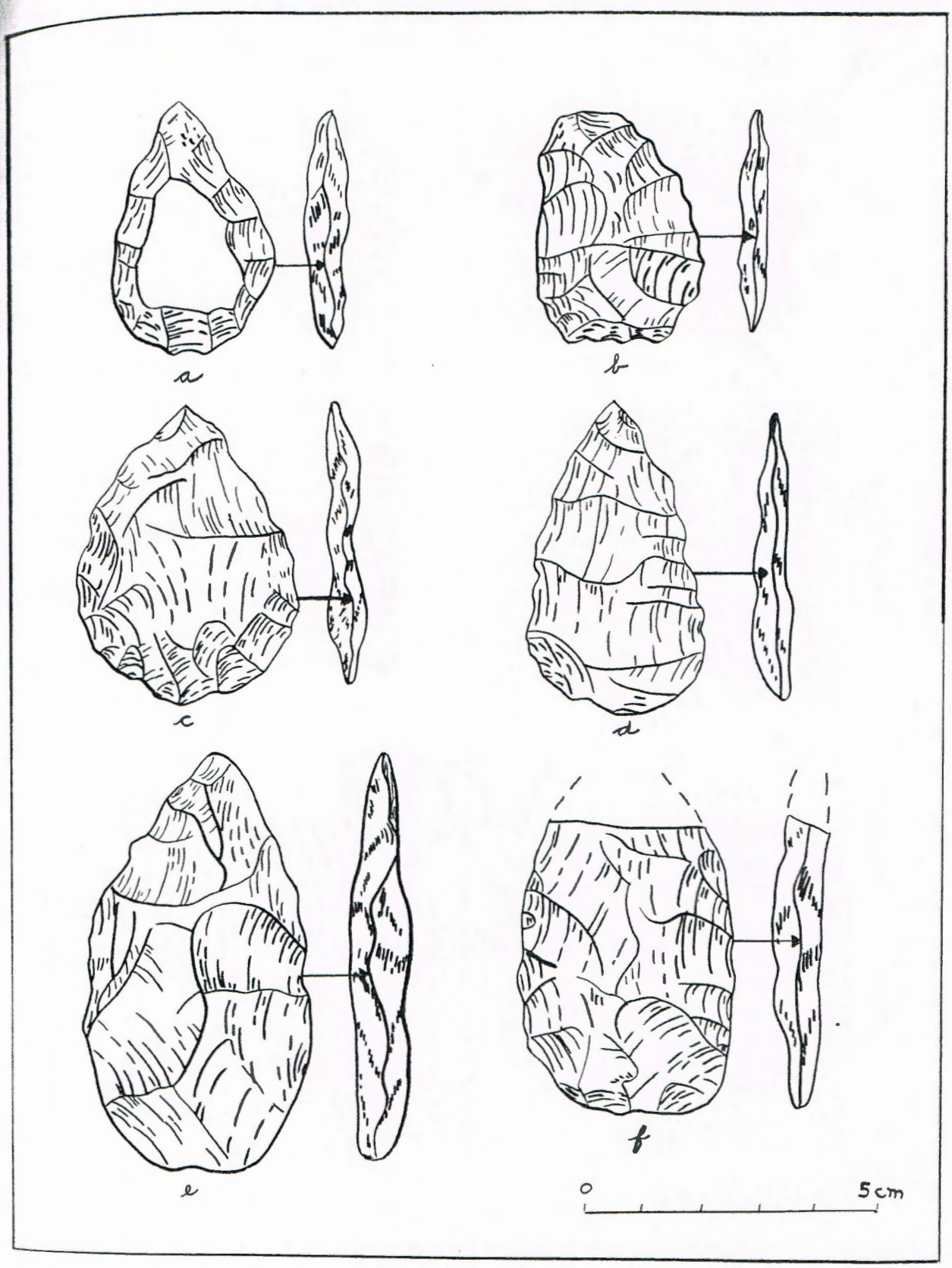


Figure 23

ABUNDANT
CANYON TO ALPINE
MOSTLY CANYON
W/ POTTERY & DWELLINGS
PIKE POTTERY TO FREMONT
NOT ANASAZI

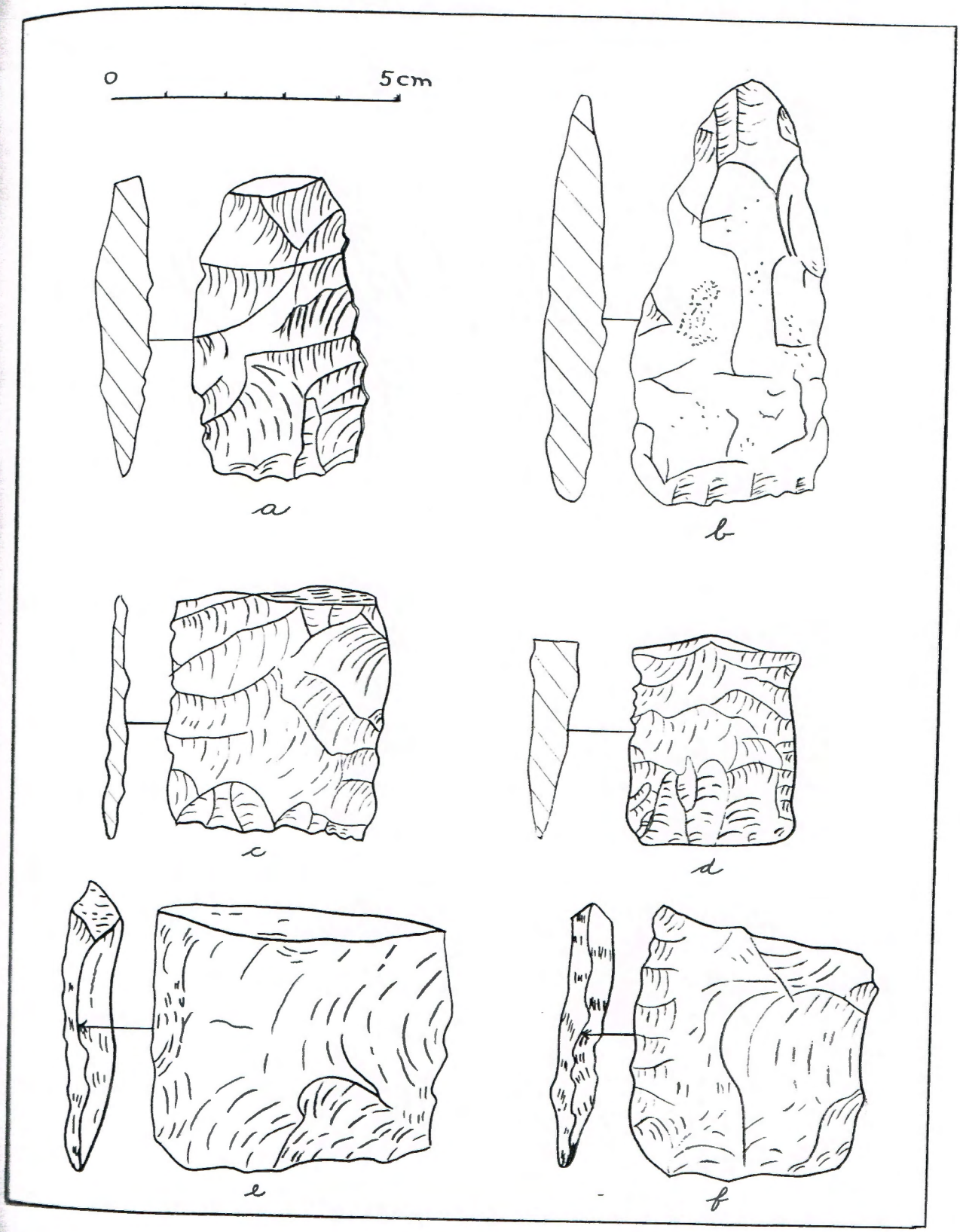
Rectangular knives with straight bases

Description: Straight edges; straight bases. Some specimens have right angle corners at base (c), many have rounded corners (f). Rarely symmetrical; one side generally slightly rounded. All but one knife (b) broken with transverse break. Most specimens show little or no narrowing to point. Sizes range from wide thick and wide thin, to narrow thick and narrow thin. Dimensions of wide ones: 40 to 50 mm. wide, 4 to 17 mm. thick; narrower ones 25 to 35 mm. wide, 4 to 10 mm. thick. Most specimens coarsely flaked; secondary flaking on some thin ones. Materials used: granular quartzite for large thick specimens; quartz for finer ones; both available locally.

Distribution in La Sal Mountain area: Abundant (60 specimens); mostly (56) at lithic sites; only 4 at pottery sites; 17 found at mountain sites, 27 at piñon-juniper sites, 16 at canyon sites.

General distribution: Similar knives are reported from other parts of the Colorado Plateaus and southern Basin and Range Province. Time range: pre-pottery, Fremont culture and Pueblo I-III on Colorado Plateaus; Pinto-Gypsum in southern Basin and Range. Very close resemblance to knives of the Fremont complex; less resemblance to Pueblo knives which tend to be leaf-shaped and symmetrical, not straight sided; atypical in southern Basin and Range. References are as follows:

Fremont River, Utah (Morss, 1931, Pl. 33, a1, b2)
Castle Park, Colo. (Lister, 1951, Fig. 13, b)
Glade Park, Colo. (Lister and Dick, 1952, Pl. 2, a)
Alkali Ridge, Utah (Brew, 1946, Fig. 170, f-i)
La Plata District, Colo. (Morris, 1939, Pl. 116)
Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XLVI, f)



ABUNDANT
CANYON TO ALPINE
MOSTLY P&J
FIRMONT

Figure 24

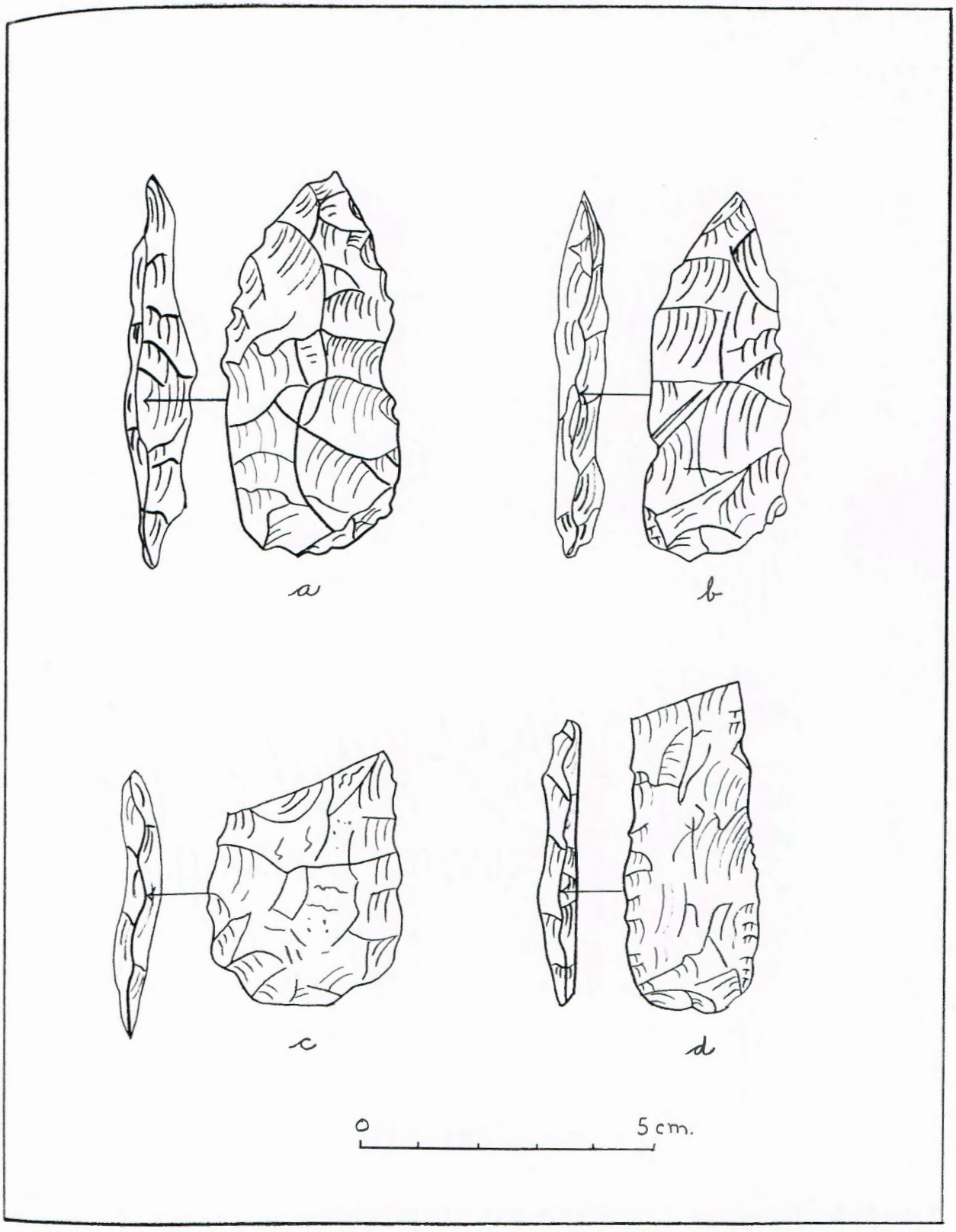
Rectangular knives with convex bases

Description: Straight edges, convex bases. All but two knives (a, b) broken with transverse break. Dimensions: length 60 to 70 mm., width 20 to 35 mm., thickness 2 to 17 mm. Most specimens have primary flaking only; a few thin ones have secondary flaking. Materials used: mostly quartz, some quartzite and jasper, all available locally.

Distribution in La Sal Mountain area: Abundant (60 specimens). Mostly in the canyons (31 specimens), but also found at piñon-juniper sites (17) and at mountain sites (12); 7 specimens at pottery or dwelling sites in the canyons.

General distribution: Similar knives are reported from the southern Colorado Plateaus (Basketmaker III-Pueblo III), from the northern Basin and Range Province (prepottery), and from the southern Basin and Range (Pinto Basin complex). References are as follows:

Shabikeschee Village, Chaco Canyon, N. M. (Roberts, 1929, Pl. 28 k)
La Plata District, Colo. (Morris, 1939, Pl. 115)
Danger Cave, Utah (Levels II-V, personal observation, Univ. of Utah collection)
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 11, a, c, e, f, g, i)



ABUNDANT CANYON TO ALPINE
MOSTLY CANYON

PREPOTTERY TO PUEBLO III

Figure 25

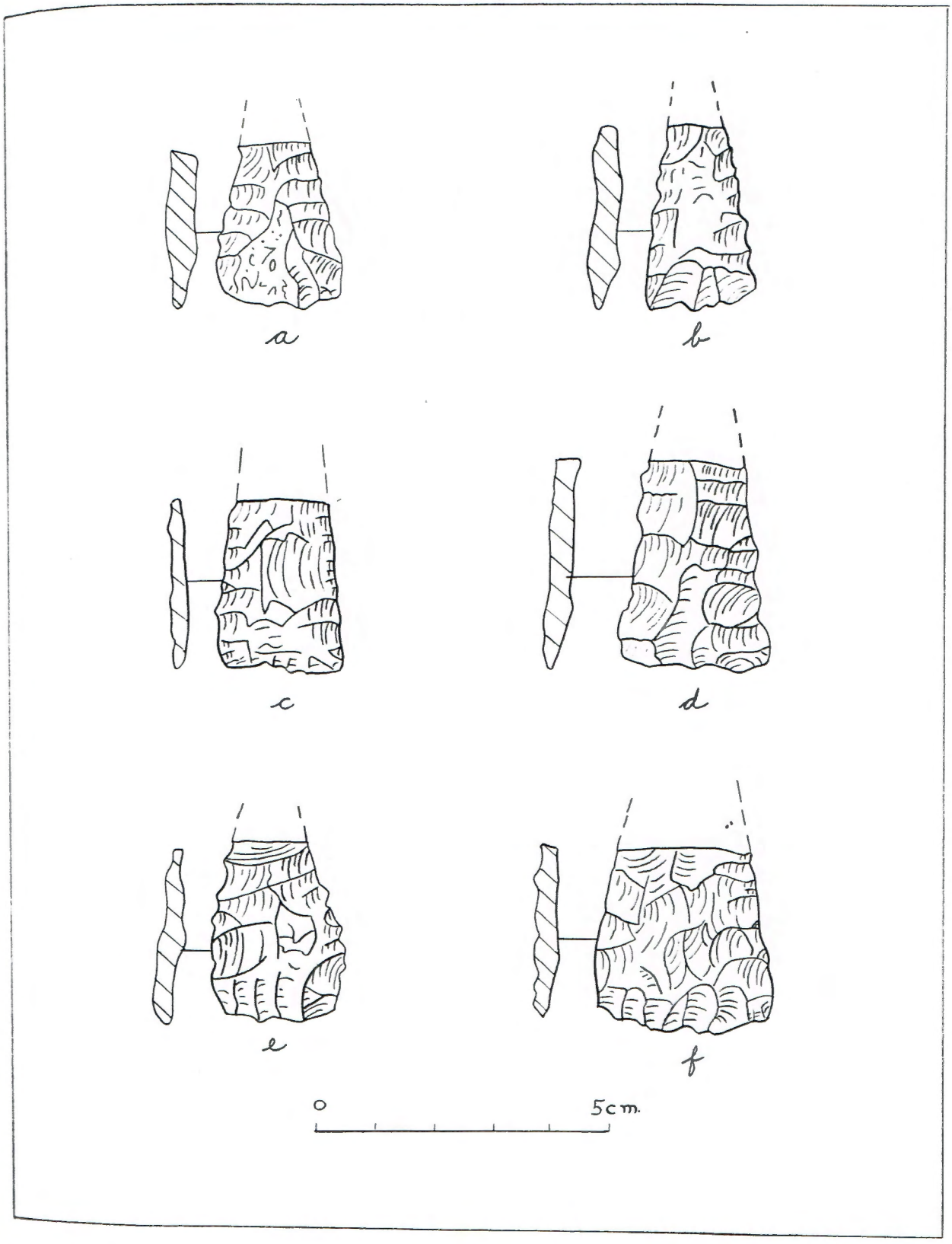
Triangular knives

Description: Triangular outline; bases slightly convex, straight or slightly concave. All specimens broken transversely. Small to moderately large. Width 20 to 30 mm., thickness 3 to 5 mm. Most specimens have secondary flaking. Materials used: quartz, some quartzite, jasper, available locally.

Distribution in La Sal Mountain area: One of the less common types of knife (16 specimens). Found at mountain sites (7), pinon-juniper sites (2), and canyon sites (7); with pottery at 2 canyon sites.

General distribution: Similar knives are reported from northern Colorado Plateaus and the Basin and Range Province. Time range: Fremont culture and prepottery on northern Colorado Plateaus; prepottery in northern Basin and Range; San Pedro in southern Basin and Range. References are as follows:

Castle Park, Colo. (Burgh and Scoggin, 1948, Fig. 15); and (level 4, personal observation of Hell's Midden collection, University of Colorado)
Fremont River, Utah (Morss, 1931, Pl. 32, d, 3, 4)
Danger Cave, Utah (level III, personal observation, University of Utah collection)
Pleistocene Lake Mohave (Campbell and Campbell, Pl. XLVI, f) Atypical
Ventana Cave, Ariz. (Haury, 1950, Fig. 56, e, f)



LESS COMMON
MOSTLY CANYON & ALPINE
PIKE POTTERY TO FREMONT

Figure 26

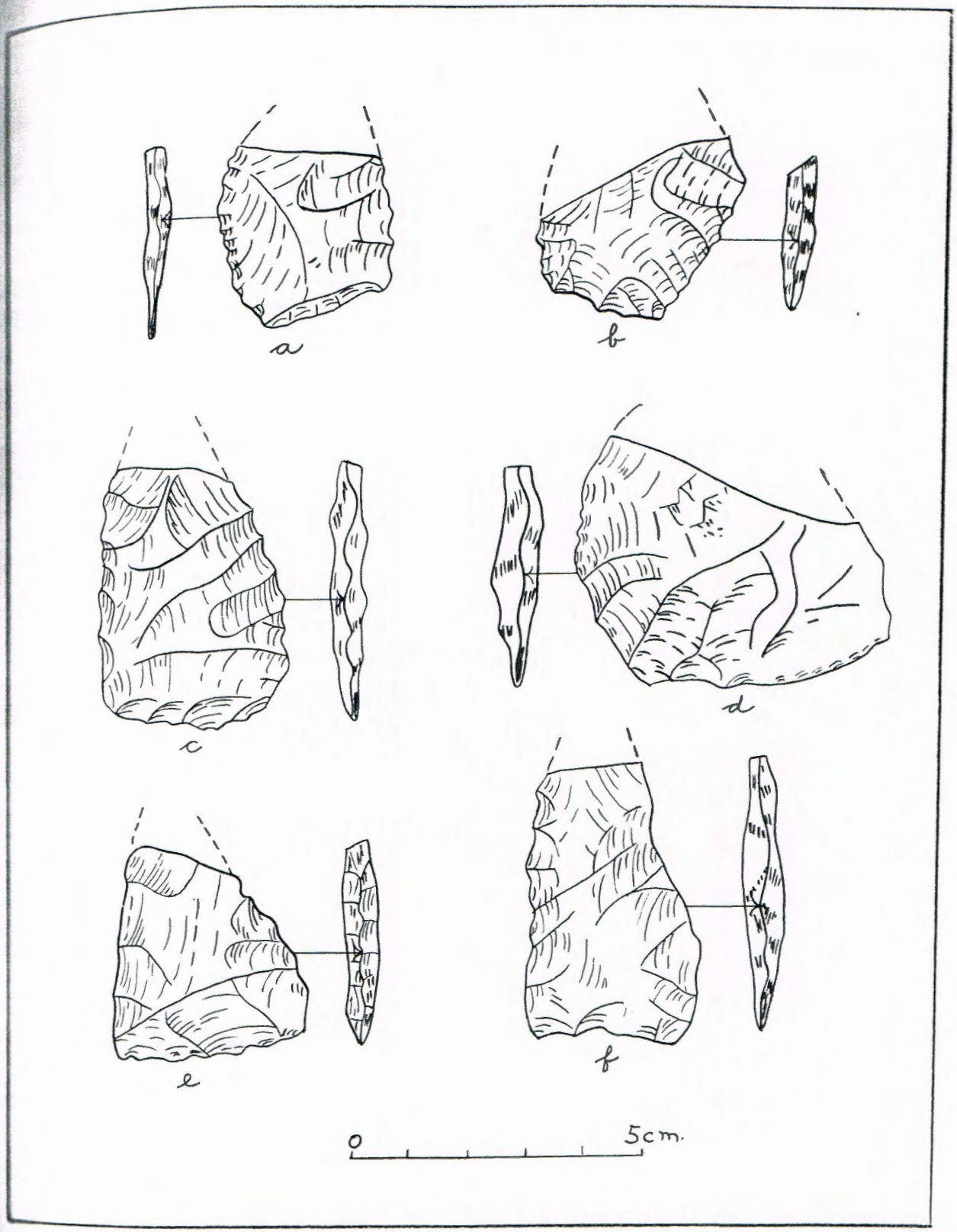
Asymmetrical knives

Description: One straight, one round edge. All specimens broken. Bases diagonal (a, b) or at right angle to cutting edge (c, e, f). Dimensions: length 30 to 50 mm. or more, width 22 to 50 mm., thickness 3 to 7 mm. Many specimens having diagonal base are plano-convex; on some, plane face is not flaked; on others it has fine long parallel flaking; on still others only the edges are retouched. Most asymmetrical knives have secondary flaking. Materials used: mostly quartz, some quartzite, available locally.

Distribution in La Sal Mountain area: Common (32 specimens); 16 found at canyon sites; 7 at piñon-juniper sites; 9 at mountain sites; not found at pottery sites.

General distribution: Similar knives are reported from the northern Basin and Range Province in the Promontory complex; from the southern Basin and Range Province in the Playa complex; from the northern Colorado Plateaus in prepottery levels. References are as follows:

Great Salt Lake Caves (Steward, 1937, Fig. 31, c, f, i)
Southern California (Rogers, 1939, Pl. 6, d)
Castle Park, Colo. (prepottery level, personal observation, University of Colorado collection)
Indian Creek, Abajo Mts., Utah (personal collection; surface find with pottery)



COMMON
CANYON TO ALPINE
MOSTLY CANYON
NOT WITH POTTERY
PREPOTTERY

Figure 27

Stemmed knives

Description: Three varieties: stems of first variety are as wide as blade, with rounded edges; base convex; corner notched (a, b). Fine secondary flaking. Material used: quartz.

Stems of second variety are narrower than blade, with parallel or slightly expanding edges; base slightly concave; short tangs (c-e). Secondary flaking. Materials used: quartz and dense quartzite.

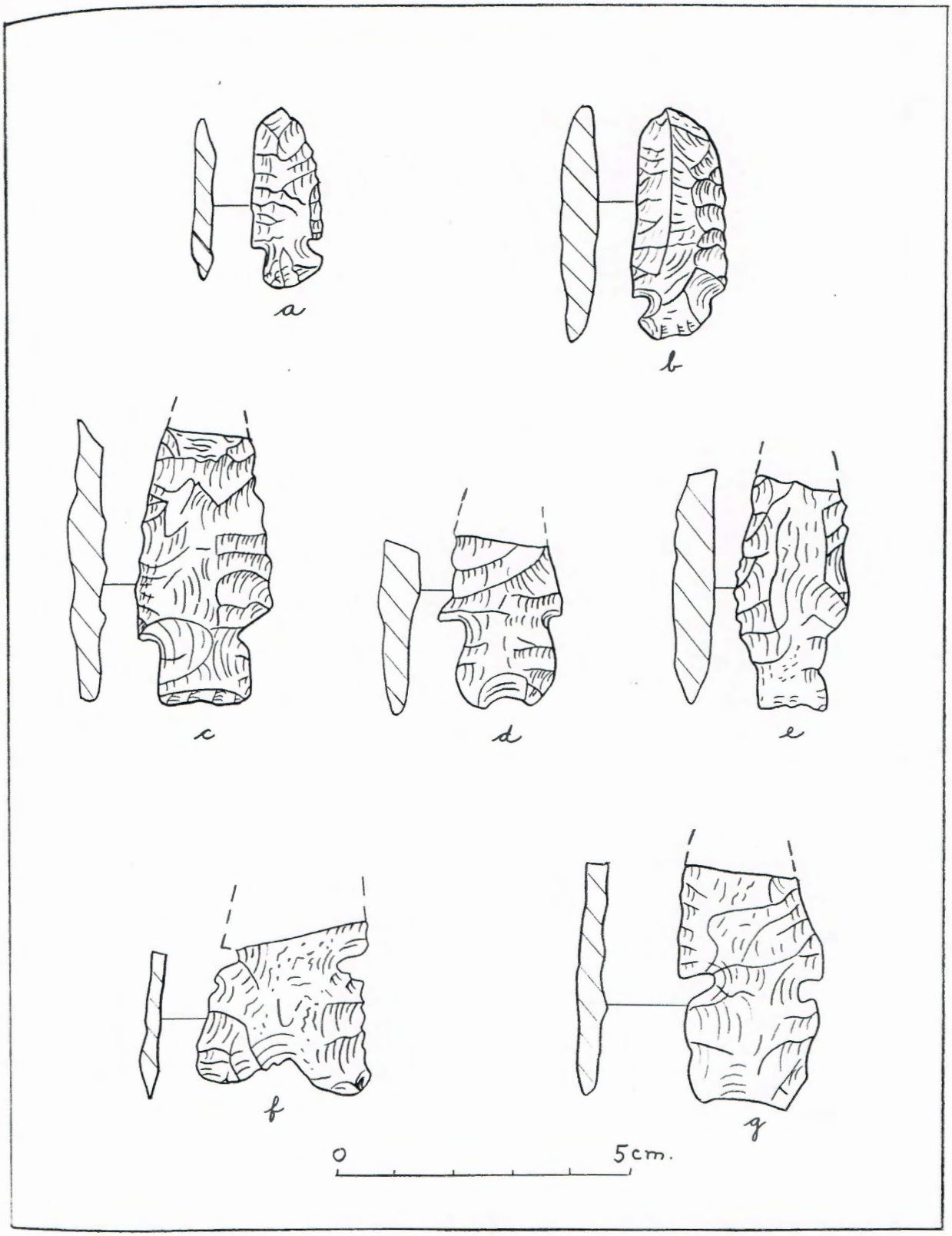
Variety three (f, g) is large, triangular, side notched; stem and blade edges straight; base concave, or concave and notched. Side notches appear to be one-third distance from base to tip. Secondary flaking. Materials used: locally available quartz, quartzite, jasper.

Distribution in La Sal Mountain area: Common (27 specimens); mostly at mountain sites (17); also found at pinon-juniper sites (4) and canyon sites (6). Not found at pottery sites.

General distribution: In the La Sal Mountain area these knives are non-pottery, and probably are prepottery judging by the associated artifacts. Knives similar to first variety (a, b) not known. Knives similar to second variety (c-e) are reported from the Colorado Plateaus in Basketmaker III and Fremont complexes. Knives similar to third variety (f, g) also are reported from the Colorado Plateaus. Artifacts similar to (f) but smaller were found in prepottery levels at Castle Park, Colorado, where they were called projectile points. A knife identical to (f) also was a surface find in the La Plata District, Colo. References are as follows:

Variety 2
- Shabikeschee Village, Chaco Canyon, N. M. (Roberts, 1929, Pl. 28, c)
- Castle Park, Colo. (level 2, personal observation, Univ. of Colorado collection)

Variety 3
- Castle Park, Colo. (Lister, 1951, Fig. 11) Prepottery
- La Plata Dist., Colo. (Morris, 1939, Pl. 129, g, h, and p. 127) Surface find.



COMMON CANYON TO ALPINE
MOSTLY ALPINE
PRE POTTERY
BASKET MAKER III TO FREMONT (?)

Figure 28

End cutters

Description: One variety (a, b) is elliptical and thick; has finely flaked, smoothly rounded, doubly convex cutting edge at one end. Other variety (c, d) is roughly semi-circular; has carefully worked, rounded, doubly convex cutting edge. Specimen (c) is flaked on all edges. Material used: quartz.

End cutters resemble spatulate end scrapers except that end cutters have doubly convex cutting edge and thicker body.

Distribution in La Sal Mountain area: Rare (5 specimens); 3 found at canyon sites, 2 at pinon-juniper sites; 1 with pottery.

General distribution: Similar knives are reported from the Colorado Plateaus and southern Rocky Mountains. Time range: prepottery at quarry site in southern Rocky Mountains. References are as follows:

Cerro Pedernal Peak, Jemez Mts., N. M. (Bryan, 1939, Pl. 5B)
Abajo Mts., Utah (surface find, personal collection, from high mountain, nonpottery site)
Danger Cave, Utah (levels III and V, personal observation, University of Utah collection)
Slick Rock, Colo., 30 miles SE of La Sal (surface find)

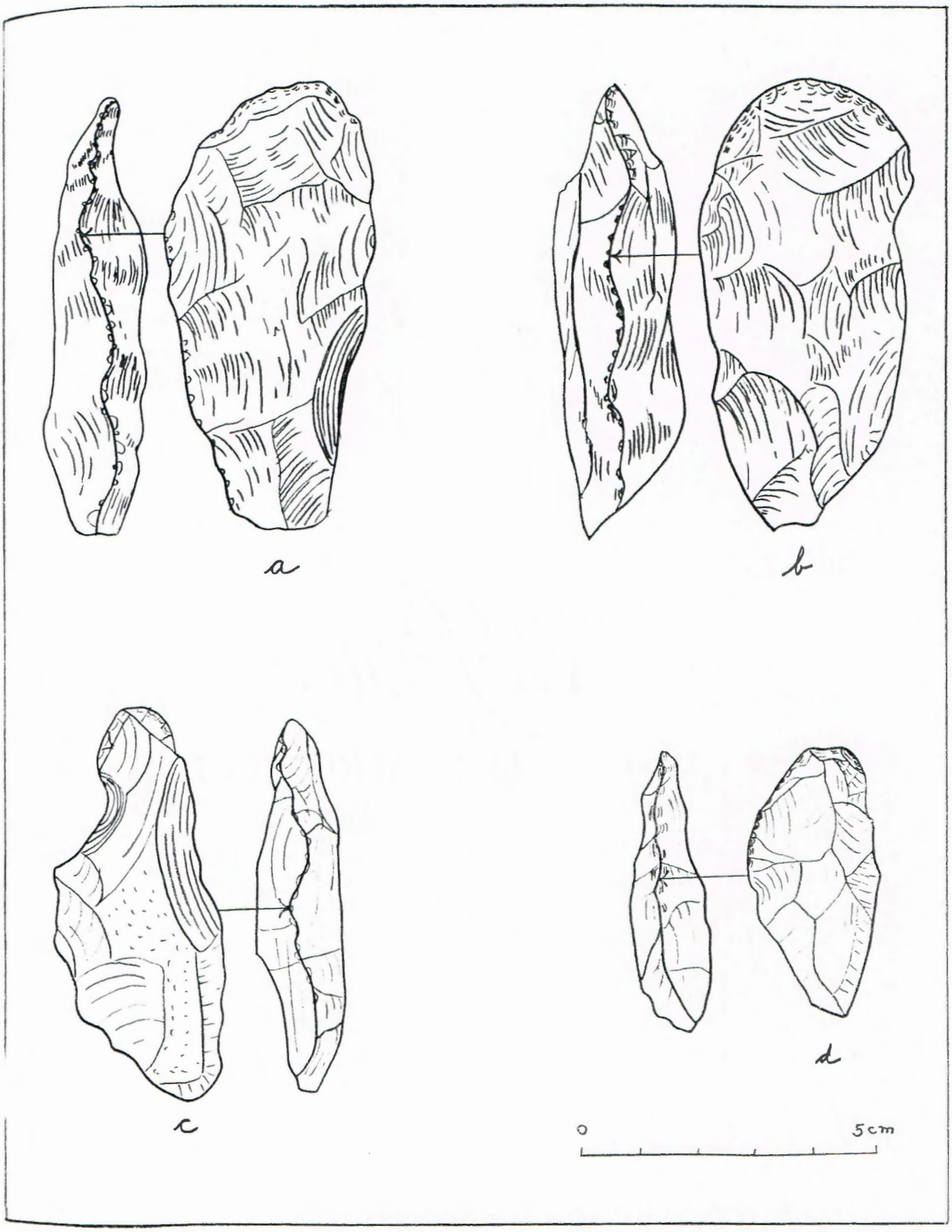


Figure 29

RARE
CANYON TO P&J
PREPOTTERY

Knife tips and bases

Description: Four varieties of pointed tips: 1) Wide angle, thick (a); 2) wide angle, thin (b); 3) narrow angle, thick (c); 4) narrow angle, thin (d). All are slightly asymmetrical. Thickness ranges from 3 to 20 mm. Most are coarsely flaked; some thin ones have fine secondary flaking. All have transverse break except a few like (a) which is worked on all edges. Materials used: quartz, quartzite, flint, all locally available.

Two varieties of rounded bases, one narrow and thick (e), the other wide and thin (f). All specimens have transverse break, except for a few which are finely flaked and worked on all edges. Most specimens have primary flaking only; a few have secondary flaking. Materials used: quartz, quartzite, chert, flint.

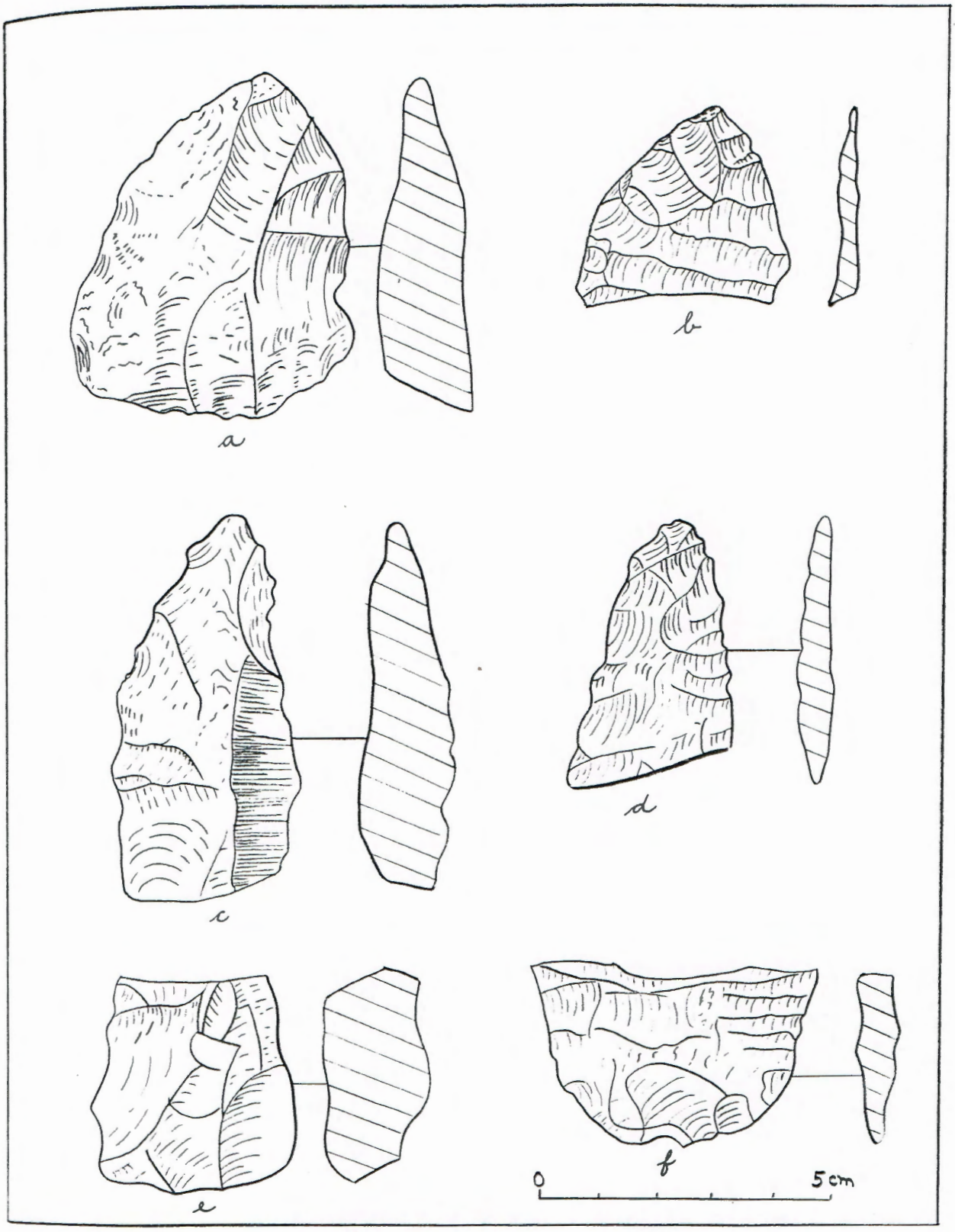
Some of these tips and bases probably are broken knives of other types. The fact that some are flaked on all edges, and that several of the rounded bases are notched for hafting, suggest that most have been purposely broken and either hafted or held in the hand.

Distribution in La Sal Mountain area: One of the most common tools in the area (185 specimens), especially at lithic sites; rarely found at pottery sites. Most abundant at sites in the piñon-juniper belt. Distribution is shown on the following table:

	Mtn.	Piñon-juniper	Canyon
Wide angle, thick and thin pointed tips	29	44	38
Narrow angle, thick and thin, pointed tips	6	14	15
Wide rounded bases	3	14	10
Narrow rounded bases	4	6	2

General distribution: Similar knife tips and bases reported from the northern Colorado Plateaus and from the southern Basin and Range Province. Time range: Fremont complex on northern Colorado Plateaus; Pinto Basin complex and Puebloid in Basin and Range Province. References are as follows:

Fremont River, Utah (Morss, 1931, Pl. 33, b, 1 and c, 1)
Central Utah (Gillin, 1941, Pl. VIII, 3)
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 11, b, d, and p. 41)



ONE OF THE MOST COMMON
P & J DOMINATE
FREMONT
NOT ASSOCIATED W/ POTTERY

Figure 30

Miscellaneous knives

Description: (a) and (b) are paper-thin flakes. One face plane; the other has been made almost plane by primary flaking, probably before the specimens were removed from original rock. Bulbs of percussion at butt ends. Specimen (a) has fine secondary flaking on right edge on both faces; other edge shows use-scars. Specimen (b) has secondary flaking on both edges, but on opposite faces.

Specimen (c) is a very crude, doubly convex knife, pointed at both ends; lacks secondary flaking; resembles elliptical choppers but thinner.

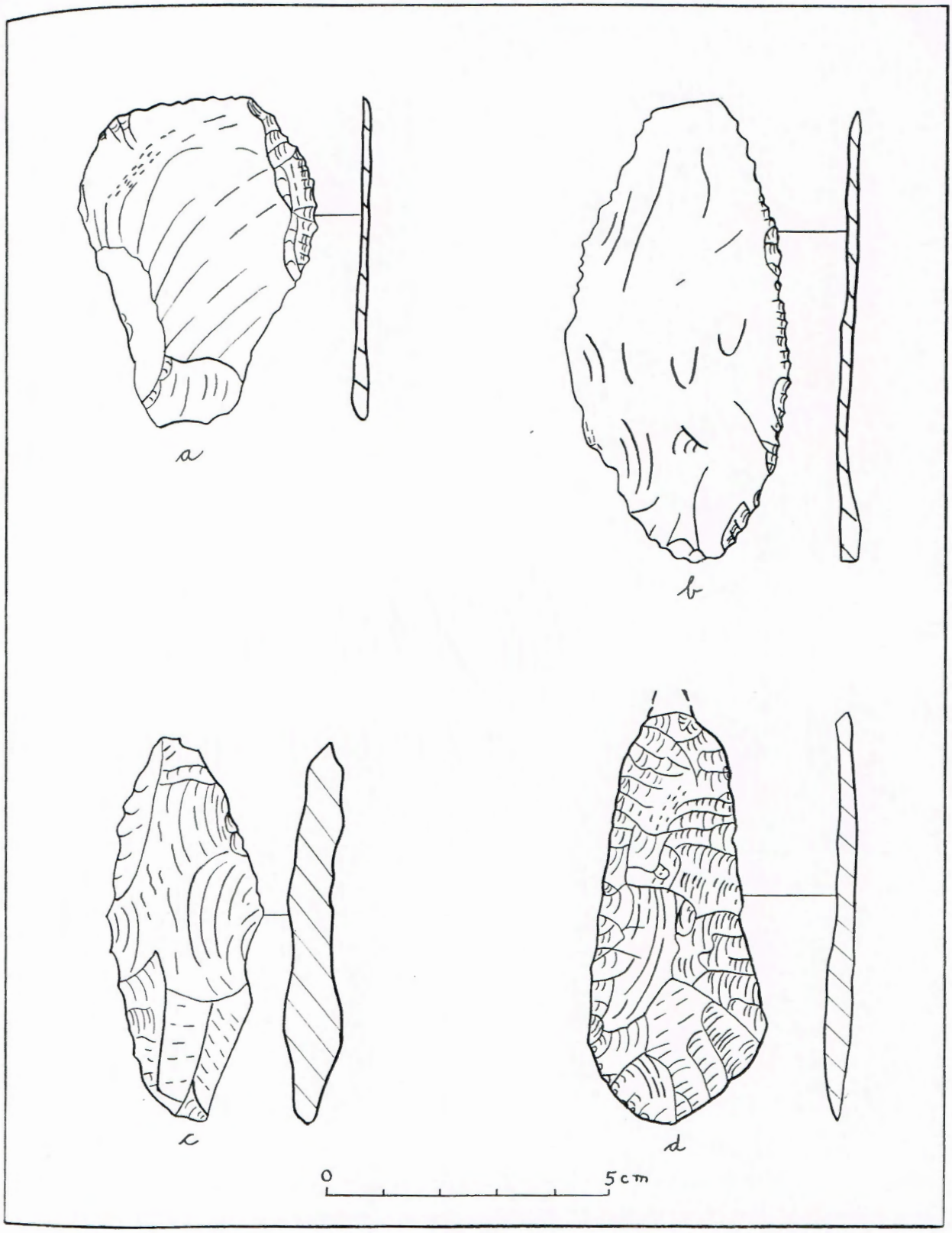
Specimen (d) is finely flaked, doubly convex; broken at tip. Outline of scar at tip suggests that it may have been a drill. Somewhat similar in outline to asymmetrical knives.

Distribution in La Sal Mountain area: (a) found at mountain sites (2); (b) at canyon site; (c), of which there are 3 specimens, at mountain and canyon sites; (d) found at canyon site. None found with pottery.

General distribution: If (d) terminated as a drill, it resembles drills with long wide bases and long shafts reported from southcentral Oregon, 4,000 to 10,000 years old (Cressman, Williams, Krieger, 1940, Pl. XVI, p. 68). A somewhat similar spatulate-shaped perforator was found at a mountain pass in the Abajo Mountains, 50 miles south of La Sal Mountains (personal collection). A drill with a base worked into a triangular blade is reported from Castle Park, Colo. (Lister, 1950, Fig. 17). A knife similar to (d) is reported from the northcentral plains of Texas as Wichita Phase (Sayles, 1935, Pl. XXII, a).

Doubly pointed knives like (c) are reported from the southern Basin and Range Province. Time range: Playa, Pinto Basin complexes, and all levels at Ventana Cave, with greatest concentration in pottery levels. References are as follows:

Southern California (Rogers, 1939, Pl. 6, f)
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 12, e)
San Dieguito Plateau, Calif. (Rogers, 1929, Pl. 31)
Ventana Cave, Ariz. (Haury, 1950, Fig. 52, h, i)
Danger Cave, Utah (U. of Utah collection, Levels IV, V)



CANYON & ALPINE
NO POTTERY ASSOC.

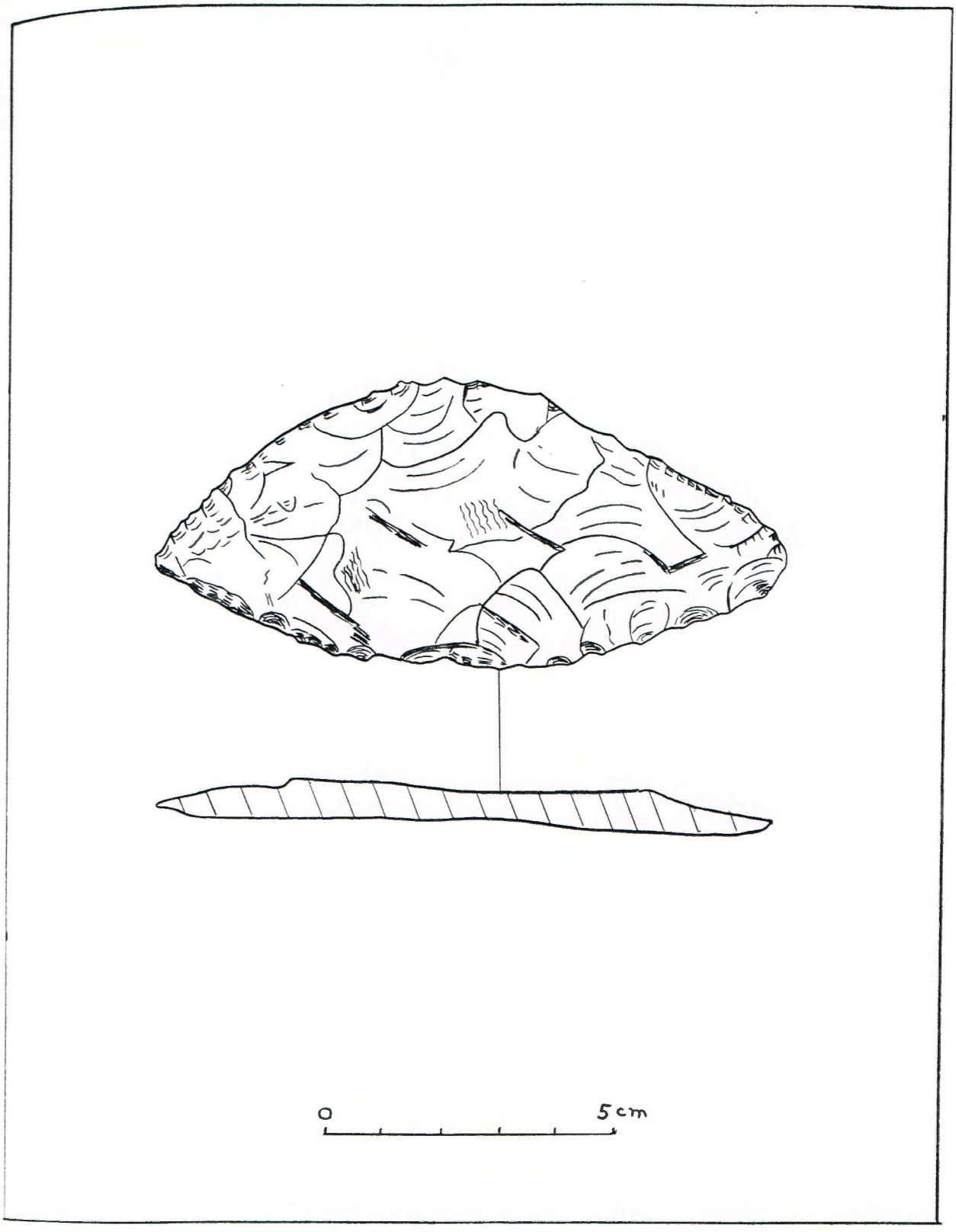
Figure 31

Doubly pointed knife

Description: Pointed at both ends, asymmetrical, thin; secondary flaking on all edges. Length 11 cm., width 5 cm., thickness 5 to 8 mm. Material used: dense silicic hornfels, probably an imported material.

Distribution in La Sal Mountain area: Only one found, at site 6-51 in piñon-juniper zone. Not associated with other artifacts.

General distribution: Somewhat similarly shaped knives have been reported in the Fremont culture at Castle Park, Colorado (Burgh and Scoggin, 1948, Fig. 16), and from the Henry Mountain, southeastern Utah (surface find); also found in Level III in Danger Cave, northwestern Utah (University of Utah collection).



HORNFEL (IMPORTED)
FREMONT
TERMINALLY UNIQUE

Figure 32

Drills, gravers, and saws. Forty-seven drills were found in the La Sal Mountain area, of which 24 were complete enough to classify. Two of the 47 drills are plano-convex; the others are doubly convex. All these drills have flanges; the type without a flange was not found in the area. The outline of the flange has been used as the basis of classification of the drills. The following types have been distinguished in the collection:

Small flange		
Straight base	Fig. 33	a
Convex base	"	b, c, d
Concave base	"	e, f
Asymmetrical	"	g
"T" shape	"	h

Large flange
"T" shape with straight base, Fig. 34, a, b
"T" shape with convex base, Fig. 34, c
Gradually expanding flange with concave base, Fig. 34, d
Gradually expanding flange with convex base, Fig. 34, e, f, g

The 47 drills were widely distributed; 20 were found at canyon sites, 17 at piñon-juniper sites, and 10 at mountain sites; 12 were found with pottery.

Forty-three gravers were found; of these a third are well made, whereas the other two-thirds are little more than sharp pointed flakes. Most of the gravers are wide and short; they are suitable for incising or scratching, but not for boring. Two kinds are distinguished in the collection; those made from plano-convex flakes and beaked (Fig. 35, a, b, c), and those that are doubly convex and generally remade from broken projectile points or knives (Fig. 35, d, e, f).

Two types of saws are represented; one has a projection which could serve as a handle (Fig. 36, a, b, c); the other is long and pointed (Fig. 37). They generally are found in the piñon-juniper belt, without pottery.

The materials used for drills, gravers and saws are quartz, jasper, quartzite and flint, all obtainable locally.

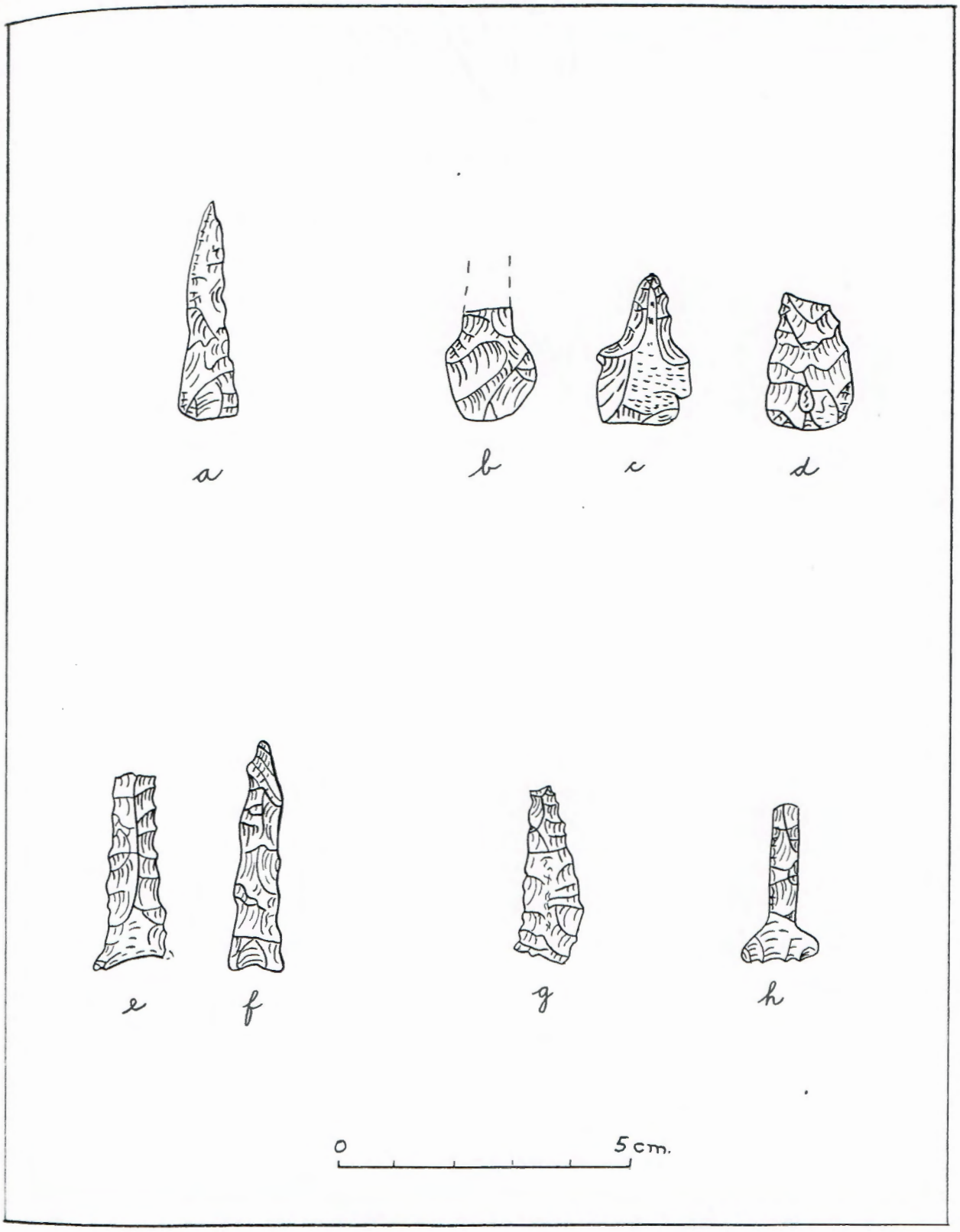
Drills with small flanges

Description: Shaft widens at base into small flange, base of which may be straight (a), convex (b, c, d), concave (e, f), asymmetrical (g), or "T" shaped (h). Doubly convex except (b) and (c) which are plano-convex. Cross section varies from thin and oval (h), to thick and round (e, f). All have secondary flaking except plano-convex drills (b) and (c). Materials used: quartz, some quartzite.

Distribution in La Sal Mountain area: Fairly common (12 specimens); 8 from canyon sites; 3 from piñon-juniper sites; 1 from a mountain site; 5 specs. with pottery.

General distribution: Similar drills are reported from the Basin and Range Province and the Colorado Plateaus. Time range: Promontory and Puebloid complexes in northern Basin and Range; Gypsum, prepottery and pottery complexes in southern Basin and Range; Basketmaker III and Pueblo III-V on Colorado Plateaus. References are as follows:

Great Salt Lake Caves, Utah (Steward, 1937, Fig. 30, f)
Western Utah (Steward, 1936, Fig. 13). Like (h)
Southern California (Rogers, 1939, Pl. 12, f)
Ventana Cave, Ariz. (Haury, 1950, Fig. 67, e, f, g)
Kiatuthlana, Ariz. (Roberts, 1931, Pl. 36, b)
Pecos, N. M. (Kidder, 1932, Fig. 11, h) Like (h)
Turner site, Cisco, Utah (personal observation, collection at Denver Museum) Identical to (h)



FAIRLY COMMON
CANYON TO ALPINE, MOSTLY CANYON
BM-III TO P-IV

Figure 33

Drills with large flanges

Description: Shaft widens into large flange, which may be "T" shape (a, b, c), or widen gradually (d, e, f, g). Doubly convex except for one plano-convex specimen. Cross section oval (d), or round (a, b). Secondary flaking. Materials used: mostly jasper, some quartz and quartzite. cf. Fig. 31, d.

Distribution in La Sal Mountain area: Common (13 specimens); 6 from canyon sites; 5 from piñon-juniper sites; 2 from mountain sites; 1 with pottery.

General distribution: Widely distributed on Colorado Plateaus, Basin and Range Province and High Plains. Time range: Fremont culture on northern Colorado Plateaus; Basketmaker III-Pueblo I and prepottery complexes on southern Colorado Plateaus; Promontory and Puebloid in northern Basin and Range; Amargosa III, and in both prepottery and pottery complexes in southern Basin and Range; prepottery and Upper Republican on High Plains. References are as follows:

Castle Park, Colo. (Lister, 1951, Fig. 16) and (Burgh and Scoggin, 1948, Fig. 24)
Fremont River, Utah (Morss, 1931, Pl. 32, c)
Ackmen-Lowry area, Colo. (Martin, 1939, Fig. 118)
La Plata Dist., Colo. (Morris, 1939, Pl. 127, d, e)
Northeastern Ariz. (Kidder and Guernsey, 1919, Fig. 48, i)
Caves I and II, Great Salt Lake, Utah (Steward, 1937, Fig. 30, d)
Western Utah (Steward, 1936, Fig. 13)
Southern California (Rogers, 1939, Pl. 17, b)
Ventana Cave, Ariz. (Haury, 1950, Fig. 67, h, j, k, l)
Southern Nebraska (Kivett, 1949, Fig. 69, B)
Southern Nebraska (Holder and Wike, 1949, Fig. 67, a)
Texas Panhandle (Johnson, 1939, Pl. 42, 9, 10, 11)
Signal Butte, Neb. (Strong, 1935, Pl. 24, 2, g; Pl. 25, 1, m)
Concho, Ariz. (Wendorf, Thomas, 1951, Fig. 49, t)

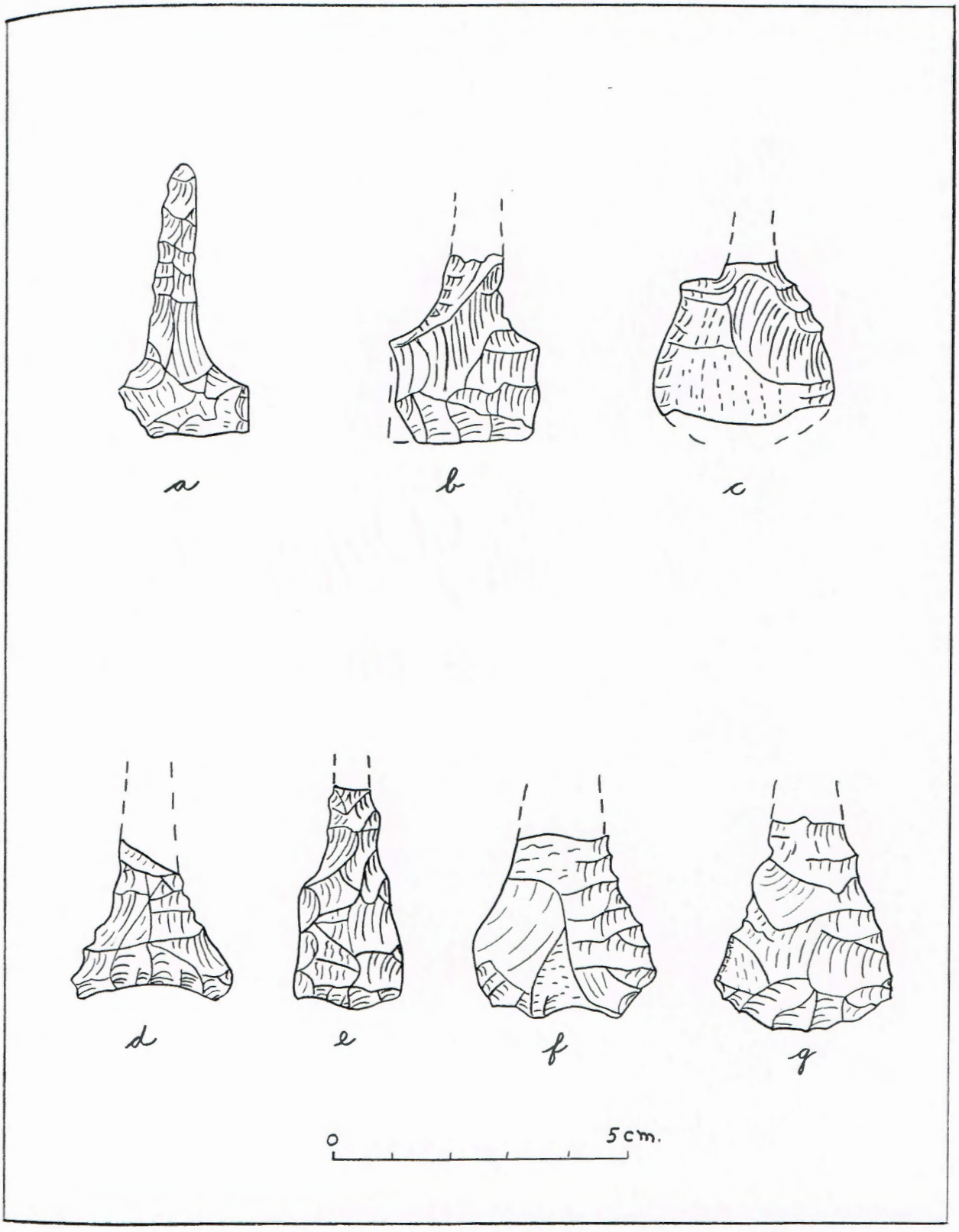


Figure 34

COMMON
CANYON TO ALPINE, MOSTLY CANYON
FREMONT
BM-II TO P-1
AMARGOSA II
HIGH PLAINS

Gravers

Description: Two varieties, one made from plano-convex flakes (a, b, c), the other from doubly convex cores (d, e, f). Both kinds "beaked"; beaks on plano-convex flakes are upturned (a), turned down (b), or straight (c). Most gravers are keeled. Specimen (a) is carefully flaked on all edges; base is diagonal like bases on asymmetrical knives (Fig. 27). Secondary flaking on most, but not all, specimens (lacking on c).

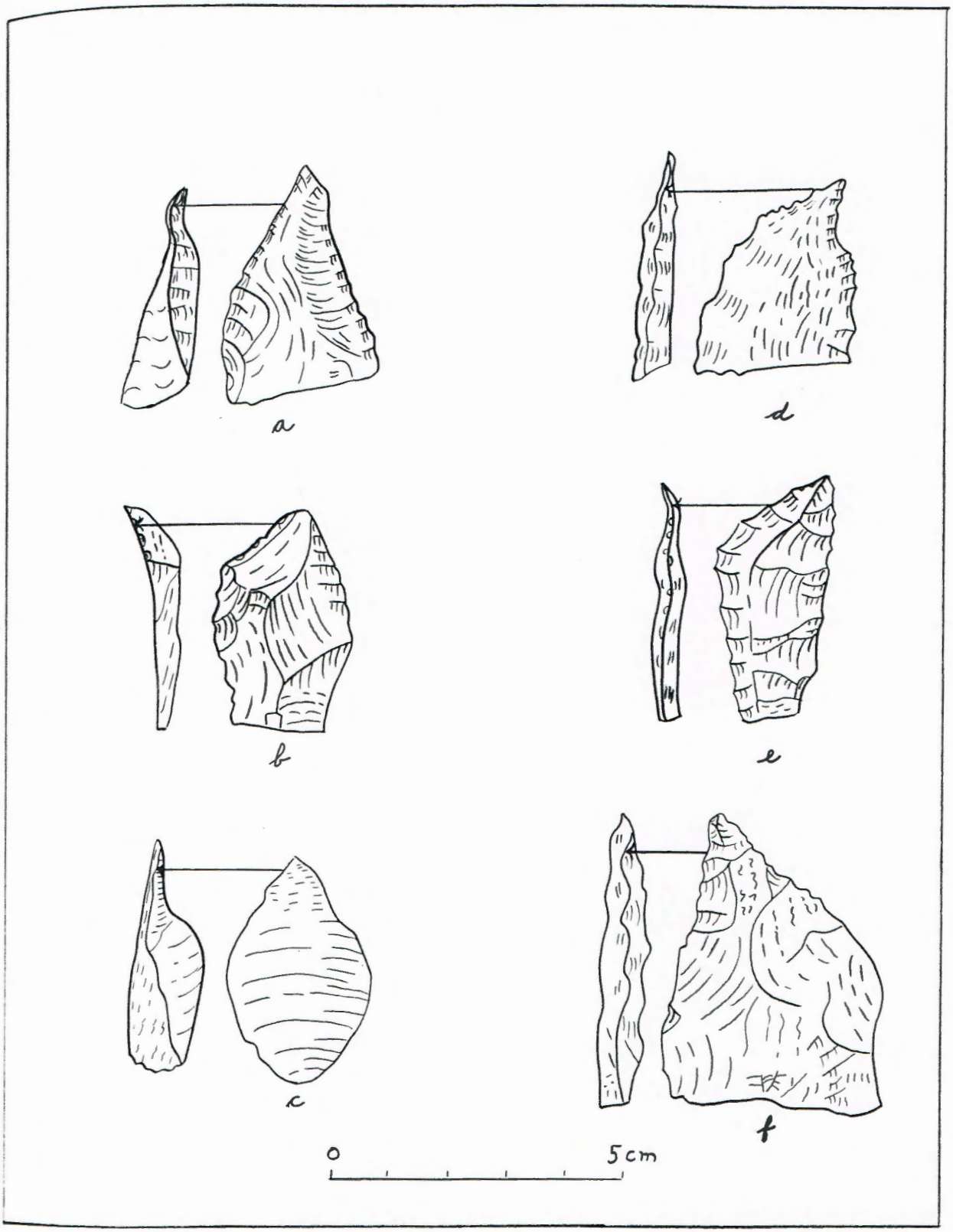
Doubly convex core gravers are made from broken knives, scrapers or projectile points (d, e, f). Secondary flaking.

Materials used: jasper, quartz, flint, quartzite.

Distribution in La Sal Mountain area: Common (18 well made, 27 crude specimens); of the well made specimens, 9 were found at canyon sites, 4 at piñon-juniper sites and 5 at mountain sites; 5 with pottery.

General distribution: Similar gravers reported from the northern Colorado Plateaus, southern Basin and Range, and High Plains. Time range: Folsom and prepottery complexes on the Plains; Fremont culture in northern Colorado Plateaus. References are as follows:

Pleistocene Lake Mohave (Campbell and Campbell, 1937, Pl. XXV, d, e; Pl. XXXVI, a, d, e, f, g; Pl. XXXVII)
Ventana Cave, Ariz. (Haury, 1950, Fig. 42, a, b, h, i, l, m)
Lindenmeier site, Colo. (Roberts, 1935, Pl. 13, h-j)
Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 2, c, d; Pl. 25, Fig. 1, n)
Castle Park, Colo. (Lister, 1951, Fig. 19)
Danger Cave, Utah (personal observation, U. of Utah collection, Levels II-V)



D,E,F - FROM BROKEN KNIVES
COMMON
CANYON TO ALPINE, MOSTLY CANYON
FOLSOM TO FREMONT

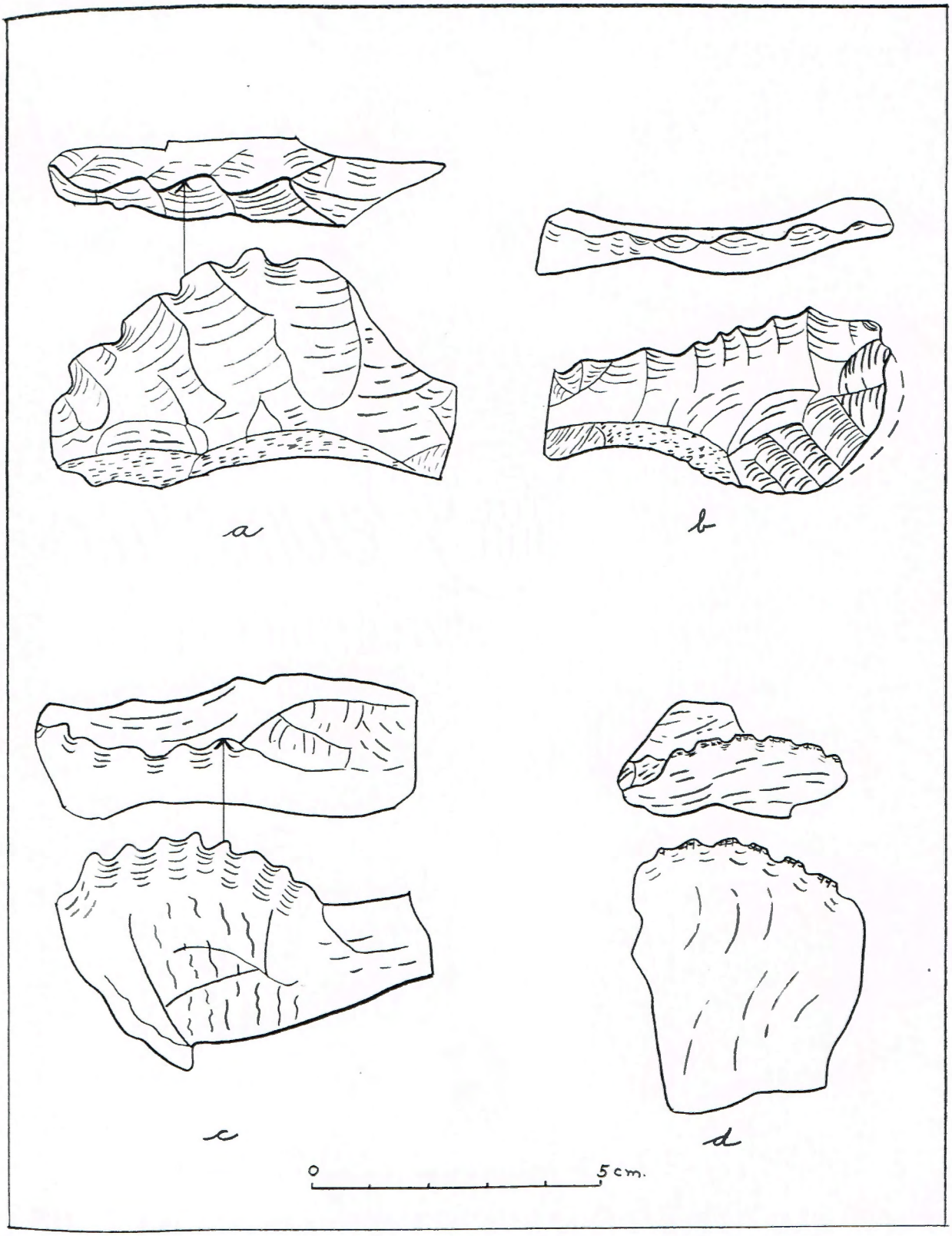
Figure 35

Saws

Description: Saw-tooth edge or edges; generally made from thick flakes, with secondary flaking only on convex side; (a) is exception. Two varieties: one (a, b, c) has long narrow end which could serve as handle; the other (a, b, p. 88) is long, elliptical, pointed, flaked along one edge on convex side. Materials used: quartz, some dense quartzite.

Distribution in La Sal Mountain area: Common (17 specimens); 10 found at piñon-juniper sites; 3 at mountain sites; 4 at canyon sites; 2 with pottery.

General distribution: Saws reported from Alkali Ridge, Utah in Pueblo II levels (Brew, 1946, Fig. 171) and from the Fremont River area, Utah in the Fremont complex (Morss, 1931, Pl. 33, a, 3).



COMMON
CANYON TO ALPINE, MOSTLY P&S **Figure 36**

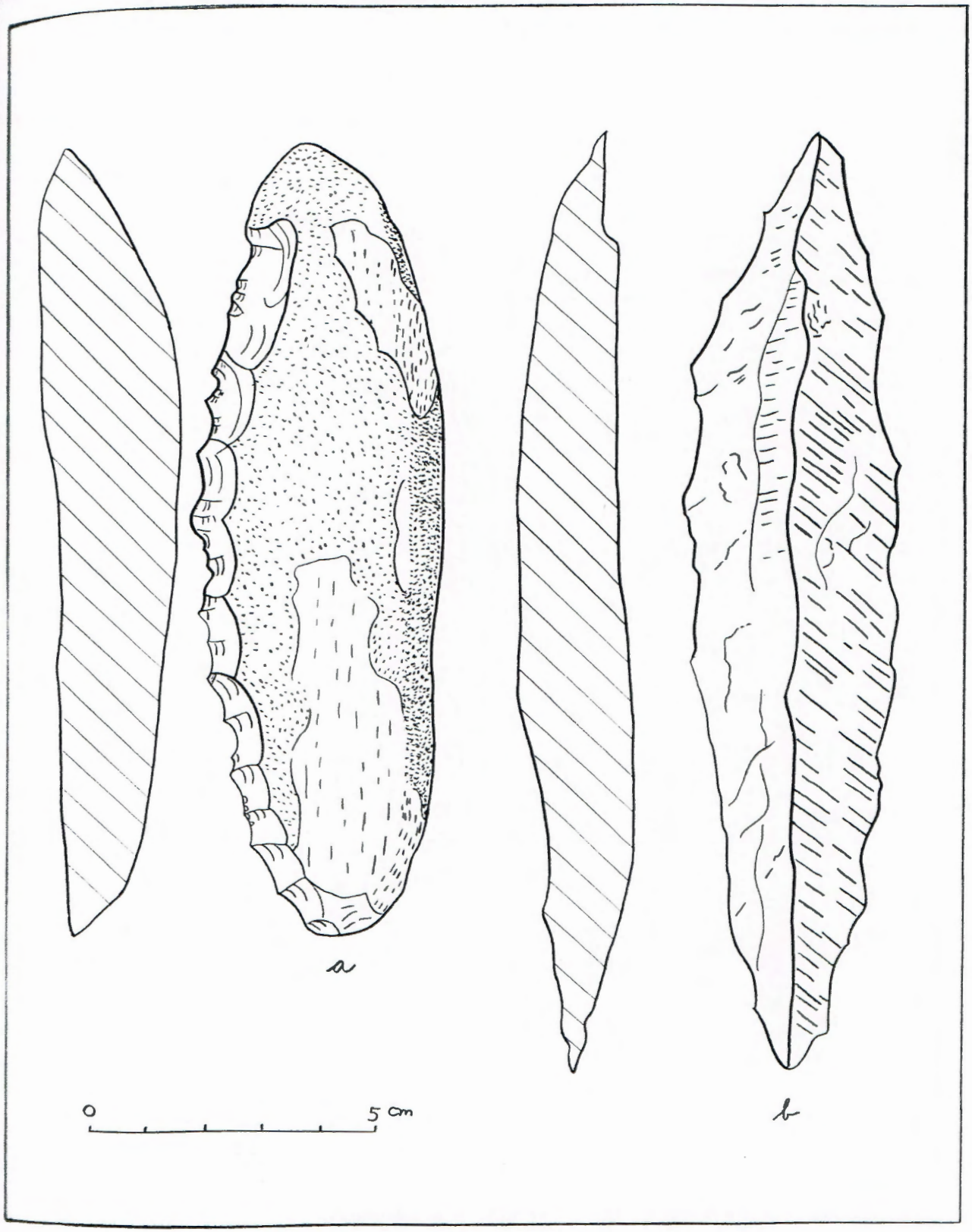
P-II
FILLMONT

Saws (continued)

Description: See p. 86; (b) has no flaking.

Distribution in La Sal Mountain area: Rare (2 specimens); (a) found at canyon site with pottery; (b) found at piñon-juniper site without pottery.

General distribution: Similar saw-like objects have been found with pottery by the Colorado River above Hite, Utah (personal collection).



RARE
CANYON TO P&J
POTTERY PERIODS

Figure 37

Scrapers. Scrapers and scraper-planes are plano-convex or concavo-convex implements made from flakes and having a smooth scraping edge. End scrapers and scraper-planes generally are plano-convex whereas side scrapers generally are concavo-convex. Most scrapers and scraper-planes have primary flaking only; secondary flaking is exceptional.

In this report scrapers have been classified as end or side scrapers depending on whether the end or side appears to have been the working edge. Many tools, however, are both end and side scrapers. Large, thick, plano-convex tools which could have been used as push planes, and no one edge of which is particularly well-shaped, have been classified as scraper-planes. The classification is as follows:

End scrapers	
Snub-nose	
Flat, small	Fig. 38
Flat, medium size	Fig. 39
Keeled, small	Fig. 40
Keeled, very large	Fig. 41
Spatulate	Fig. 42
Narrow and broad blade	Fig. 43
Side scrapers	
Elongate keeled	Fig. 44
Oval	Figs. 45, 46
With concave cutting edge	Fig. 47
Doubly convex	Figs. 48, 49, 50
Scraper-planes	
Cobble	Fig. 51
Core	Fig. 52
Disc	Fig. 53
Elliptical	Fig. 54
Pointed	Fig. 55

Four hundred and four scrapers and scraper-planes were collected in the La Sal Mountain area. Materials used were quartz, quartzite, jasper and flint, all obtainable locally with the exception of the flint used to make two elongate keeled side scrapers (Fig. 44, e, f). Figure 44, f, is of black flint lightly mottled with blue opal, a material identical to that occuring in the Bridger formation in southern Wyoming. Figure 44, e is of brown flint, source unknown.

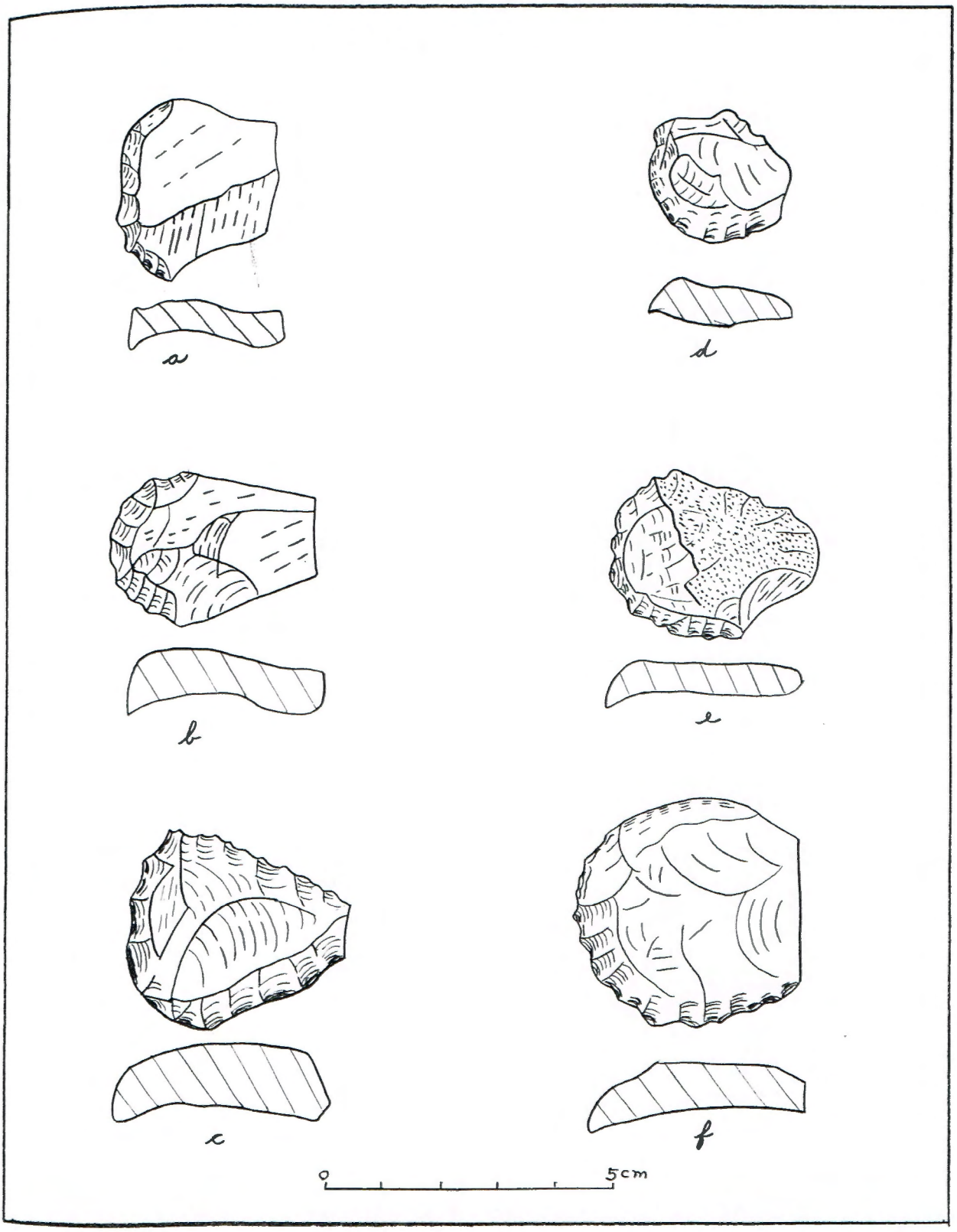
Snub-nose scrapers, flat, small

Description: One face convex and flaked to form a flat (d, e) or slightly domed surface (a, b, c, f); other face plane or slightly concave flake surface. Oval outline. Bulb of percussion of original flake commonly forms narrow end of scraper. Edge opposite bulb of percussion steeply flaked to 45 to 90 degree angle, forming working end of tool; sides as well as end carefully retouched on some specimens (c, f). Working edges have small use-scars. Materials used: flint, quartz, some quartzite; locally available.

Distribution in La Sal Mountain area: Common (36 specimens); 14 found at piñon-juniper sites, 12 at canyon sites, 10 at mountain sites; 14 with pottery.

General distribution: Similar scrapers are widely distributed on High Plains, Colorado Plateaus and in Basin and Range Province. Time range: Folsom to Upper Republican complexes on northern Plains; Bravo Valley Aspect and Wichita Phase in Texas; prepottery and Promontory complexes in northern Basin and Range; Playa, prepottery and pottery complexes in southern Basin and Range; prepottery and Fremont (rare) complexes on Colorado Plateaus; not reported in Anasazi complexes. References as follows:

Lindenmeier site, Colo. (Roberts, 1935, Pls. 9, 10)
Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 1, c; Pl. 25, Fig. 1, g)
Ash Hollow Cave, Neb. (Champe, 1946, Pls. 10, 11, 12, 13 and p. 39)
Limon, Colo. (personal collection. Upper Republican)
Pecos, N. M. (Kidder, 1932, Fig. 19, a-e)
Caves, Great Salt Lake, Utah (Steward, 1937, Fig. 42, e, k, m; Fig. 28, a-k)
Southcentral Oregon (Kressman, Williams and Krieger, 1940, Fig. 17)
Danger Cave, Utah (levels II-V, person observation, University of Utah collection)
Southern California (Rogers, 1939, Pl. 7, d, e)
Ventana Cave, Ariz. (Haury, 1950, Fig. 36, e, f)
Big Bend, Texas (Kelley, Campbell and Lehmer, 1940, p. 32)
Sandia Cave, N. M. (Hibben, 1941, Pl. 8)
Castle Park, Colo. (Lister, 1951, Fig. 20) Levels 2, 3, 7.
Durango, Colo. (Basketmaker II, personal observation, collection of Earl Morris)
Tabeguache Cave, Colo. (Hurst, 1944, Pl. III)
Concho, Ariz. (Wendorf and Thomas, 1951, Fig. 49)



e - UNKNOWN SOURCE, BROWN FLINT
f - BRIDGER FORMATION, WYOMING

Figure 38

COMMON
CANYON TO ALPINE, MOSTLY P&J

WIDE TIME DISTRIBUTION

Snub-nose scrapers, flat, medium size

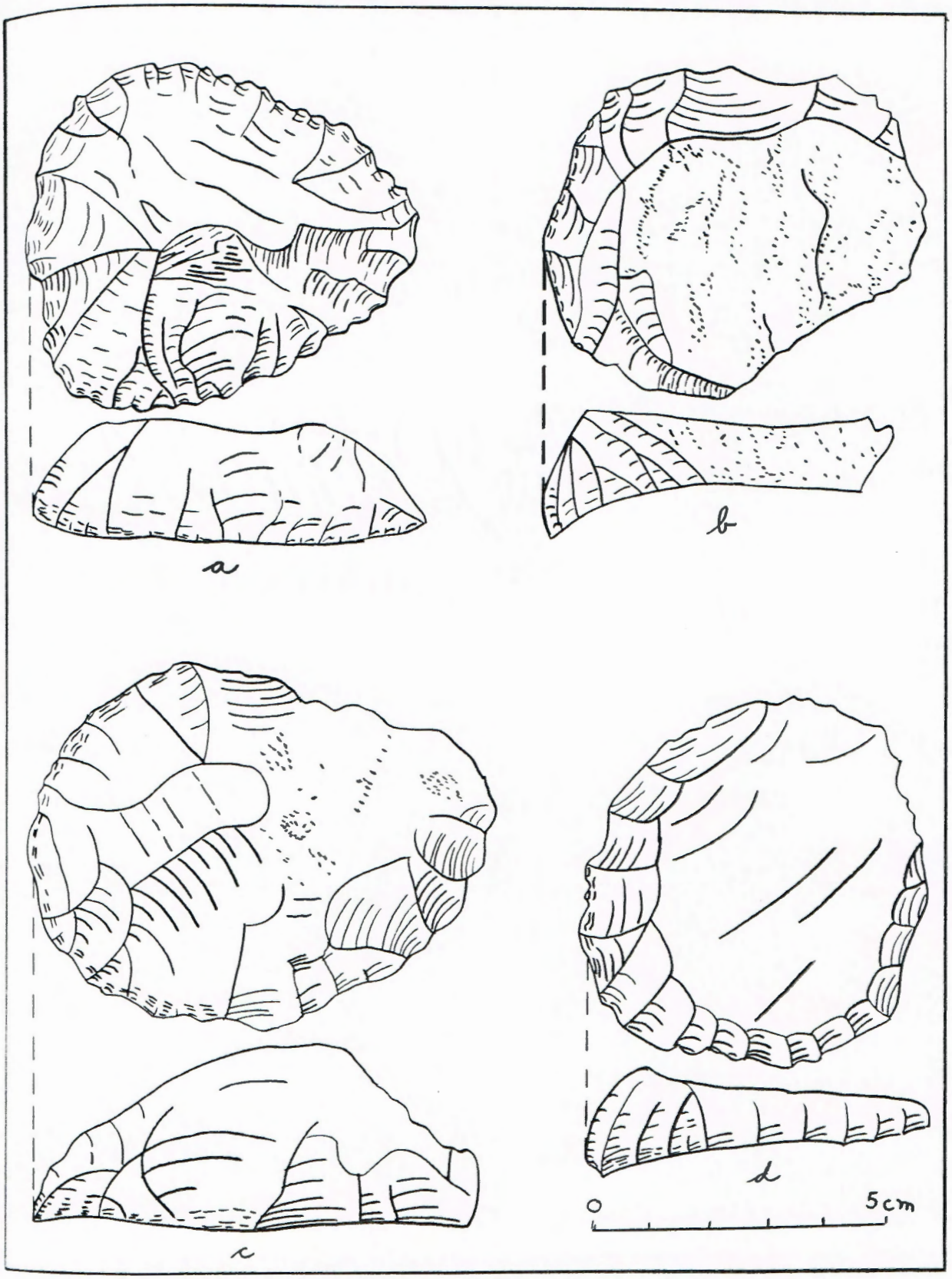
Description: One face convex and flaked to form low flat dome (a, c) or flat surface (b, d); other face is plane or slightly concave flake surface. Oval to round outline. Bulb of percussion of original flake commonly forms narrow end of scraper. Edge opposite bulb of percussion steeply flaked to 45 to 90 degree angle, forming working end; sides as well as ends carefully retouched on some specimens (a, d). Working edges have small use-scars. Materials used: locally available quartz and quartzite.

These grade into the flat core scraper-planes but are smaller, thinner and have a carefully retouched "nose".

Distribution in La Sal Mountain area: Common (22 specimens); 12 from pinon-juniper sites; 8 from canyon sites; 2 from mountain sites; 5 with pottery.

General distribution: Similar scrapers are reported in Basin and Range Province, in pre-pottery and pottery complexes, with highest frequency in pre-pottery complexes; not reported in Anasazi complexes. References are as follows:

Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pls. XXVI, XXIX)
Ventana Cave, Ariz. (Haury, 1950, Fig. 39, a-c)
San Dieguito Plateau, Calif. (Rogers, 1929, Pl. 29, c, e, f)
Danger Cave, Utah (Common in all levels, personal observation, University of Utah collection)



COMMON
CANYON TO ALPINE, MOSTLY P& J
PRE-POTTERY
NOT ANASAZI

Figure 39

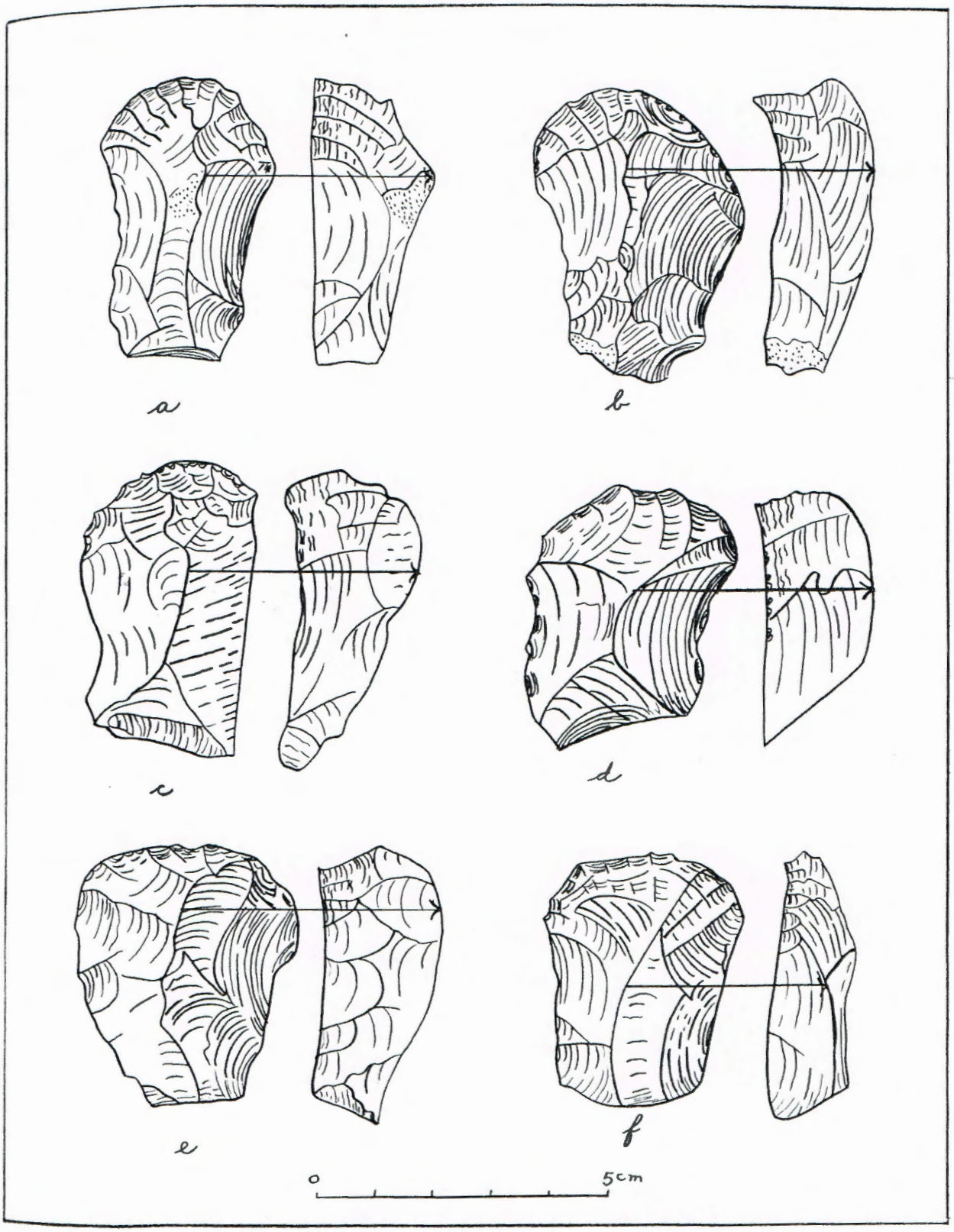
Snub-nose scrapers, keeled, small

Description: One face convex with high keel forming 90 degree angle at working end; other face is plane or slightly concave flake surface. Oval to elongate in outline; butt end formed by bulb of percussion or by transverse break. Length 30 to 50 mm., width 25 to 35 mm., height 15 to 25 mm. Fine secondary flaking on working edges, which on some specimens extend around sides; also use-scars on working edges. Materials used: flint and quartz; locally available. Crude specimens generally have less abrupt angle at working end.

Distribution in La Sal Mountain area: Common (20 well shaped, 12 crude specimens; crude specimens generally pointed at butt end and have less abrupt base); 10 from pinon-juniper sites; 6 from canyon sites; 4 from mountain sites; 4 specimens with non-Pueblo types of pottery and yellow utility ware like Awatobi ware.

General distribution: In the La Sal Mountain area these scrapers were probably carried in by Shoshoneans with plains contacts. Similar scrapers are reported from Plains, Basin and Range Province and northern Colorado Plateaus. Time range: early prepottery to Upper Republican complexes on Plains; prepottery and pottery, but more common without pottery, in southern Basin and Range Province; prepottery on northern Colorado Plateaus; not reported from Anasazi sites. References are as follows:

Signal Butte, Neb. (Strong, 1935, Pl. 24, Fig. 1, c and Pl. 25, Fig. 1, g)
Limon, Colo. (Upper Republican, personal collection)
Panhandle, Texas (Sayles, 1935, Pl. XXII, i)
Northcentral plains, Texas (Sayles, 1935, Pl. XXII, c)
Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXIX)
Ventana Cave, Ariz. (Haury, 1950, Fig. 36, c)
Big Bend, Texas (Sayles, 1935, Pl. XXII, f) Jumano.
Hells Midden, Castle Park, Colo. (84 to 96 inch layer, personal observation, University of Colorado collection)



COMMON
ALL AREAS, MOSTLY P4 J
SHOSHONEAN PLAINS
NOT ANASAZI

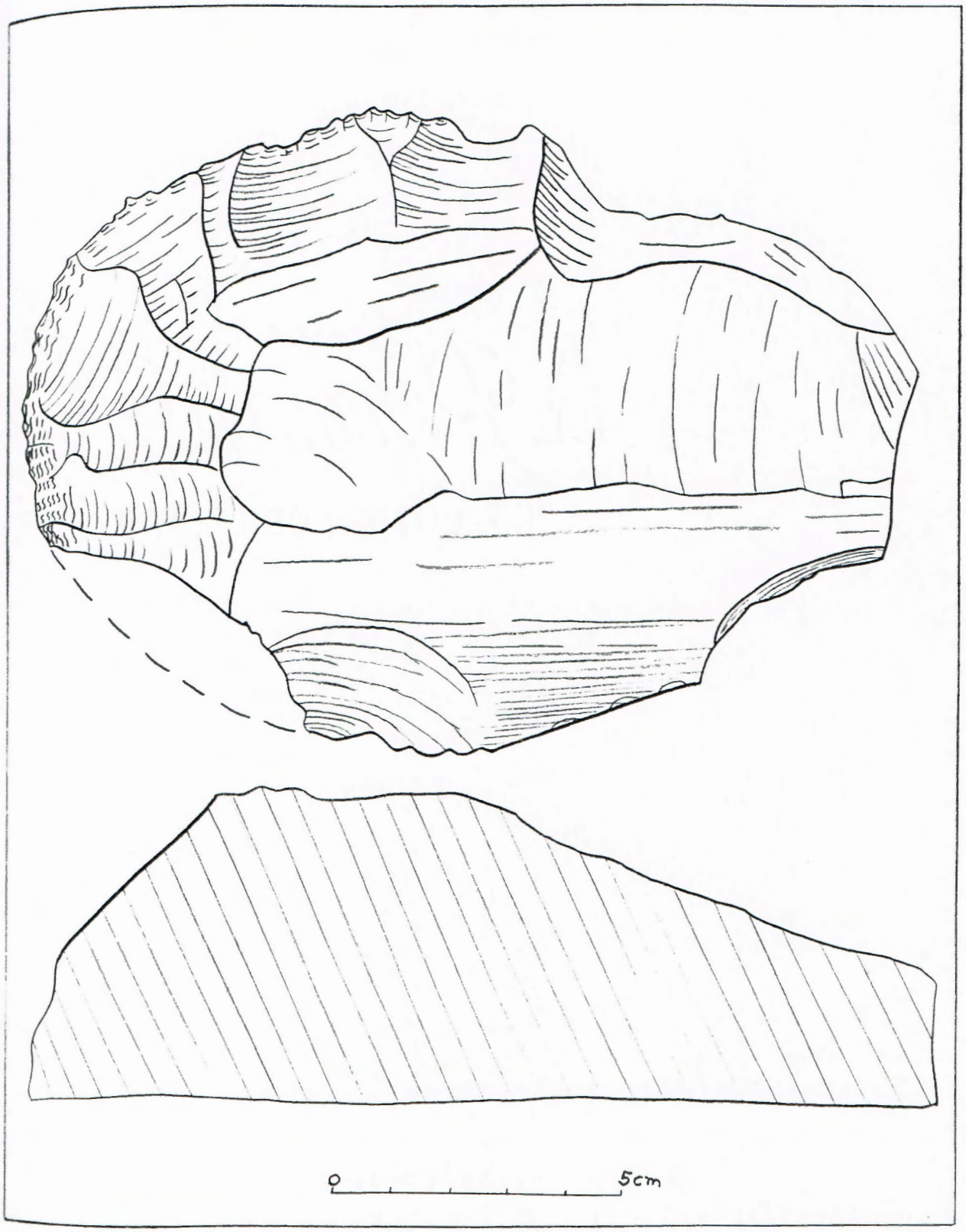
Figure 40

Snub-nose scrapers, keeled, very large

Description: Like small snub-nose scrapers except for size. Coarsely flaked; scars 2 by 3 cm. Use-scars on nose. Material used: quartz.

Distribution in La Sal Mountain area: Single specimen found at non-pottery plateau site, 24-51, west of mountain.

General distribution: Similar scrapers reported in southern Basin and Range Province at Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 9, a-c) and at Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXVI and p. 101.)



UNIQUE
NON POTTERY CANYON SITE

Figure 41

Spatulate end scrapers

Description: Plano-convex or slightly concavo-convex end scrapers; spatulate in outline; butt end formed by bulb of percussion. Angle at end is 30 to 45 degrees; sides are steeper (60 degrees) and also are flaked in most specimens (b). Little or no secondary flaking. Materials used: locally available quartz, dense quartzite.

Distribution in La Sal Mountain area: Common (16 specimens); 11 found at canyon sites; 5 at pinon-juniper sites; common with pottery.

General distribution: Not known. In the La Sal Mountain area these end scrapers are associated with traits believed to be Shoshonean.

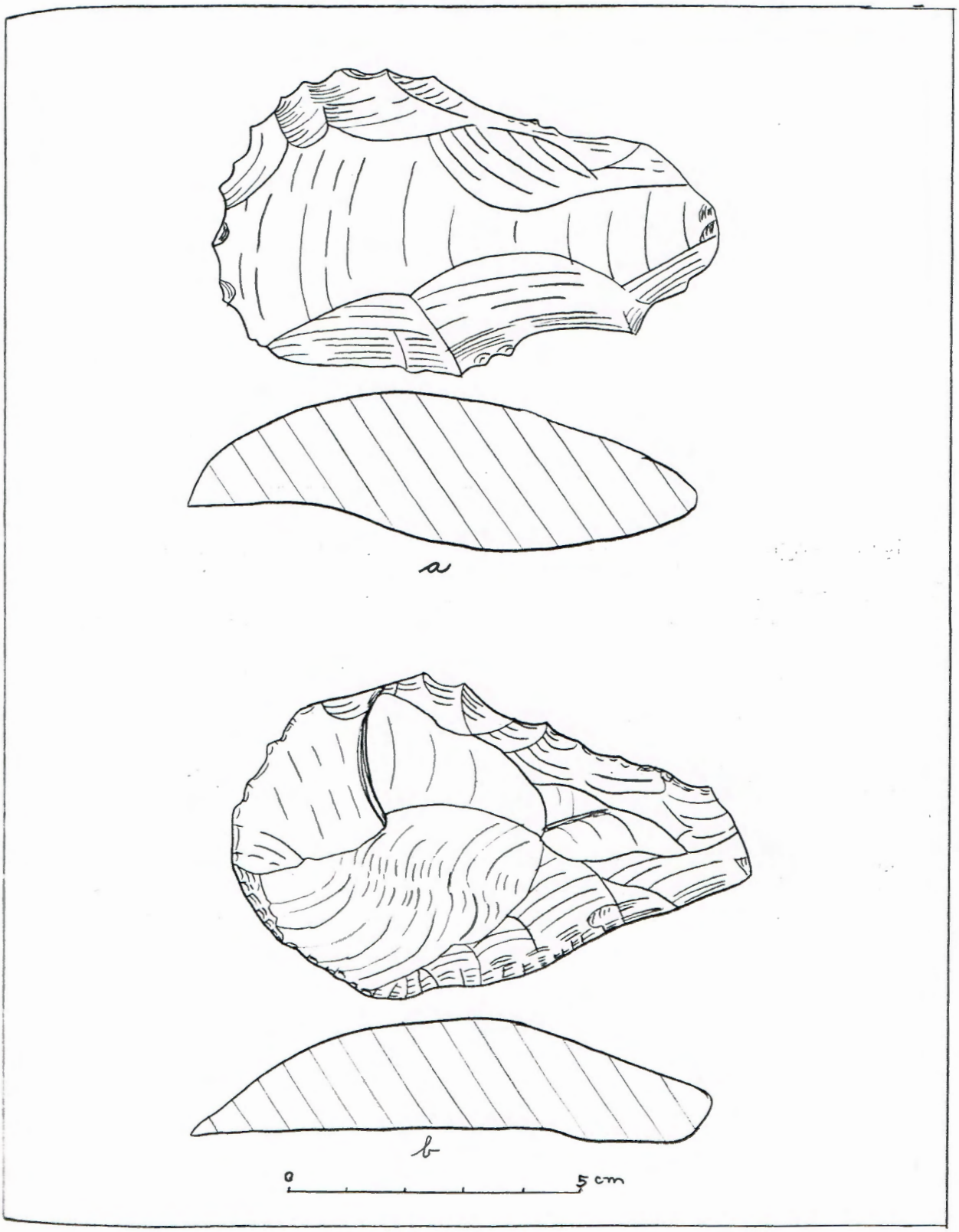


Figure 42

COMMON
CANYON TO P&J
W/ POTTERY
SHOSHONEAN(?)

Narrow and broad blade end scrapers

Description: Plano-convex end scrapers with narrow (a, b, c), or broad (d, e) blades. Narrow blade type elliptical and pointed in outline, generally with transverse break at butt end. Convex side slightly domed or has low keel. Cutting edge thin, sharp, and slightly up-turned. Most have primary flaking only; a few have secondary flaking. Sides as well as end have use scars. Materials used: quartz, some quartzite, one jasper; locally available.

Wide end scrapers (d, e) are similar except for broadly oval blade.

Distribution in La Sal Mountain area: Common (20 specimens narrow blade, 9 specimens broad blade); of narrow blade specimens, 9 were found at pinon-juniper sites, 7 at canyon sites; common with pottery.

General distribution: In the La Sal Mountain area these narrow and broad blade end scrapers are associated with traits believed to be early Fremont. End scraper like (a) reported at Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXXI, c).

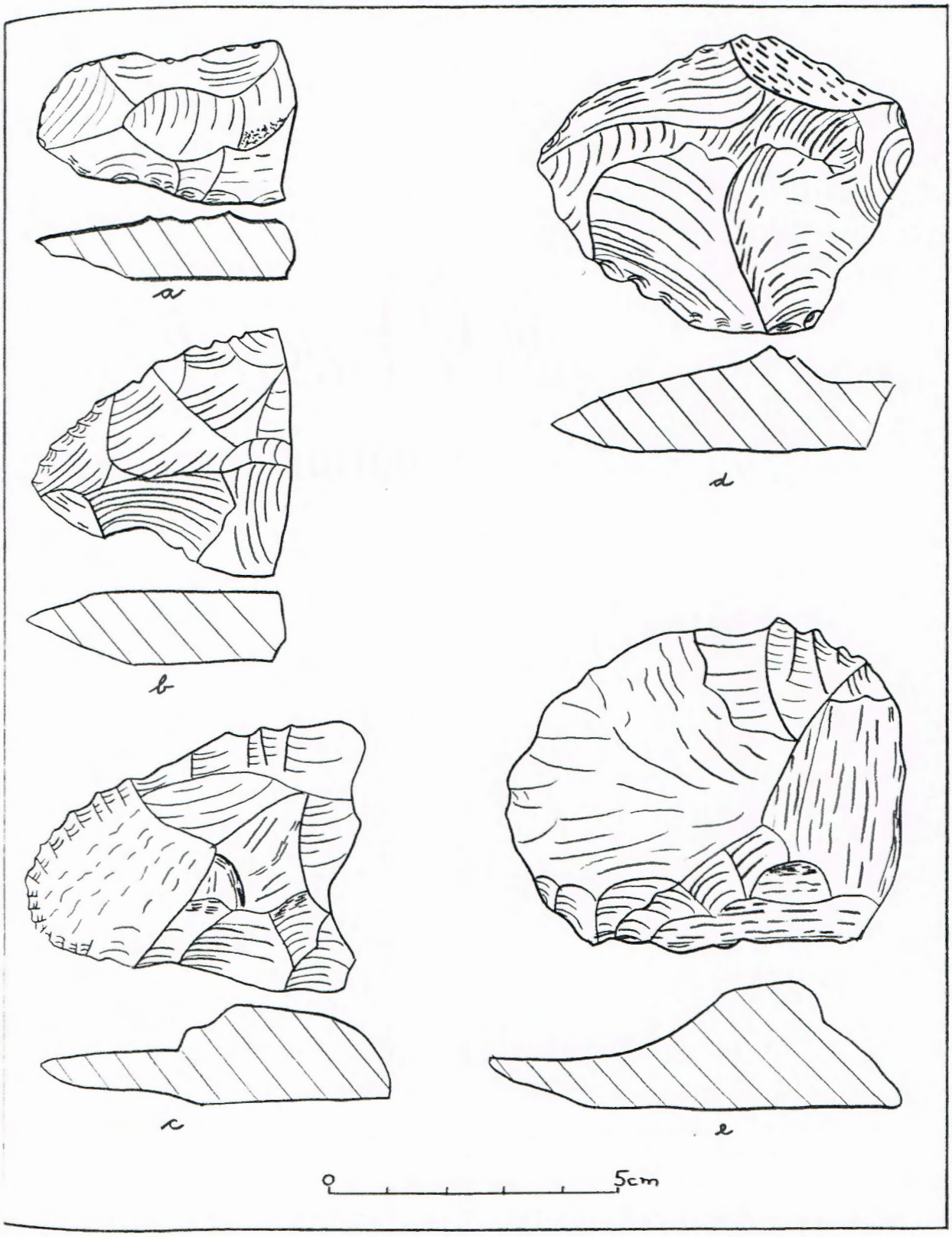


Figure 43

Elongate, keeled side scrapers

Description: Elongate concavo-convex flakes; prominent center keel; (e, f) are thick, strongly curved flakes; bulb of percussion at butt end; steep secondary flaking. Materials used: foreign to this area. (f) is black flint lightly mottled with blue opal, identical to that occuring in the Bridger formation in southern Wyoming. (e) is brown flint probably imported.

Similar elongate, keeled flakes suitable as side scrapers (c, d) lack secondary flaking but are nicked from use; made of material obtainable locally, quartz and quartzite. Small elongate keeled flakes, having a razor-sharp edge (a, b), also lack secondary flaking but are nicked from use; made of materials obtainable locally, mostly quartz. Many of both thick and thin keeled flakes have squared ends, as in (d).

Distribution in La Sal Mountain area: Type (e, f) rare (3 specimens); found at canyon sites without pottery. Type (c, d) common (24 specimens); 9 from mountain, 11 from canyon, 4 from piñon-juniper sites without pottery. Type (a, b) also common (37 specimens); 22 from canyon sites, 9 from piñon-juniper sites, 6 from mountain sites; common with pottery.

General distribution: Cruder flake scrapers (a, b, c, d) reported from Plains, Basin and Range Province, and northern Colorado Plateaus. Time range: Folsom through Upper Republican on Plains; Playa, Pinto Basin to Yuman and Shoshonean in southern Basin and Range; pottery and prepottery in northern Basin and Range; prepottery on northern Colorado Plateau. Distribution of (e) and (f) not known. References are as follows:

Lindenmeier site, Colo. (Roberts, 1936, Pl. 11, b, c, e, g)
Pecos, N. M. (Kidder, 1932, Fig. 21, g, h)
Southern Calif. (Rogers, 1939, Pl. 6, b and p. 30)
Pinto Basin, Calif. (Campbell and Campbell, 1935)
Ventana Cave, Ariz. (Haury, 1950, Fig. 41, d, e, f)
Southcentral Ore. (Cressman, Williams and Krieger, 1940, Fig. 18)
Danger Cave, Utah (all levels, esp. V; personal observation, University of Utah collection)
Abajo Mts., Utah (personal surface collection)
Castle Park, Colo. (depth 84 to 96 inches; personal observation, University of Colorado collection)

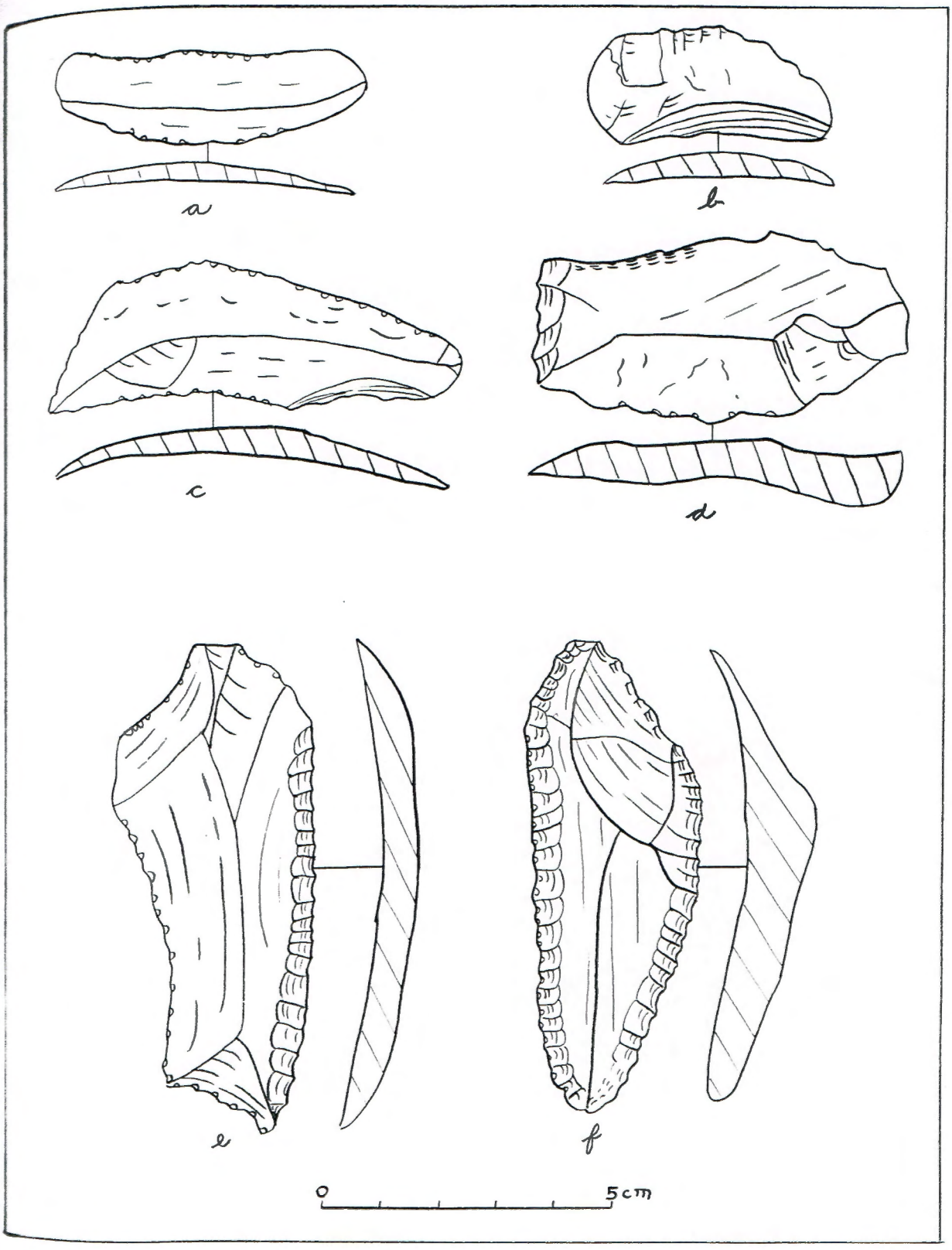


Figure 44

Oval side scrapers

Description: Thin, well made, oval, concavo-convex. Bulb of percussion at butt end. Primary flaking around perimeter, with fine secondary flaking on one or more edges to form either a side scraper (c) or a combination side and end scraper (a, b). Flaking confined to convex face except in (a) and (b) where concave face also has fine secondary flaking along one edge and end. Specimen (b) is a multi-purpose tool; the end is abruptly retouched to form a flat snub-nose scraper, and the edges form both a concave and convex scraping tool. Materials used: locally available, jasper, dense quartzite, flint. See following page for other varieties of oval side scrapers.

Distribution in La Sal Mountain area: Common (16 specimens); found at canyon and pinon-juniper sites, with and without pottery.

General distribution: Similar scrapers are reported from the northern Colorado Plateaus in the Fremont complex (Burgh and Scoggin, 1948, Fig. 18), and from the southern Basin and Range Province as San Dieguito (Rogers, 1929, Pl. 30).

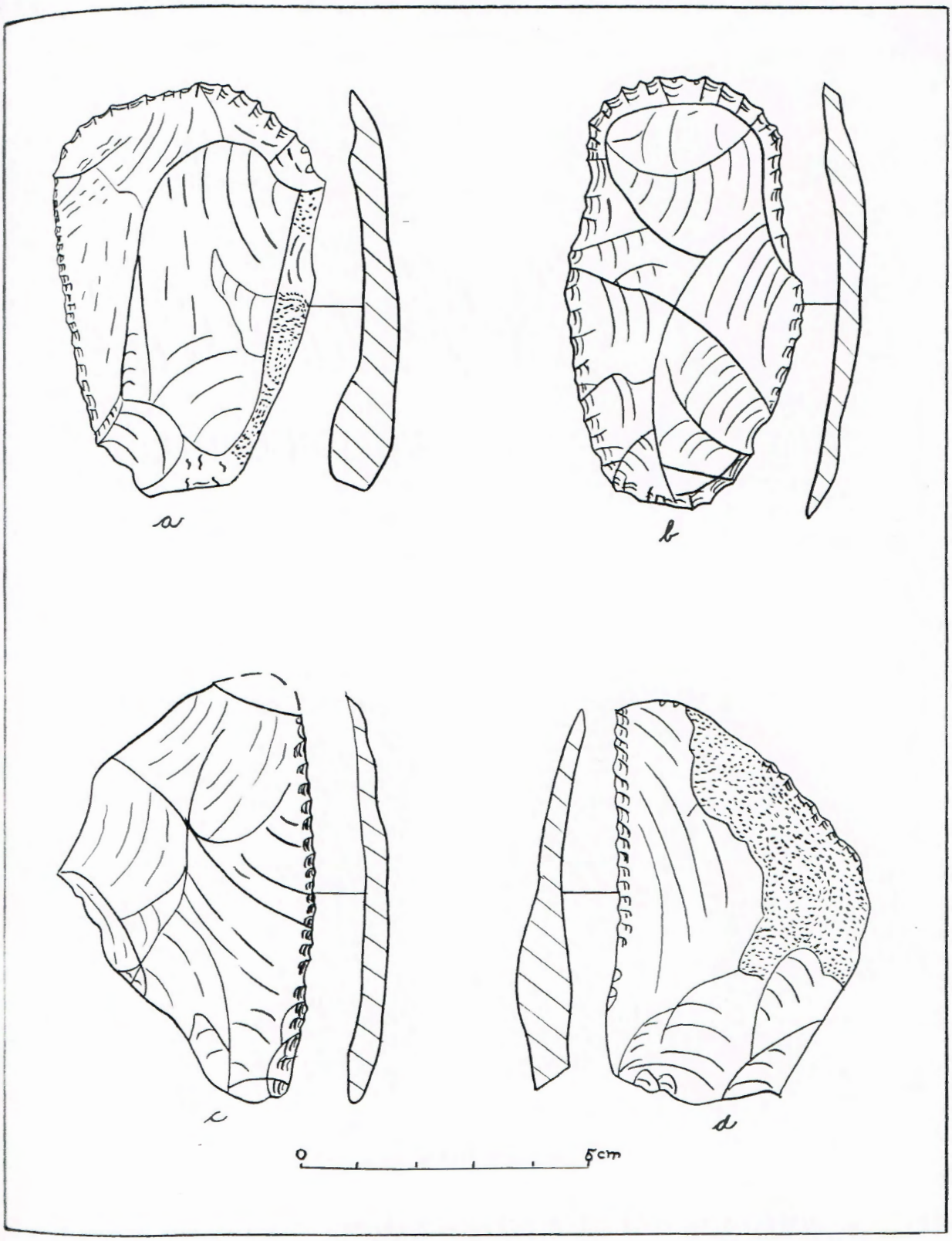


Figure 45

Oval side scrapers (continued)

Description: Small plano-convex or concavo-convex chips with sharp rounded cutting edges, generally nicked from use, but lacking secondary flaking. Materials used: locally available quartz, granular quartzite, flint, jasper.

Distribution in La Sal Mountain area: Small scrapers are common (44 specimens); found at canyon and piñon-juniper sites; common with pottery.

General distribution: Small scrapers reported at Pinto Basin, California (Campbell and Campbell, 1935, Pl. 10, e, f).

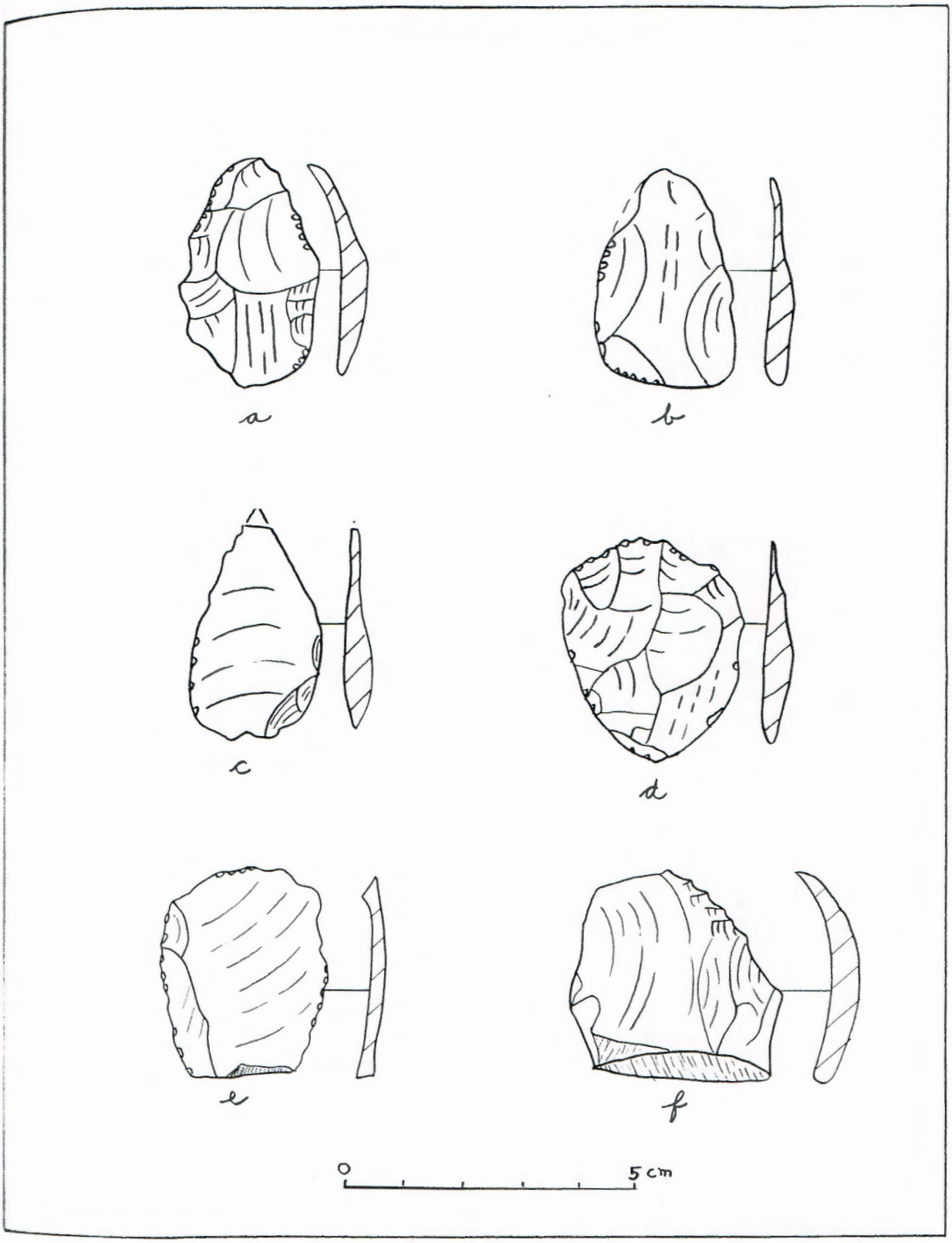


Figure 46

Side scrapers with concave cutting edge

Description: Crescent shape; one face convex with low keel, the other a plane or concave. Two sizes; one small with secondary flaking, the other medium size with little or no secondary flaking. Flaking confined to convex face except for (a) which has a little secondary flaking around ends on concave face, and (d) which has "nose" flaked on both faces. Many scrapers can be used on ends as well as sides. Materials used: locally available quartz, dense quartzite, granular quartzite, flint and jasper.

Distribution in La Sal Mountain area: Common (21 specimens); 8 from piñon-juniper sites; 11 from mountain sites; 9 from canyon sites; common with pottery.

General distribution: Similar scrapers are reported in the Basin and Range Province and on the High Plains. Time range: prepottery in southern and northern Basin and Range; Folsom on High Plains. References are as follows:

Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXXVIII, f)
Danger Cave, Utah (level III, personal observation, University of Utah collection)
Southeastern Oregon (Cressman, 1936, Fig. 13)
Lindenmeier site, Colo. (Roberts, 1936, Fig. 3)

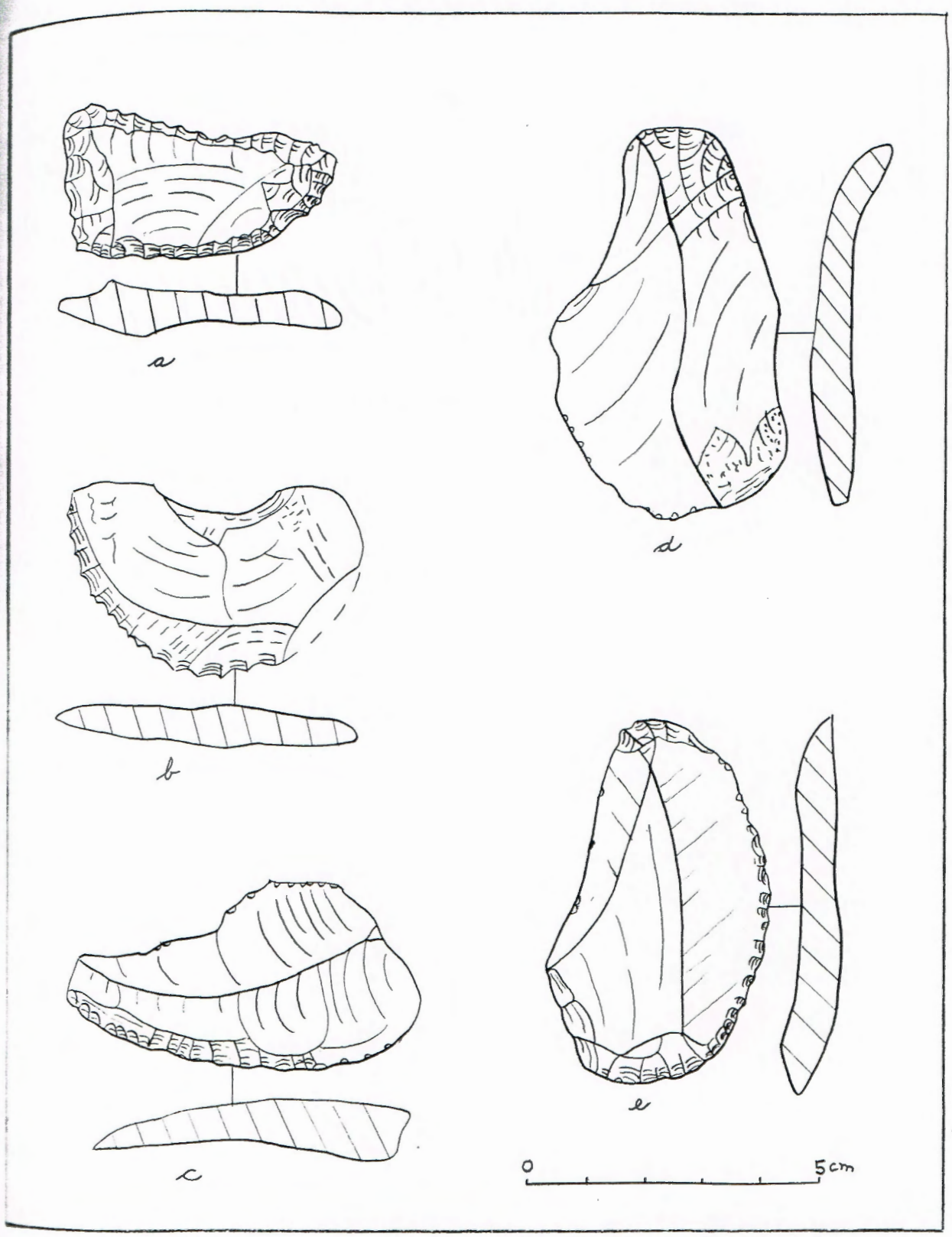


Figure 47

Flake side scrapers with doubly convex blades

Description: Moderately large to large flakes without secondary flaking; cutting edge is doubly convex, sharp and smooth. Most are made from smooth round cobbles or grinding stones and have as one face the smooth surface of the original stone, the other is the smooth flake surface; resulting edge is smooth. Some have cutting edge produced by intersection of two flake faces. Bulb of percussion large but removed from some specimens. Secondary flaking rare, but round edge commonly nicked from use. Materials used: locally available quartzite or quartzitic sandstone. See p. 114 also.

Distribution in La Sal Mountain area: Common (38 specimens); found at canyon, piñon-juniper sites; common with pottery.

General distribution: Similar scrapers are reported from the southern Basin and Range Province. Time range: Pinto-Gypsum, San Dieguito and early Yuman complexes in southern Basin and Range. References are as follows:

Southern California (Rogers, 1939, Pl. 11, b)
Early Yuman horizons (Rogers, 1939, p. 50)
San Dieguito plateau, Calif. (Rogers, 1929, Pl. 30)
San Miguel Caves near Uruvan, Utah (personal observation)

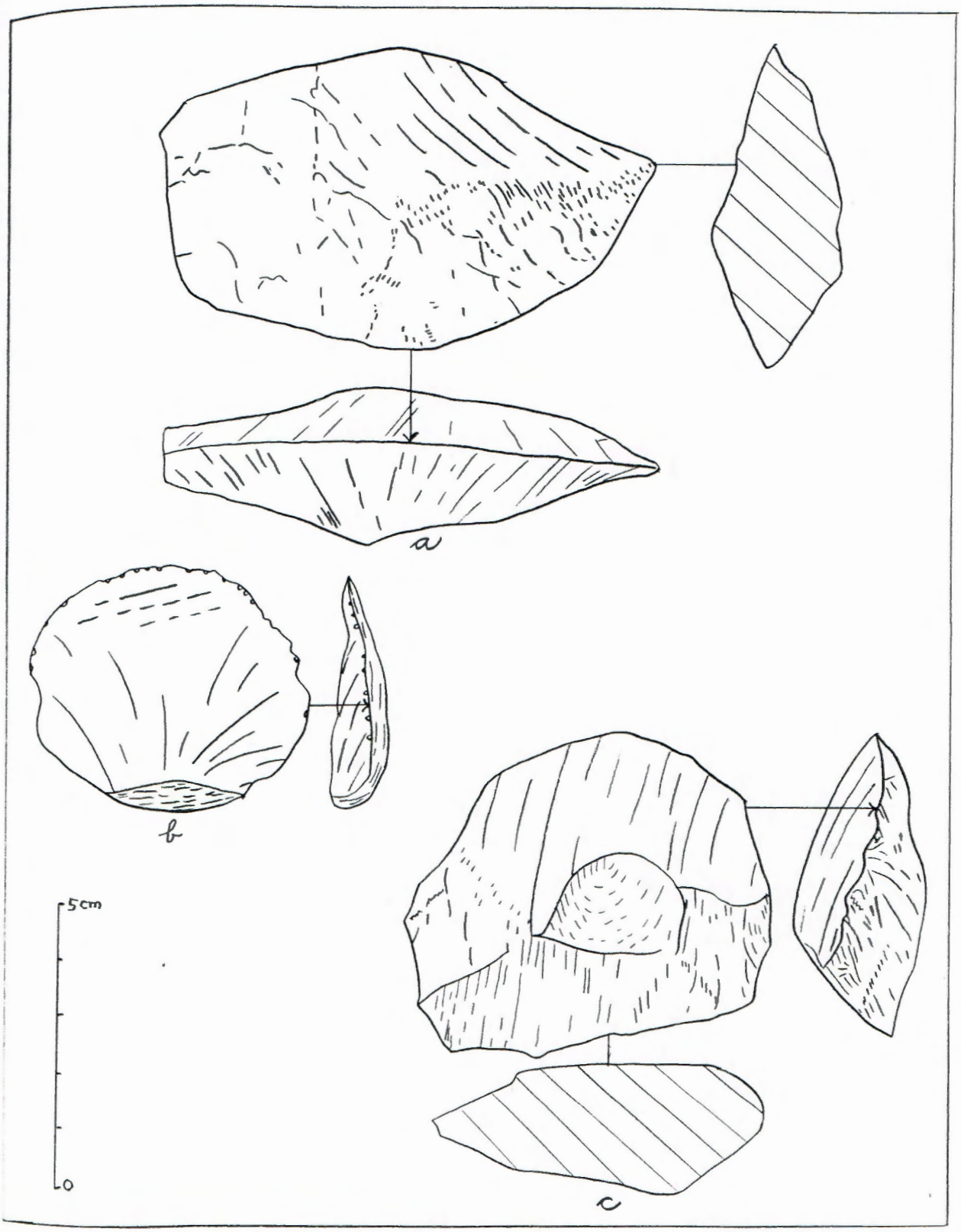


Figure 48

Flake side scrapers with doubly convex blades (continued)

Description: A large variety of the doubly convex flake side scraper. See p. 112 for description.

Distribution in La Sal Mountain area: Common (12 specimens); found at canyon sites; with and without pottery.

General distribution: Same as for moderately large variety described on preceding page.

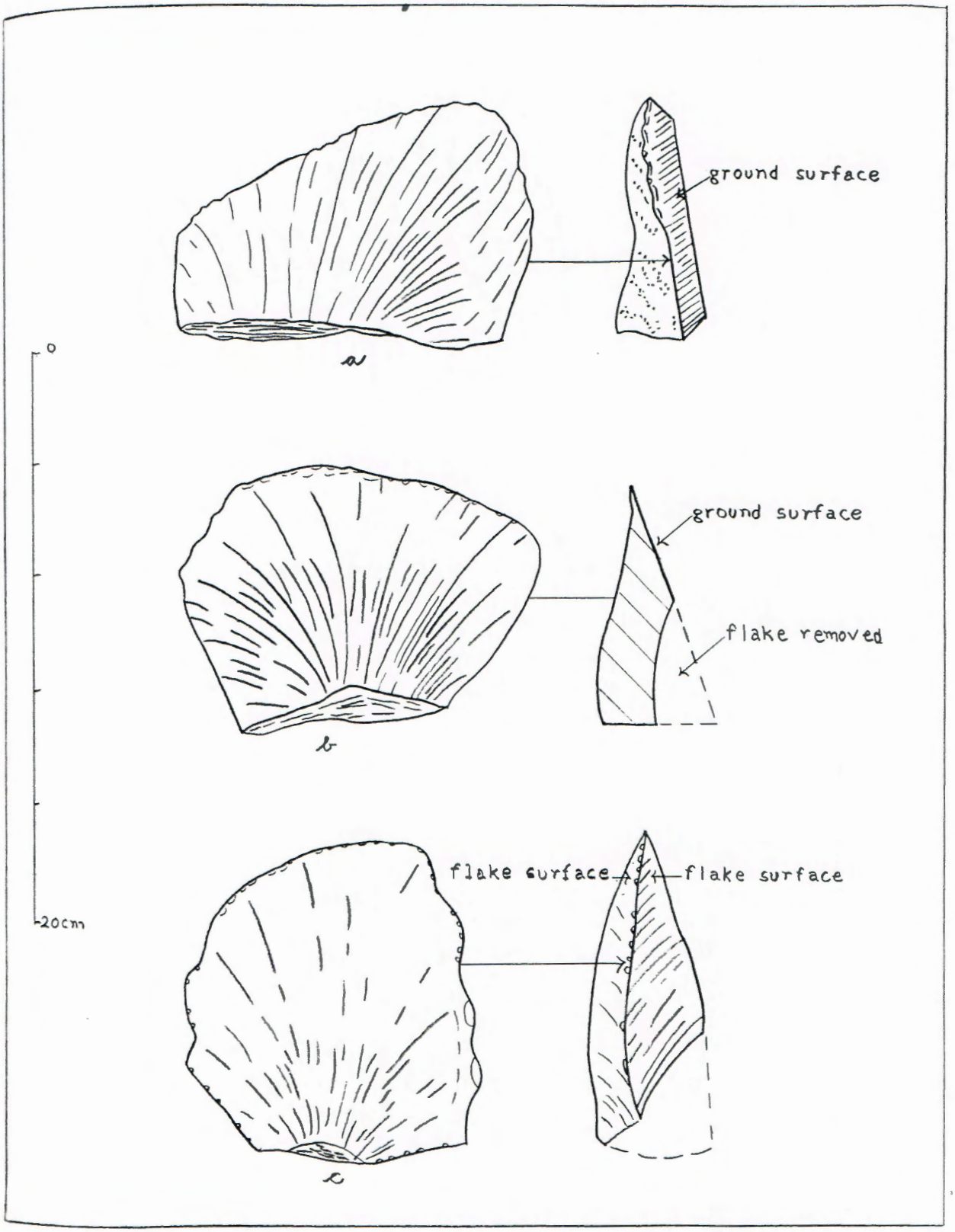

ground surface
a
0
ground surface
flake removed
b
flake surface
flake surface
20cm
c

Figure 49

Flake side scrapers with doubly convex blades (continued)

Description: See preceding pages. This variety has a straight (a) or concave (b) cutting edge; moderately large.

Distribution in La Sal Mountain area: Straight edge variety common (19 specimens); concave edge variety rare (5 specimens). Both varieties found at canyon sites; common with pottery.

General distribution: Reported from southern Basin and Range Province. Time range: Pinto-Gypsum complex and prepottery to late pottery levels. References are as follows:

Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 10, 1, a)
Ventana Cave, Ariz. (Haury, 1950, Fig. 37, e, f, g)

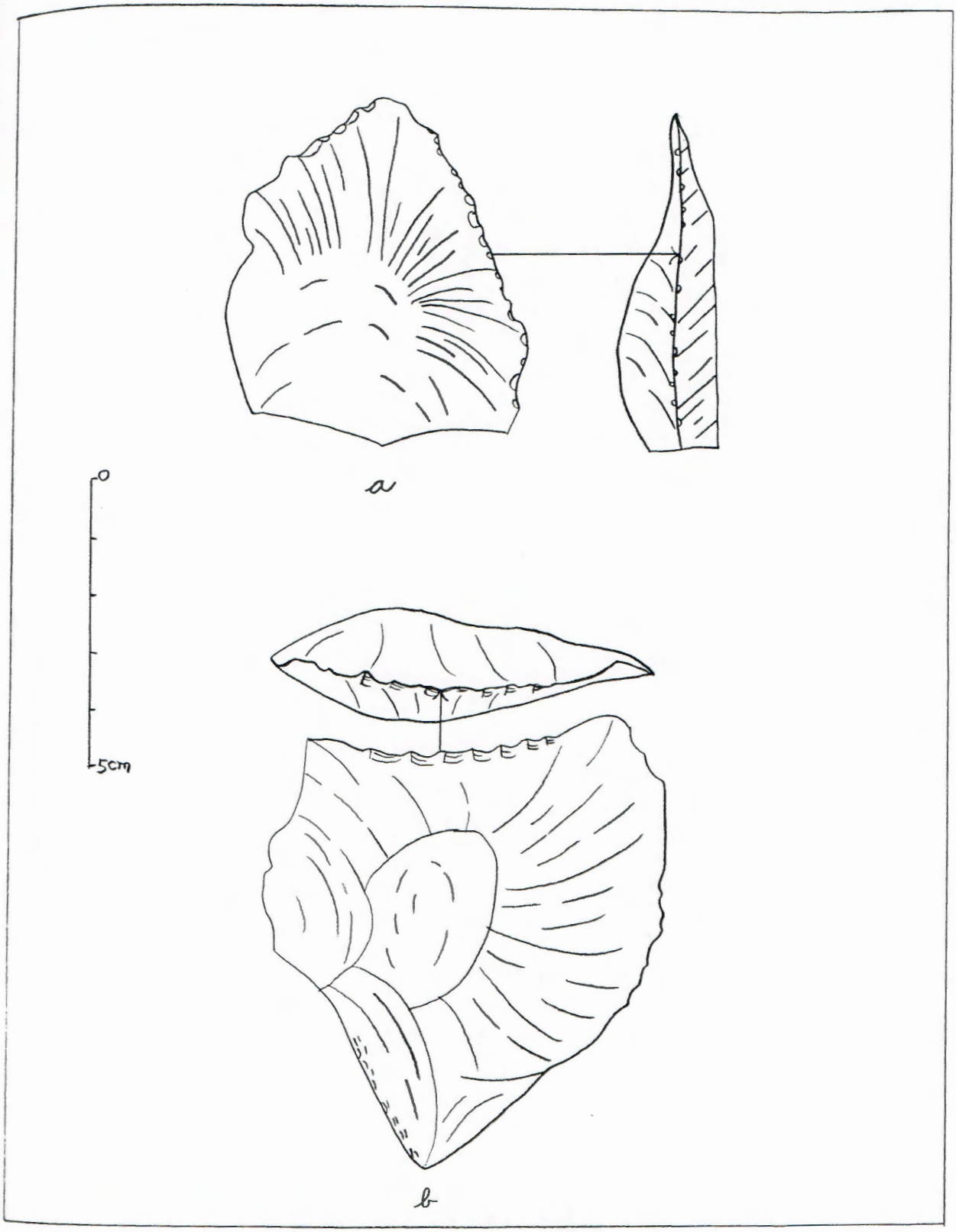


Figure 50

Cobble scraper planes

Description: Large plano-convex scraper planes made from cobbles which have one plane surface. Large flakes are removed from upper face of cobble at one end to form pointed (a) or round (b) sinuous scraping edge. Size ranges from moderately large to large. Weight of (b) 3 pounds. Materials used: mostly dense rock (pre-Cambrian), occuring in gravel deposits along the Colorado River.

These cobble scraper planes resemble cobble choppers except that the latter are doubly convex, not plano-convex. They also grade into the doubly convex flake scrapers made from cobbles except that the latter have a smooth, not sinuous, cutting edge.

Distribution in La Sal Mountain area: Fairly common (11 specimens); 10 from canyon; 1 from a pinon-juniper site; 6 with pottery and dwellings.

General distribution: In the La Sal Mountain area these cobble scraper planes are associated with traits believed to be representative of the Fremont culture. Also reported from lower basin of Colorado River in southern California in Malpais complex (Rogers, 1939, Pl. 4, d, e).

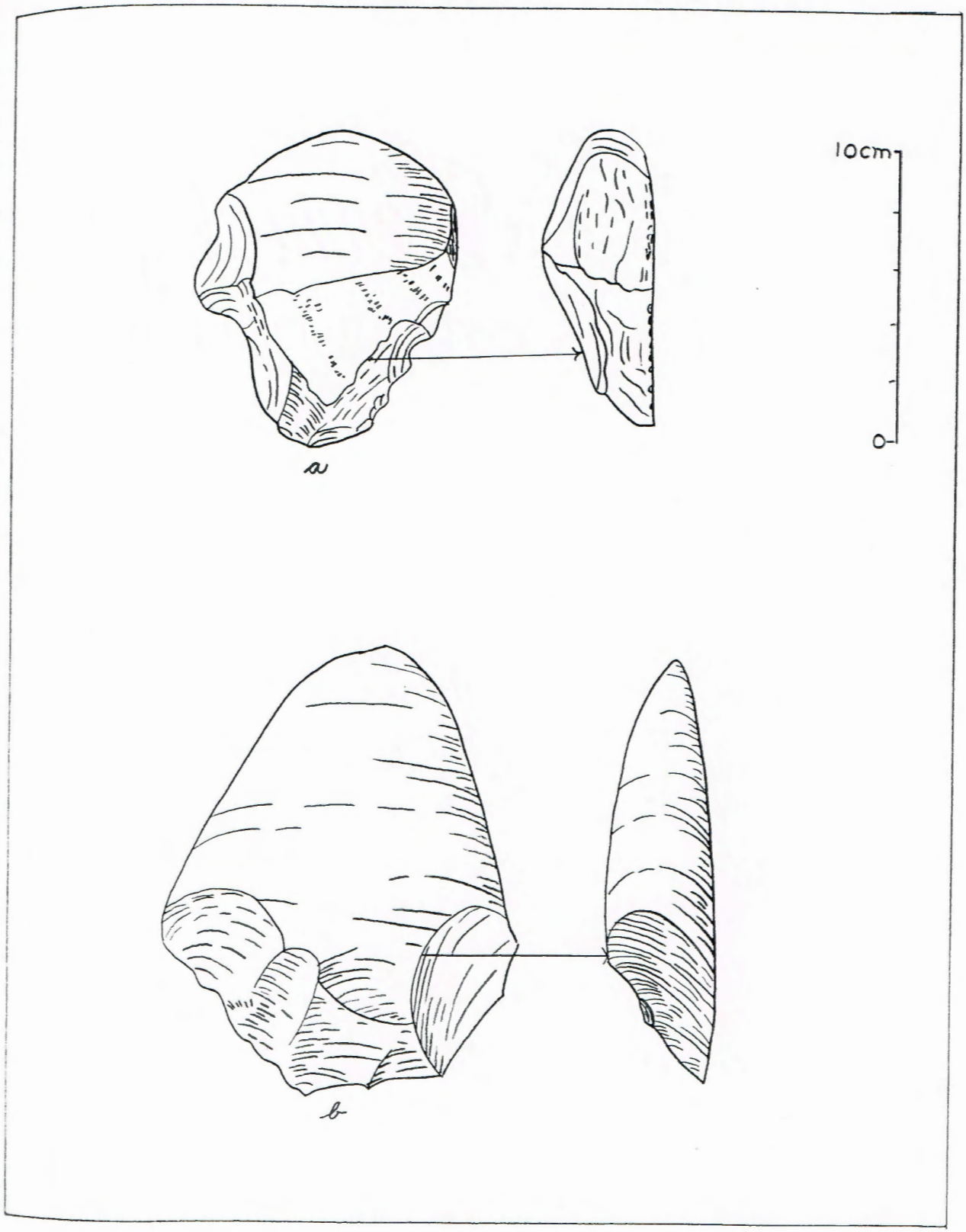


Figure 51

Core scraper planes

Description: Made from large thick cores or thick bulbs of percussion; base a plane, top also may be plane or it may be convex or even pointed. Outline round to oval; length 70 to 110 mm., width 50 to 90 mm., thickness 20 to 40 mm. Large flakes struck from convex face; this steep-flake trimming extends part or all the way around perimeter. Few specimens have secondary flaking. Edges nicked and shattered from use. Materials used: locally available quartz, quartzite.

Distribution in La Sal Mountain area: Fairly common (11 specimens); 7 found at canyon, 3 at piñon-juniper, 1 at mountain sites, with and without pottery.

General distribution: Similar planes are reported in Basin and Range Province. Time range: Pinto Gypsum and San Dieguito complexes and extending into late pottery-bearing levels in southern Basin and Range; prepottery in northern Basin and Range. References are as follows:

Southern California (Rogers, 1939, Pl. 11, c)
San Dieguito Plateau, Calif. (Rogers, 1929, Pl. 29, a)
Ventana Cave, Ariz. (Haury, 1950, Fig. 28 and p. 209)
Danger Cave, Utah (level III, personal observation, University of Utah collection)

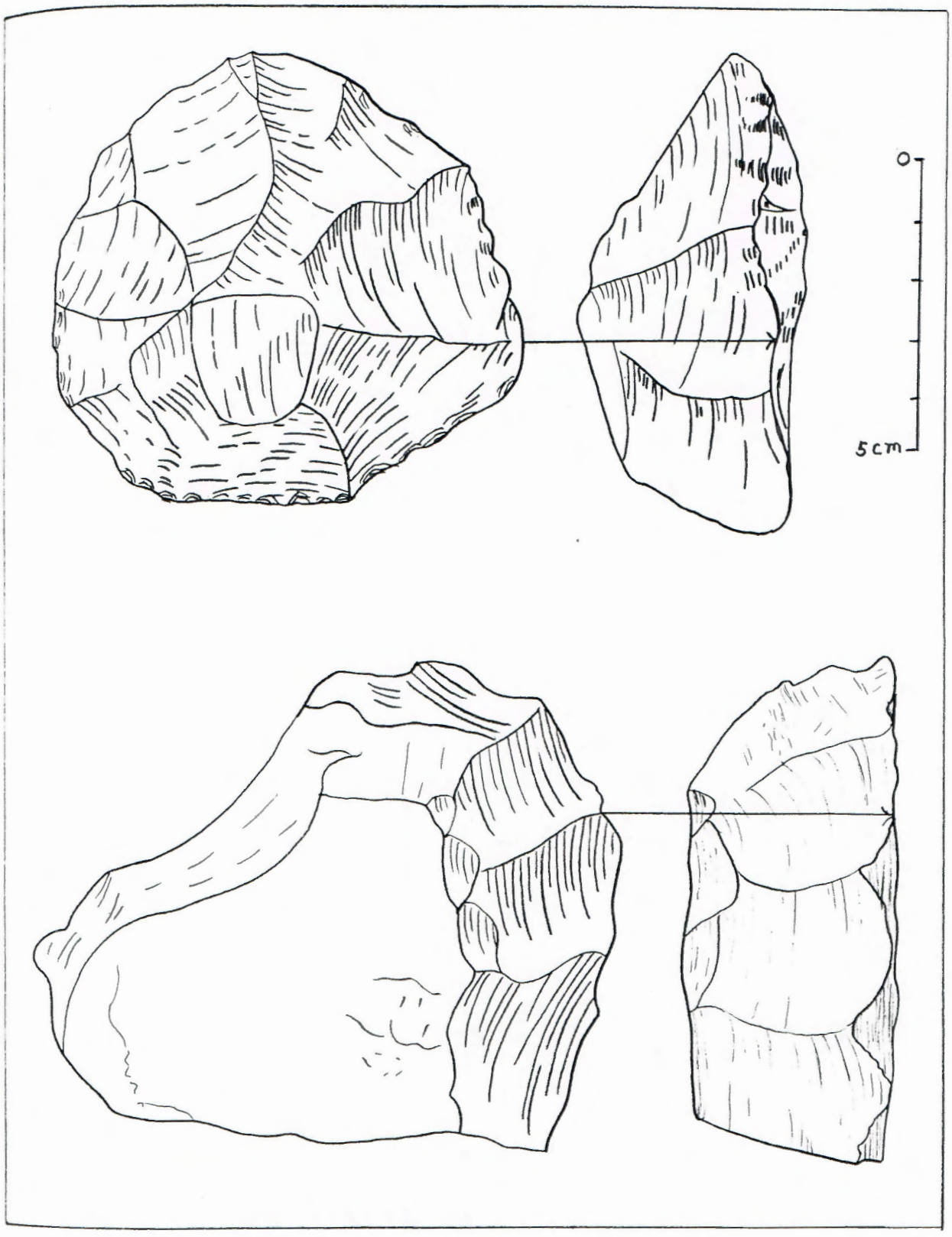


Figure 52

Disc scraper planes

Description: Thick flakes of three sizes: small (a, b), medium (c), and large (d, e, f, g). Large ones made by removing flakes from around the perimeter of bulbs of percussion, producing a sinuous edge (e). Resulting convex face may be conical (e, g); or the top of the cone may have been flaked away (d); or the original surface of the rock may remain (f). Edges show use-scars; a few specimens have secondary flaking along one edge. Most are high enough to serve as small push planes, and may be a small variety of the core scraper plane.

Medium size ones (c) are similar but thinner and smaller. Secondary flaking rare. Some have use-scars along one edge. Flake face on some specimens is concave rather than plane. Too thin to serve as push plane.

Small size (a, b) made from small flakes. A few are oval and pointed.

Materials used: mostly quartz, some quartzite and flint, locally available.

Distribution in La Sal Mountain area: Very common (40 specimens); 25 from canyon, 13 from pinon-juniper, 2 from mountain sites; common with pottery.

General distribution: Similar planes are reported from Basin and Range Province and northern Colorado Plateaus. Time range: prepottery and pottery levels in northern Basin and Range; Playa, and both prepottery and pottery bearing levels, with highest frequency in prepottery levels in southern Basin and Range; Fremont complex in northern Colorado Plateaus.

Large size:

- Southcentral Oregon (Cressman, Williams and Krieger, 1940, Figs. 17, 21)
- Danger Cave, Utah (all levels with greatest concentration in level III, personal observation, Univ. of Utah collection)
- Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXVII)
- Ventana Cave, Ariz. (Haury, 1950, Fig. 39, d-f)
- Southern Calif. (Rogers, 1939, Pl. 8, i, j; Pl. 12, i, and p. 51)
- San Dieguito Plateau, Calif. (Rogers, 1929, Pl. 29, b-f)

Medium:

- Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 14, h)
- Danger Cave, Utah (all levels; U. of Utah collection)
- Castle Park, Colo. (level 2, personal observation, Univ. of Colorado collection)
- Indian Creek, Utah (personal surface collection, with pottery)

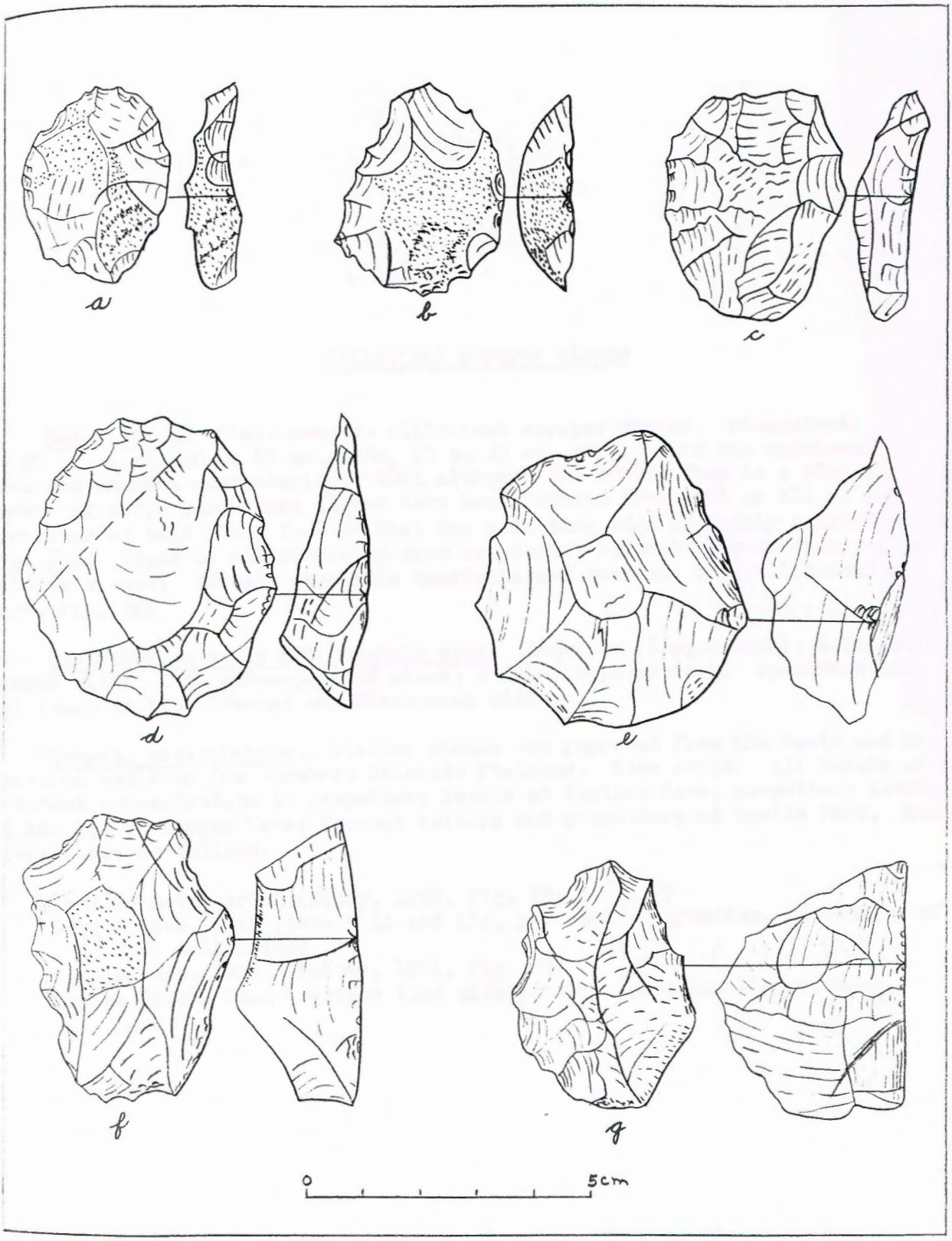


Figure 53

Elliptical scraper planes

Description: Plano-convex, elliptical scraper planes. Dimensions: 50 to 90 mm. long, 28 to 50 mm. wide, 10 to 20 mm. high. Half the specimens have the unusual characteristic that although the bottom face is a plane, a number of large percussion flakes have been removed from part or all of the perimeter of this plane face so that the resulting edge is doubly convex (b, Fig. 54). Edges of all specimens show use-scars; several show secondary flaking. Materials used: locally available quartzite and quartz. (cf. elliptical choppers, Fig. 60)

Distribution in La Sal Mountain area: Uncommon (6 specimens); 4 found at canyon sites; 2 at piñon-juniper sites; 2 found with pottery. Specimens like (b) found at late Fremont and Shoshonean sites.

General distribution: Similar planes are reported from the Basin and Range Province and from the northern Colorado Plateaus. Time range: all levels with greatest concentration in prepottery levels at Ventana Cave; prepottery levels II and III at Danger Cave; Fremont culture and prepottery at Castle Park. References are as follows:

Ventana Cave, Ariz. (Haury, 1950, Fig. 28, e, f, g)
Danger Cave, Utah (levels II and III, personal observation, University of Utah collection)
Castle Park, Colo. (Lister, 1951, Fig. 21)
Indian Creek, Utah (surface find with pottery, personal observation)

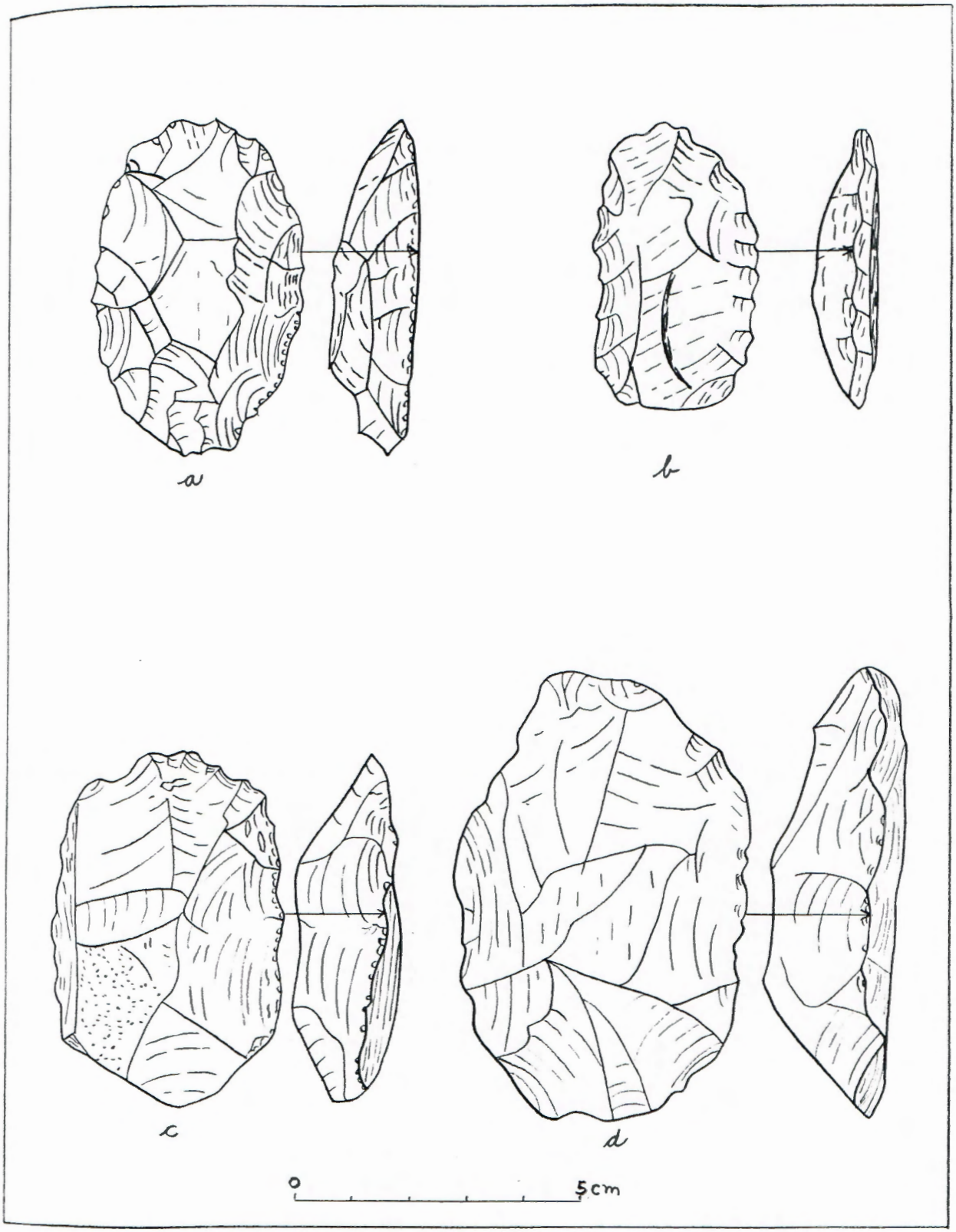


Figure 54

Pointed scraper planes

Description: Plano-convex scraper planes, made from thick flakes; oval and pointed and slightly asymmetrical in outline. Both convex and plane faces are flaked on some specimens as in elliptical scraper planes (Fig. 54); flaking on plane face generally is restricted to one edge, so that this edge is doubly convex and sinuous while the opposite edge is a plano-convex scraper edge. In most specimens this scraping edge is steeply flaked on the convex side, as in a snub-nose scraper. Secondary flaking rare. Materials used: mostly quartz, some jasper, locally available.

Distribution in La Sal Mountain area: Uncommon (6 specimens); 5 found at canyon, 1 at piñon-juniper sites; 3 specimens associated with pottery.

General distribution: In the La Sal Mountain area these pointed scraper planes are associated with traits believed to be representative of the late Fremont culture. Similar planes reported from southern Basin and Range as Chiricahua Amargosa, San Pedro and Desert Hohokam (Haury, 1950, Fig. 34, e, f and p. 223); also found at Castle Park, Colorado in the Fremont complex (personal observation, University of Colorado collection), and at Indian Creek, Utah (personal surface collection, with pottery).

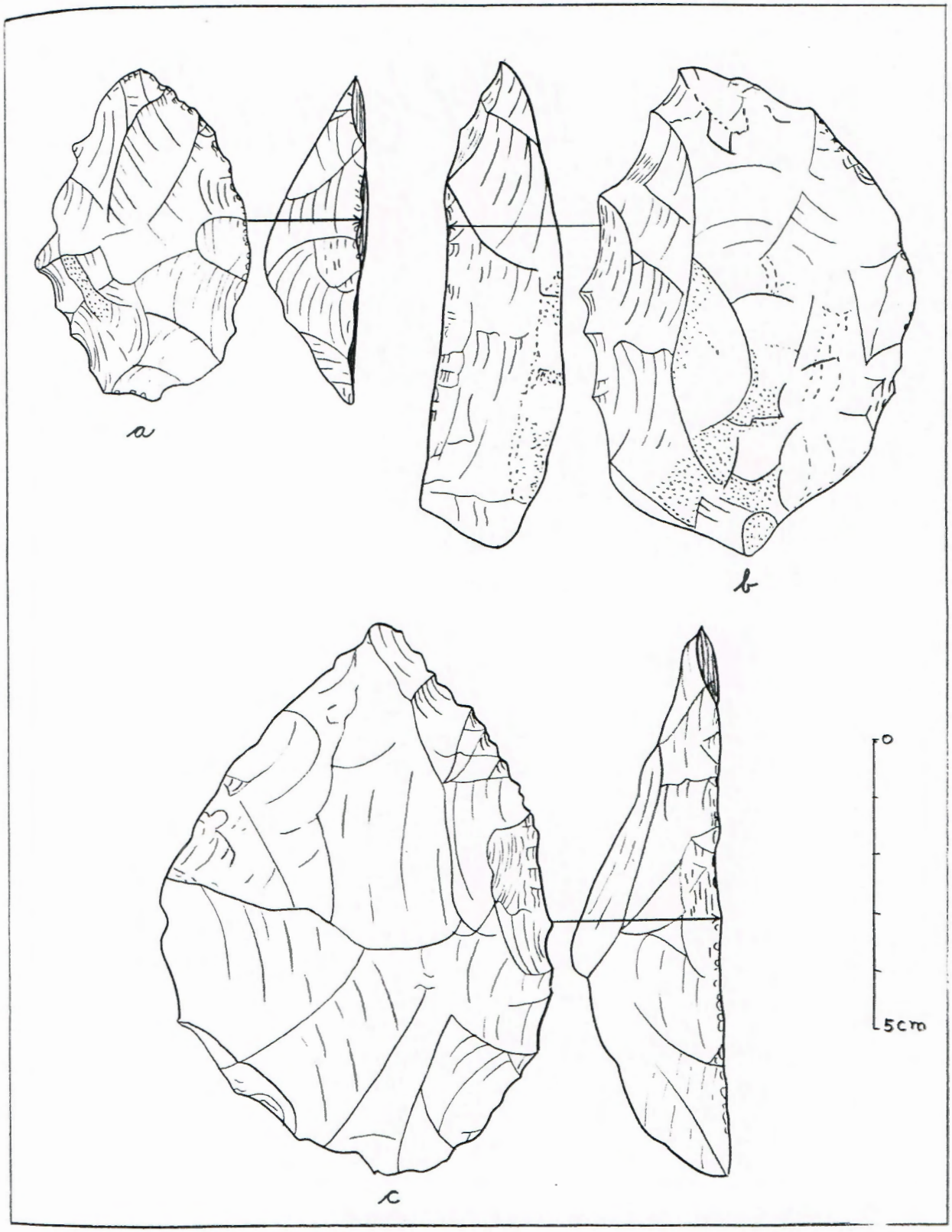


Figure 55

Choppers. Choppers are large, thick, doubly convex and made from cores or cobbles. They are crudely shaped, and coarsely and bifacially flaked; secondary flaking is rare. Flake scars are large and produce a sinuous irregular edge which is quite unlike the smooth even edge of finely flaked knives and projectile points. Because this class of objects is thick and flaked bifacially, the angle formed at the cutting edge is wide, usually about 45 degrees, producing a stronger, blunter implement than the knife, which has a sharp edge like that of a projectile point. The cutting edge of the choppers is rounded.

The choppers found in the La Sal Mountain area appear to have been hand implements. They are not grooved for hafting and their thickness would make them awkward to haft. Moreover, most of them have a comfortable hand-hold, either the smooth round end of the cobble choppers, a transverse break, or a blunt edge. Choppers have been classified on the basis of outline. The five different types recognized are as follows:

1. Cobble
2. Core
3. Disc
4. Elliptical
5. Pointed

One hundred and sixty-three choppers were collected. Most of them are made of quartz; this is the only material used at quarry sites. Quartzite, which breaks more readily but is easier to flake, was used for making some of the choppers at camp and dwelling sites. All materials used are obtainable locally.

Cobble choppers

Description: Generally shaped from river and stream cobbles; outline depends on shape of original cobble. One end only of cobble is flaked; other end left smooth and rounded. Flaking is bifacial, producing an irregular sinuous round cutting edge. Very large: diameter 10 to 20 cm., weight up to 4 pounds. These are crudest and, except for grinding stones, largest implements found.

Distribution in La Sal Mountain area: Common (18 specimens); 13 at canyon sites; 3 at piñon-juniper sites; 2 at mountain sites; common with pottery and Fremont culture dwelling sites.

General distribution: Similar choppers are reported from the southern Basin and Range Province. Time range: San Dieguito I, Pinto Basin, early and late Yuman, and Nevada Basketmaker and Pueblo. Probably more widespread but not reported in literature because of crudity. References are as follows:

Lower Colo. River Basin, Calif. (Rogers, 1939, Pl. 4, a, b, e, and p. 18)
San Dieguito plateau, Calif. (Rogers, 1929, p. 457)
Lower Colo. River, Calif. (Rogers, 1939, p. 19) late Yuman tribes
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 8, a, b, and p. 37)
Ventana Cave, Ariz. (Haury, 1950, Fig. 47, c, e; Fig. 116, and p. 534)
Overton, Nevada (Hayden, 1930, Fig. 12, a, b, c, e)
Coronado State Monument, N. M. (Toulouse, 1941, Pl. XXI)

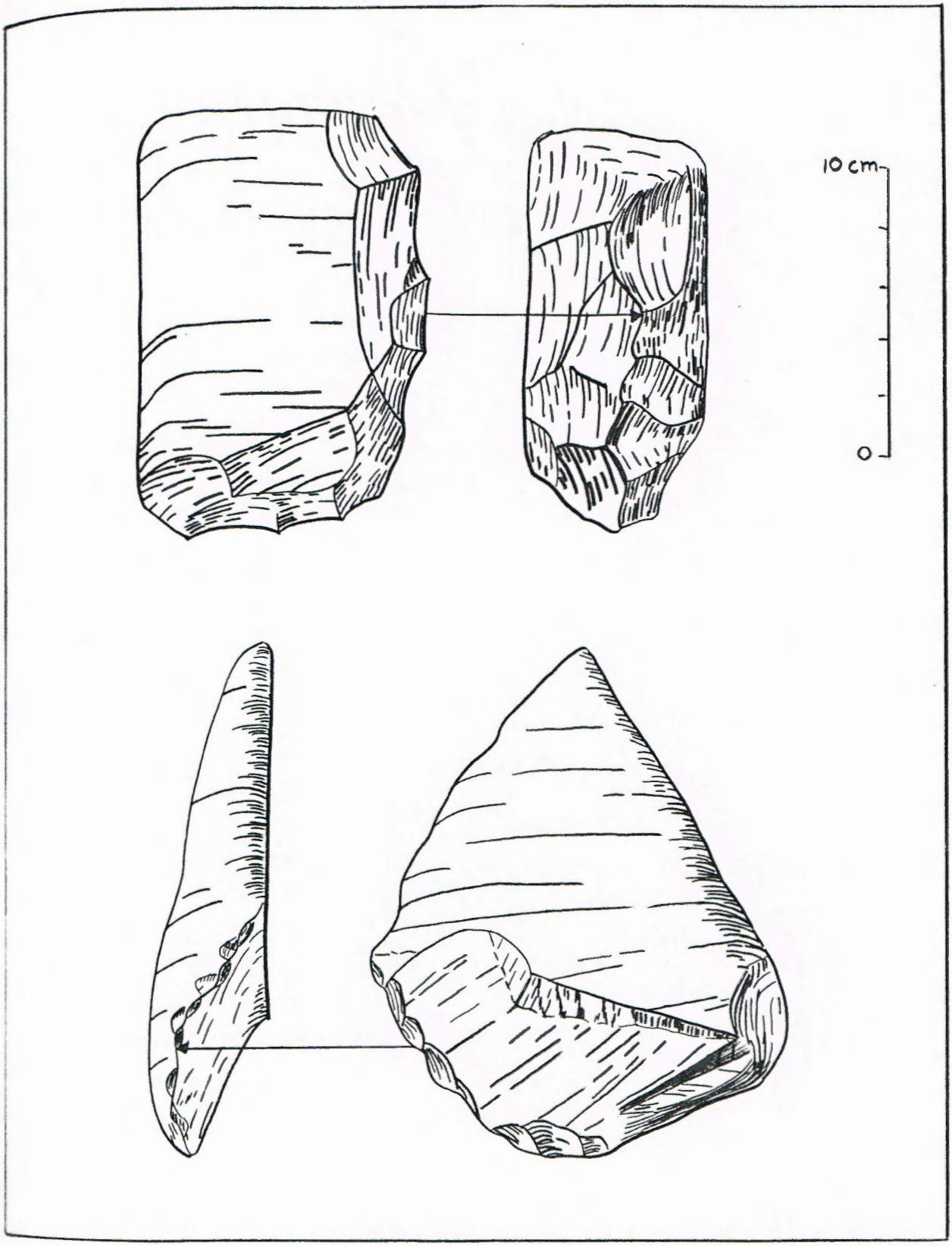


Figure 56

Core choppers

Description: Thick, doubly convex core tools with roughly semi-circular to almost circular outline; transverse break across one edge. Crude primary flaking around unbroken portion of perimeter. Cutting edge sinuous, irregular, sharp, round in outline. Two sizes: dimensions of large size (Fig. 57), diameter 50 to 100 mm., thickness 20 to 35 mm. Smaller size shown in Fig. 58. Use-scars common; slight secondary flaking on 2 specimens. Materials used: quartz, quartzite.

Distribution in La Sal Mountain area: Common (28 specimens); 12 from piñon-juniper sites; 14 from canyon sites; 2 from mountain sites. Very common with pottery.

General distribution: Similar choppers are reported in the Basin and Range Province and the Colorado Plateaus. Time range: prepottery in northern Basin and Range; Chiricahua-Amargosa in southern Basin and Range; prepottery on Colorado Plateaus. References are as follows:

Southeastern Oregon (Cressman, 1936, Fig. 11)
Danger Cave, Utah (level II, personal observation, Univ. of Utah collection)
Ventana Cave, Ariz. (Haury, 1950, Fig. 46 and p. 253)
Castle Park, Colo. (108 to 120 inch level, personal observation, University of Colorado collection)
Durango, Colo. (personal observation, collection of Earl Morris)
Concho, Ariz. (Wendorf, Thomas, 1951, Fig. 49, w)

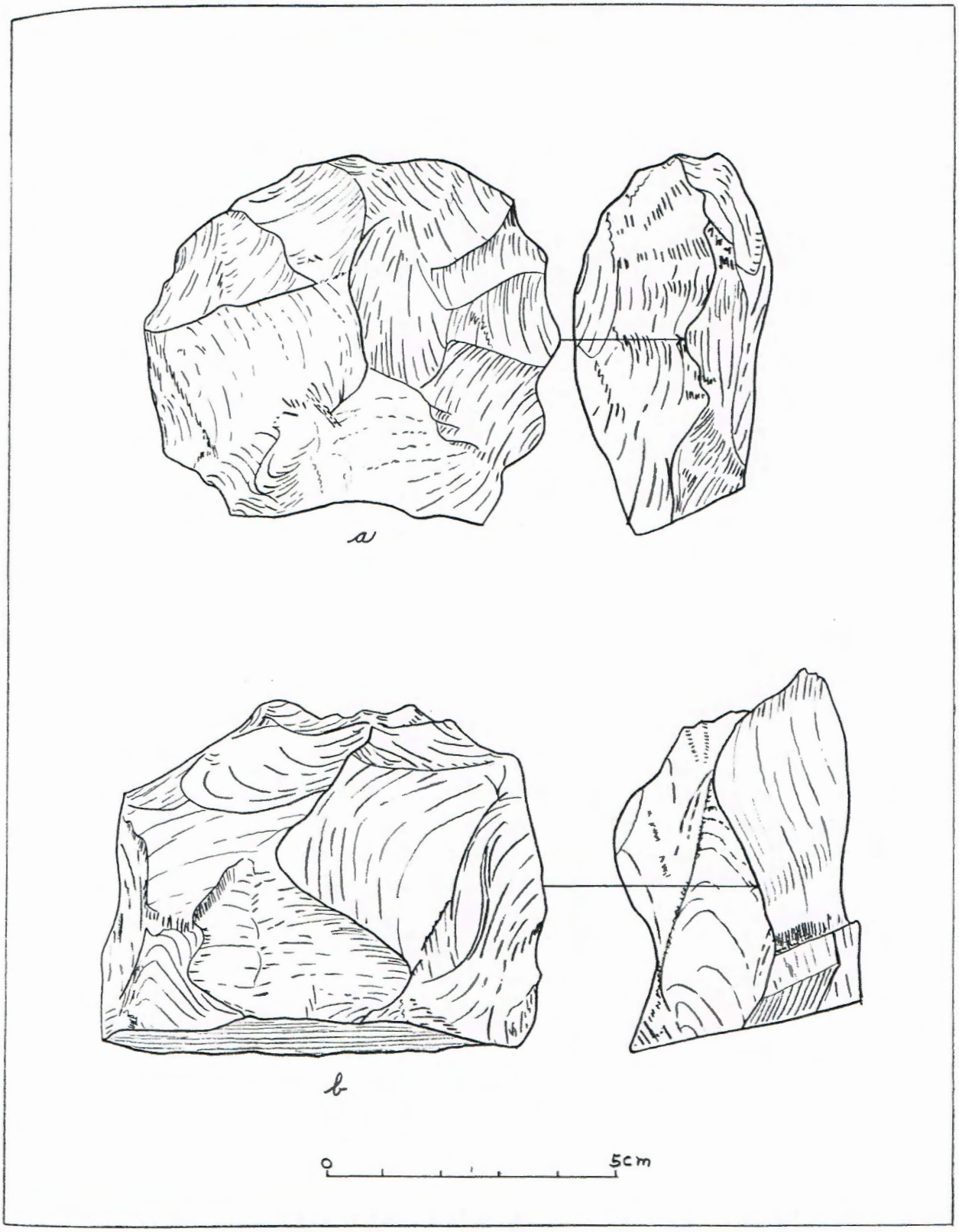


Figure 57

Core choppers (continued)

Description: Smaller, thinner variety of large core chopper described on p. 132. Also semi-circular in outline owing to transverse break. Diameter 30 to 50 mm., thickness 10 to 20 mm. Coarse primary flaking around unbroken edge; no secondary flaking; use-scars on edges of some specimens. Materials used: quartz and quartzite.

Distribution in La Sal Mountain area: Common (40 specimens); found at canyon sites only; six specimens with pottery.

General distribution: Similar choppers are reported from Tolchoco pre-pottery focus along Little Colorado in Arizona (Bartlett, 1942, Fig. 2, c) and at Castle Park, Colo. (24 to 36 inch level, personal observation, University of Colorado collection).

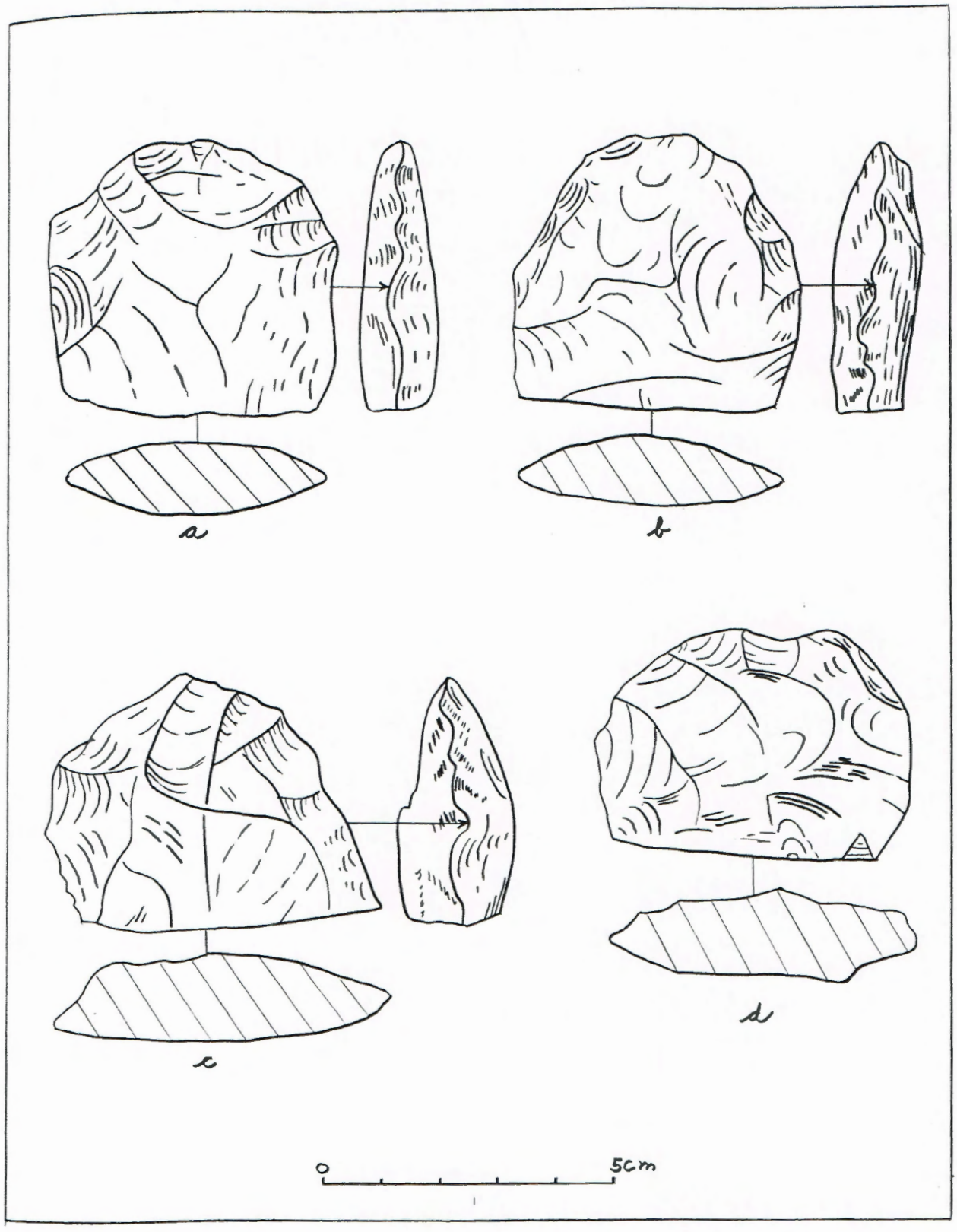


Figure 58

Disc choppers

Description: Wide and thick, oval to round in outline. Dimensions: length 50 to 110 mm., width 40 to 75 mm., thickness 20 to 40 mm. Coarse primary flaking entirely around perimeter on both faces; scars up to 20 mm. long by 30 mm. wide; no secondary flaking. Use-scars on some specimens. Materials used: quartz, some quartzite and flint.

Distribution in La Sal Mountain area: Common (40 specimens). Generally found at canyon sites, but also found at piñon-juniper and mountain sites. Common with pottery.

General distribution: Reported from southern Basin and Range and Colorado Plateaus. Time range: Playa and Pinto-Gypsum complexes, and from early to late time horizons (Ventana Cave) in southern Basin and Range; Fremont and pre-pottery complexes on Colorado Plateaus. References are as follows:

Southern Calif. (Rogers, 1939, Pl. 5, b; 11, d; 12, i)
Ventana Cave, Ariz. (Haury, 1950, Fig. 47, a, b, and p. 253)
Indian Creek, Abajo Mts., Utah (personal surface collection with pottery)
Caves near Uruvan, Colo. (personal surface collection with pottery)
Colorado River near Hite, Utah (personal surface collection with pottery)
Castle Park, Colo. (Lister, 1951, Fig. 23)

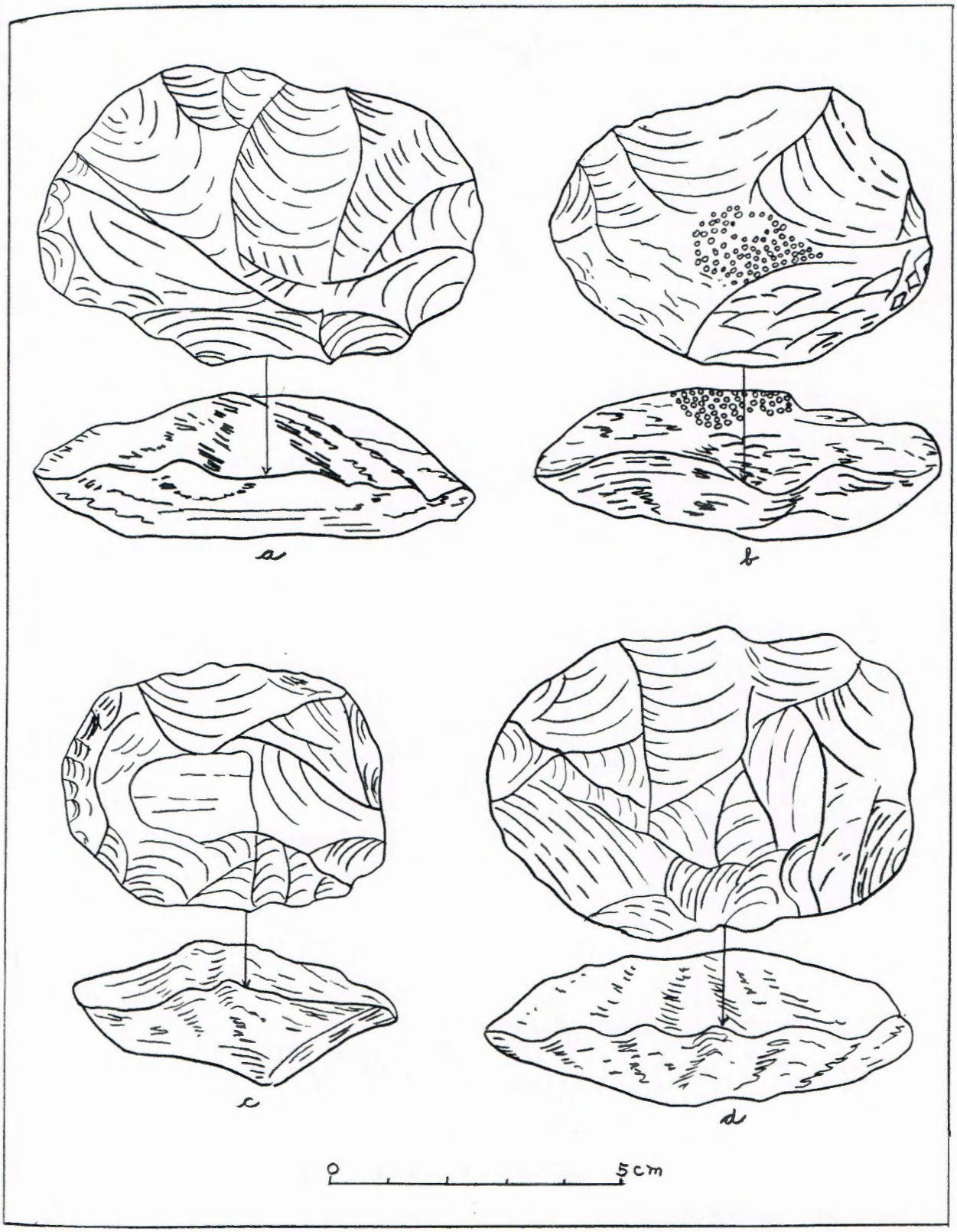


Figure 59

Elliptical choppers

Description: Narrow, elliptical in outline; thick. Doubly convex, but otherwise resemble elliptical scraper planes. Dimensions: 45 to 70 mm. long, 25 to 40 mm. wide, 15 to 25 mm. thick. Coarse primary flaking around perimeter; little or no secondary flaking; use-scars on most edges. Materials used: quartzite, quartz, flint.

Distribution in La Sal Mountain area: Common (17 specimens); 9 from canyon, 4 from pinon-juniper, 4 from mountain sites; common with pottery.

General distribution: Similar choppers are reported from the southern Basin and Range Province and from the Plains. Time range: Playa (San Dieguito II and III), Chiricahua-Amargosa II through Hohokam complexes in southern Basin and Range; prepottery time horizons on Plains. References are as follows:

Mchave Desert, Calif. (Rogers, 1939, p. 34 and Pl. 6, f)
Ventana Cave, Ariz. (Haury, 1950, Fig. 44, a, b)
San Dieguito Plateau, Calif. (Rogers, 1929, Pl. 31, c, d, and p. 462)
Signal Butte, Neb. (Strong, 1935, Pl. 25, Fig. 1, v)

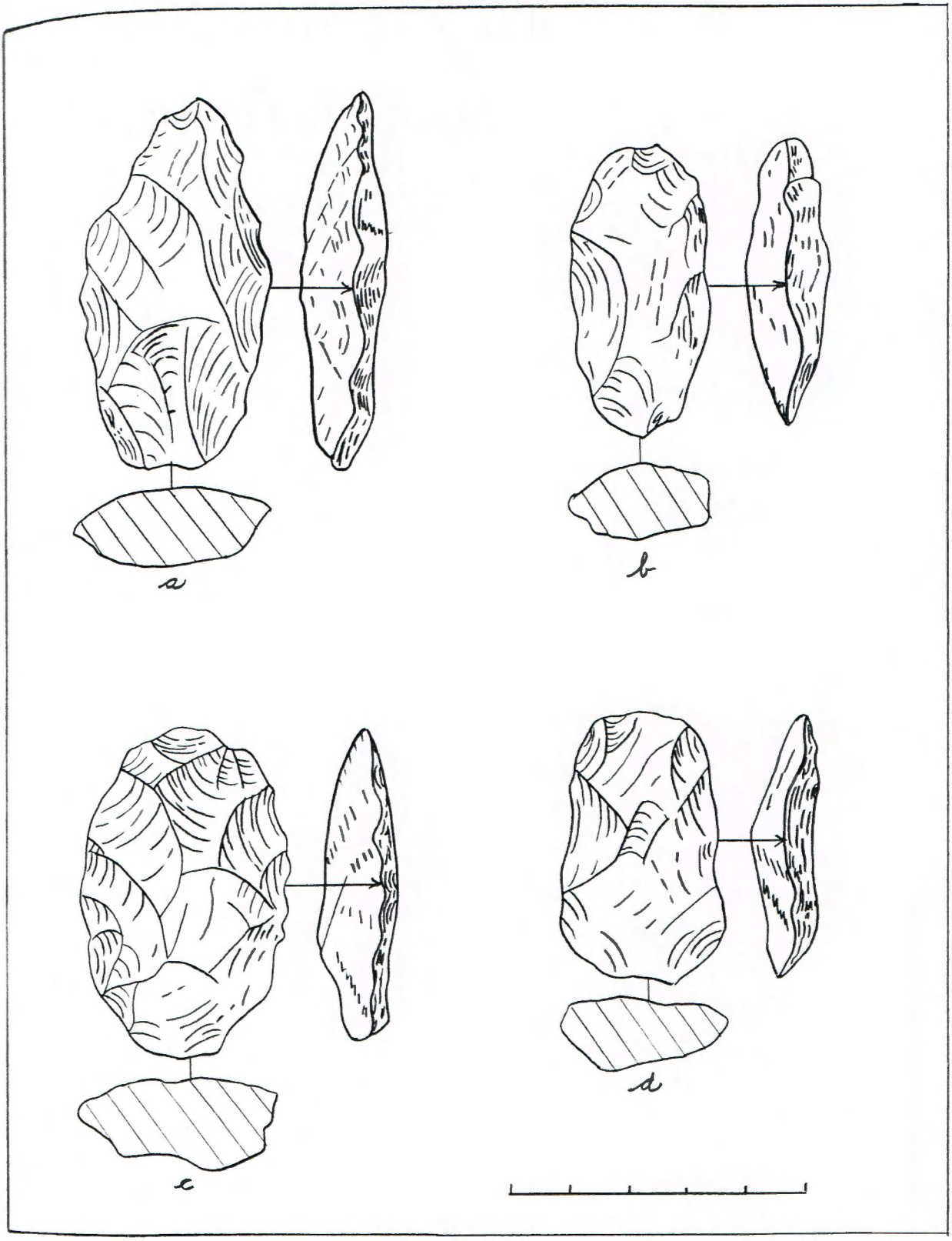


Figure 60

Pointed choppers or picks

Description: Oval and pointed; length 75 to 120 mm., width 50 to 70 mm., thickness 15 to 30 mm. Very coarse primary flaking; scars commonly 20 to 30 mm., on largest specimen 40 to 50 mm. No secondary flaking; use-scars on some edges. Several specimens plano-convex but plane side has large primary flaking on one or more edges producing a sinuous irregular cutting edge. Materials used: mostly quartz, some quartzite.

Distribution in La Sal Mountain area: Common (17 specimens); 5 from piñon-juniper, 12 from canyon sites; 1 specimen with pottery. These are very common at quarry sites on the plateaus above the canyons, altitude just below 6,000 feet. Not found at dwelling sites.

General distribution: Similar choppers are reported from the southern Basin and Range Province; from the southern Plains and southern Rocky Mts; and from the Colorado Plateaus. Time range: San Dieguito complex, Basketmaker and Pueblo (Nevada), all levels at Ventana Cave and nonpottery complexes (Big Bend, Texas) in southern Basin and Range Province; prepottery in southern Plains and southern Rocky Mts.; Tolchaco prepottery complex and Fremont complex on Colorado Plateaus. References are as follows:

Lower Basin, Colo. River, Calif. (Rogers, 1939, Pl. 7, c, and p. 33)
Gypsum Cave, Nev. (Harrington, 1933, Fig. 61 and p. 132)
Ventana Cave, Ariz. (Haury, 1950, Fig. 43, c, d)
Big Bend, Texas (Sayles, 1935, Pl. XIX, e)
Cerro Pedernal, N. M. (Bryan, 1939, Pl. 6, B and Pl. 9, A)
Abilene, Texas (Ray, 1929, pp. 7, 8 and Pl. 1, lower panel, 6, 20)
Burnt Rock Mounds, Texas (Jackson, 1938, Fig. 27, nos. 2, 3)
Edwards Plateau, Texas (Sayles, 1935, Pl. XIX, a)
Little Colo. River, Ariz. (Bartlett, 1942, Fig. 2, i, j)
Nine Mile Canyon, Utah (surface, personal observation, Univ. of Utah collection)
Castle Park Colo. (Burgh and Scoggin, 1948, Fig. 17 and p. 47). Burgh (p. 84) also reports presence of picks as follows:
  Caves in scutheastern Nevada (Wheeler, 1942)
  Tabeguache Canyon, Colo. (Hurst, 1940, 1941, 1942, 1943, 1944, 1945)
  Fremont River, Utah (Morss, 1931, and Leh, 1936)
  Diagnostic of Athapascans according to Huschers (Burgh and Scoggin, 1948, p. 79)
Birdshead Cave, Wyoming (Bliss, 1950, Fig. 58, bottom left)

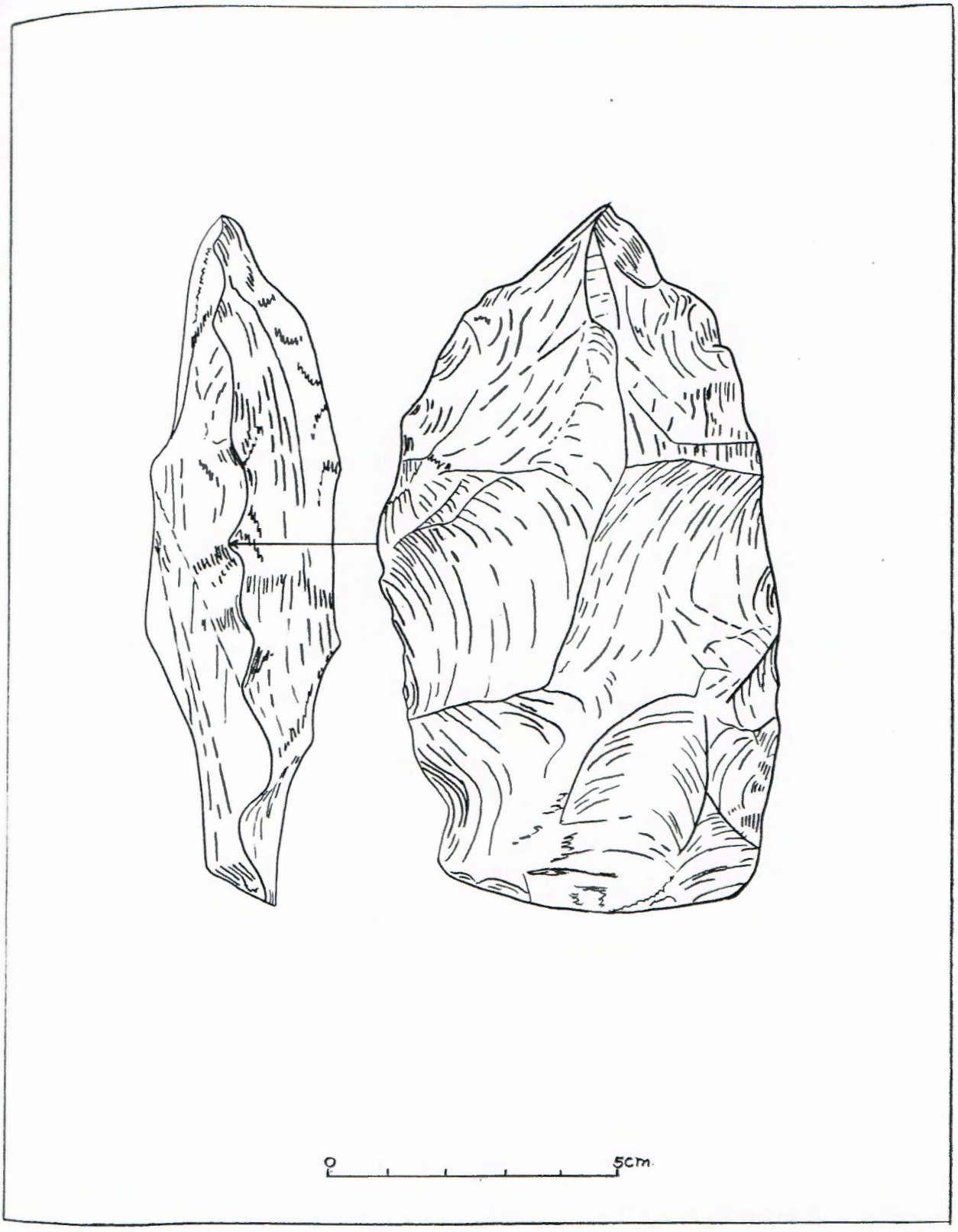


Figure 61

Pointed choppers or picks (continued)

Description: Similar to large, oval, pointed choppers or picks described on p. 140 except that this object (Fig. 62) is a curved flake, and would have been useful as scraper as well as chopper. Material used: quartzite.

Distribution in La Sal Mountain area: Unique. Found at canyon pottery site.

General distribution: Not known.

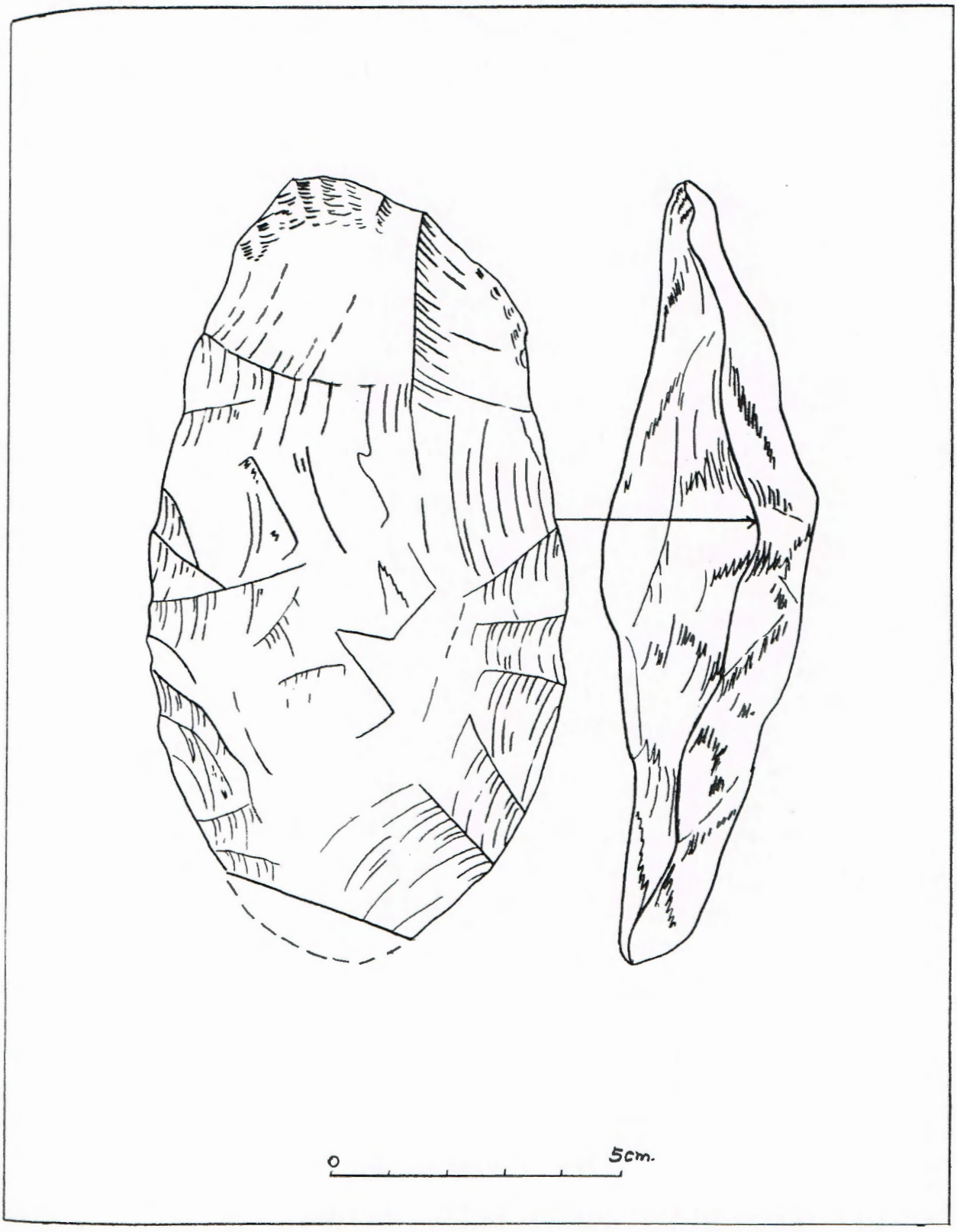


Figure 62

Hammer stones

Description: Smooth round cobbles battered on ends (a). Some are so battered that original shape has been lost and they have become angular. Specimen (b) has a shallow round finger grip on either side. Material used: quartzite. These stones are the common pounding implement in the La Sal Mountain area; ground and grooved mauls are lacking.

Distribution in La Sal Mountain area: Common. Generally found at canyon pottery sites. Common at Fremont culture dwelling sites.

General distribution: Pitted pounding stone (b) is reported in the La Plata region, Colorado, as Pueblo I or earlier, rare in Pueblo II and III (Morris, 1939, p. 128 and Pl. 134), and at Pecos, N. M., Glaze I to post-Columbian (Kidder, 1932, Fig. 38). Cobble hammer stones are widely distributed on Plains, Basin and Range and Colorado Plateaus. References are as follows:

Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXII)
Pinto Basin, Calif. (Campbell and Campbell, 1935, Pl. 7)
Ventana Cave, Ariz. (Haury, 1950, p. 256 and Fig. 48, d)
Great Salt Lake Caves, Utah (Steward, 1937, p. 79)
Lindenmeier site, Colo. (Roberts, 1936, Pl. 12 and p. 27)
Pecos, N. M. (Kidder, 1932, Fig. 38)
Ackmen-Lowry area, Colo. (Martin, 1939, Fig. 113)

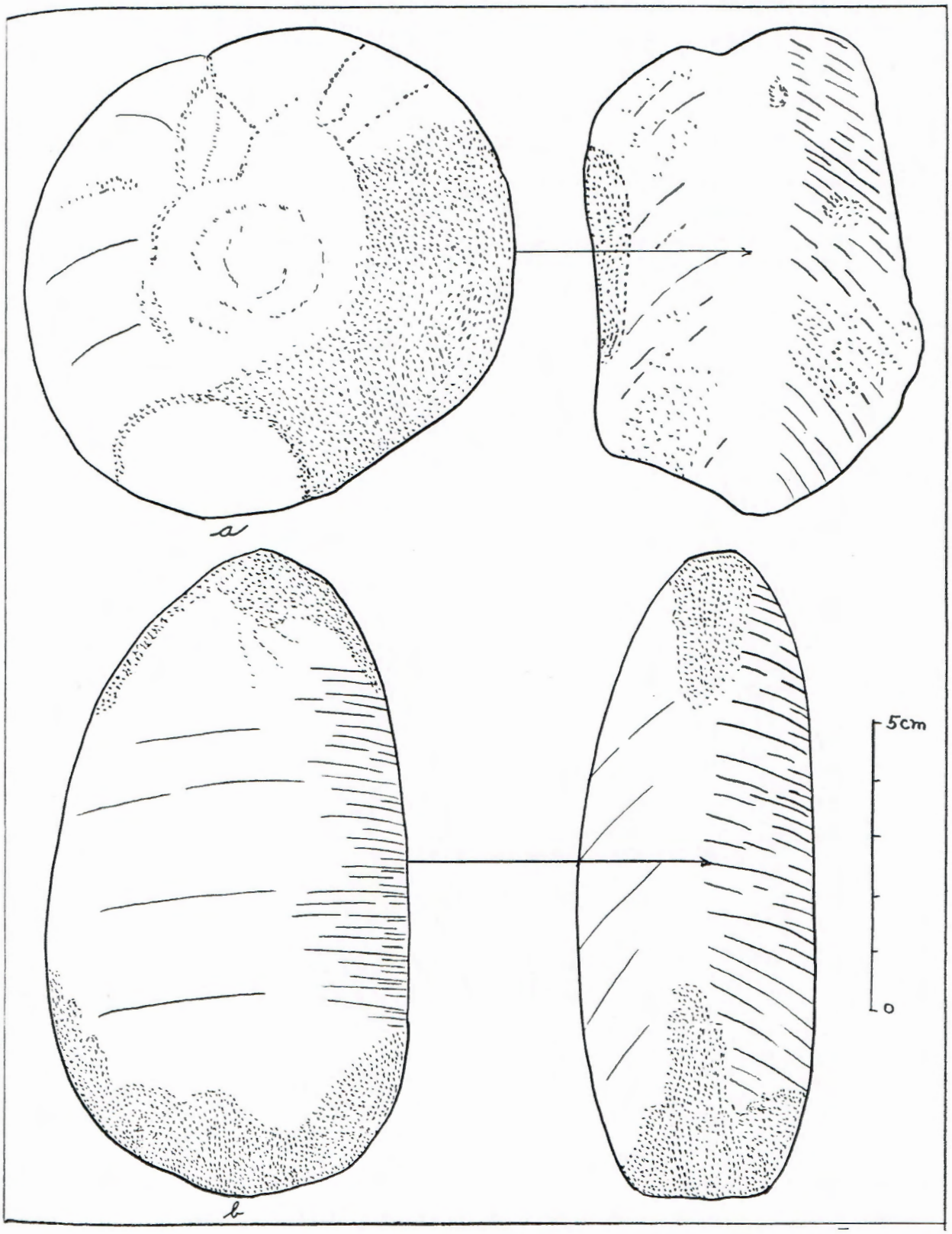


Figure 63

Grinding stones. Grinding stones (metates) are abundant in the La Sal Mountain area. The most common type of metate has a flat grinding surface, and is found at campsites in the mountains, in the pinion-juniper zone, in the canyons, as well as at Fremont culture dwelling sites. At the dwelling sites it is associated with deep basin metates, or with metates which are deep basin on one side, flat on the other. It seems probable that the flat metates were used for grinding wild seeds and berries, and that the deep basin metates were used for grinding corn. A slightly basin-shaped metate is abundant at canyon campsites. Trough-shaped and Utah type metates are rare in the area. The metates are made of local materials, mostly sandstone, rarely porphry, but many of the sandstone metates at sites in the mountains were carried there from the foothills zone.

The kind of grinding surface, and whether used on one or two sides, is the basis of classification. The five different types recognized are as follows:

Uniface
- Flat
- Slightly basin shaped
- Deep basin shaped

Biface
- Flat
- One flat face, one basin shaped face

The hand grinding stones (manos) are one-hand size, generally used on both sides. Many of the manos have a trailing edge, indicating a slight rocker motion. Flat-faced, shaped manos are found at canyon sites, but not at mountain sites, where the manos are mostly cobble or oval with trailing edges. Loaf shaped manos are diagnostic of Fremont culture dwelling sites in the canyons.

The six types of manos distinguished are as follows:

Uniface
- Cobble
- Loaf

Biface
- Subrectangular
- Oval
- Ellipsoidal
- Asymmetrically convex

Associations of metate with mano appear to be as follows:

Metate	Mano
Flat slab or boulder, uniface and biface	Cobble; subrectangular and oval biface.
Slightly basin shaped	Sub-rectangular biface, oval biface; asymmetrically convex biface.
Deep basin shaped	Loaf-shaped; ellipsoidal; subrectangular.

Uniface metates

Description: Used on one side only; deep pecking marks; made from boulders 5 to 15 cm. thick, or from thin slabs 2 to 5 cm. thick. Used side is flat (a, b), a very shallow basin (c, d), or a moderately deep basin (e, f). Used surface oval in outline. Materials used: sandstone, rarely porphry or quartzite.

Distribution in La Sal Mountain area: Whole metates, or fragments of metates are found on almost every site. Flat variety very common both at mountain and canyon sites. Shallow basin variety found at canyon sites; rare with pottery. Deep basin variety is rare; found only at canyon dwelling sites, generally with pottery.

General distribution: The flat metate is found in eastern Utah in the Fremont complex and in use by the Ute; also found in central and western Utah where it is associated with trough and Utah type metates. Common on the southern Colorado Plateaus in Pueblo II to III, but used surface in Anasazi metates extends from edge to edge. References are as follows:

Fremont River, Utah (Morss, 1931, p. 54)
Central Utah (Gillin, 1941, p. 33)
Whiterocks, Utah at Ute reservation (Gillin, 1941, p. 43)
Danger Cave, Utah (personal observation, Univ. of Utah collection)
Southeastern Ariz. (Sayles and Antevs, 1941, pl. III)

The slightly basin-shaped metate is found in eastern Utah, northwestern Colorado, and in the Basin and Range Province. Time range: Fremont culture in eastern Utah and northwestern Colorado; all horizons in the southern Basin and Range Province with greatest abundance in prepottery hunting-gathering horizons.

Fremont River, Utah (Morss, 1931, p. 54 and pl. 30, a)
Castle Park, Colo. (Burgh and Scoggin, 1948, Fig. 25; Lister, 1950, Fig. 26, a)
Danger Cave, Utah (personal observation, Univ. of Utah collection)
Ventana Cave, Ariz. (Haury, 1950, Fig. 69 and pp. 306, 308)
Southeastern Arizona (Sayles and Antevs, 1941, pl. XVII)
Rio Puerco, N. M. (Hibben, 1951, Fig. 32)

The moderately deep basin-shaped metate is found in eastern Arizona. Time range: Anasazi, where it is associated with, but less common than, the trough variety. Also found in the southern Basin and Range, prepottery to pottery horizons, but most abundantly in prepottery levels. References are as follows:

Whitewater District, Arizona (Roberts, 1940, p. 39, a)
Ventana Cave, Ariz. (Haury, 1950, Fig. 69, a)
Southeastern Ariz. (Sayles and Antevs, 1941, p. 24)

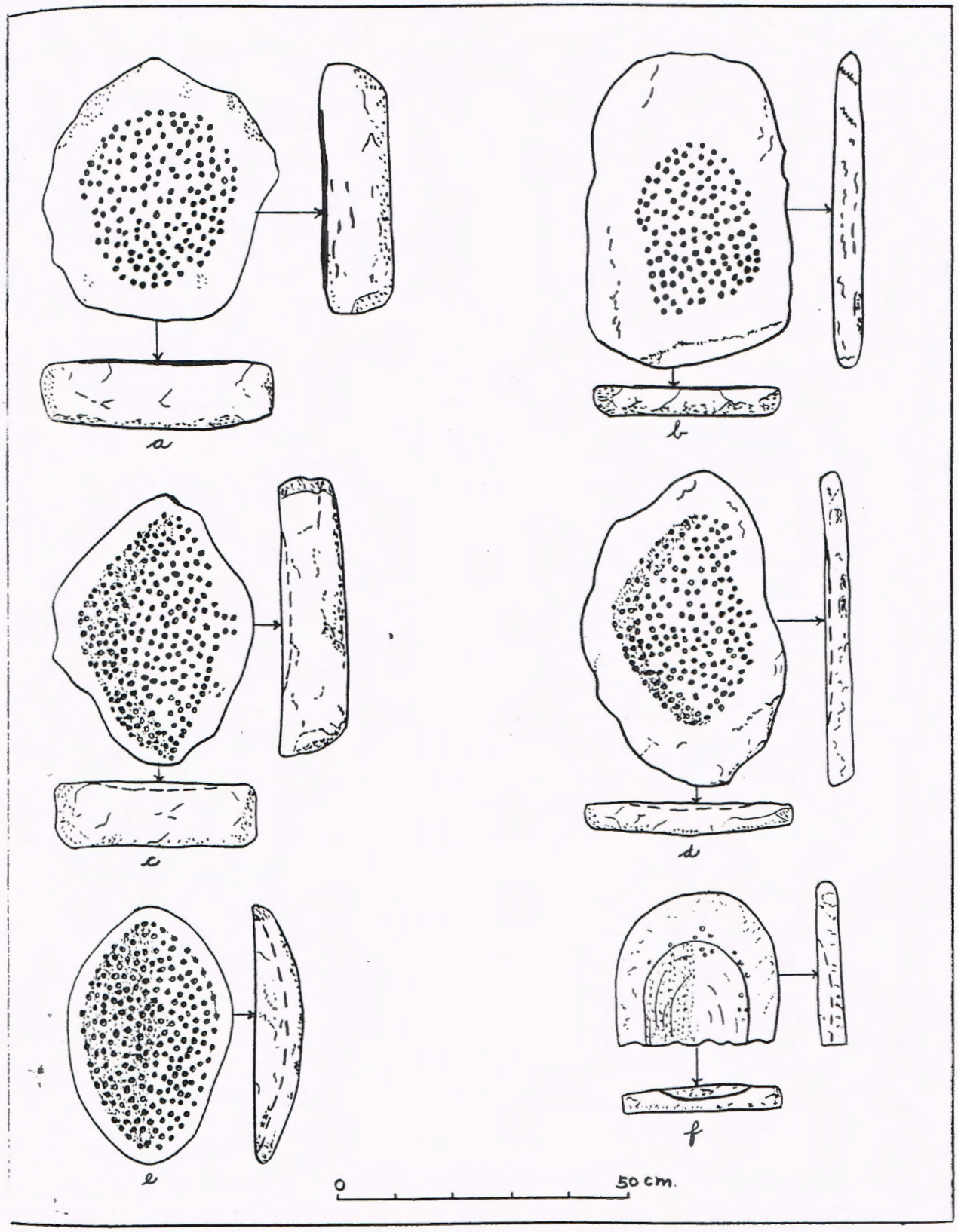


Figure 64

Biface metates

Description: Used on both sides; one side basin-shaped, other side flat (a, b), or both sides flat (c). Used surface oval in outline. Pecked on both sides. Materials used: sandstone.

Distribution in La Sal Mountain area: About one-tenth as abundant as the uniface type. Metates with one side basin-shaped are found at 8 canyon sites; commonly associated with pottery and Fremont dwellings. Metates flat on both sides found at 6 mountain and piñon-juniper sites without pottery.

General distribution: The literature on biface metates is inadequate for determining their general distribution. Metates flat on both sides are reported from southeastern Oregon (Cressman, 1936, p. 26), and from Moapa, Nevada where they are used by the Paiute (Gillin, 1941, p. 43).

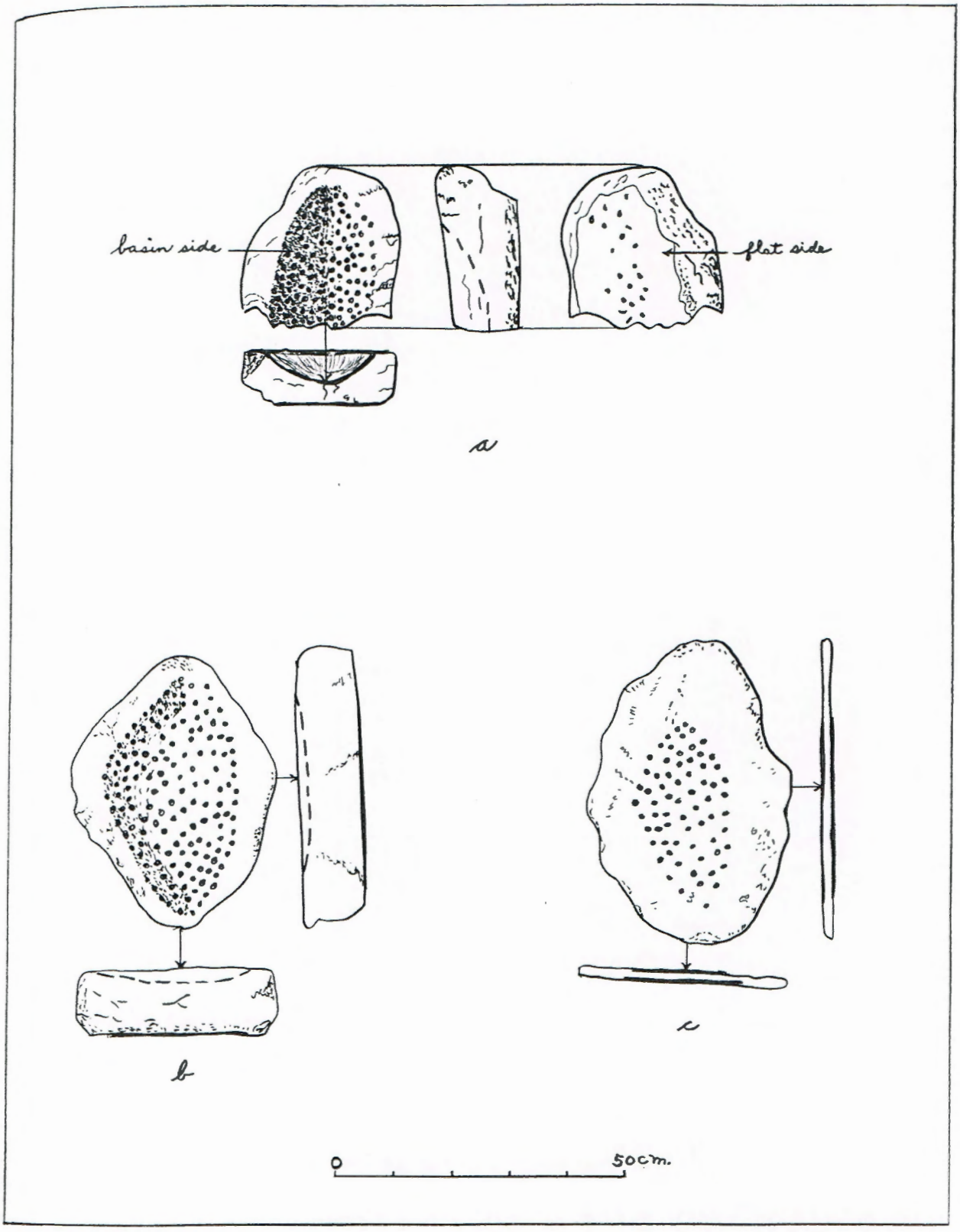


Figure 65

Cobble and loaf-shaped manos

Description: Used one face only; one kind is rounded stream cobble of convenient one-hand size; commonly 100 mm. long, 70 mm. wide, and 40 mm. high; no shaping (a, b). Grinding surface flat on long axis; generally flat on transverse axis also except where it approaches the edge, where it becomes convex, a so-called trailing edge which is probably the result of a slight rotation of the mano as it was used. Rarely the transverse axis of the grinding surface is symmetrically convex or perfectly flat. Ends show use as hammerstones. Pecking common on grinding surface.

Other kind is loaf shaped (c); one and two-hand size; length 140 mm., width 70 mm., height 70 mm.; grinding surface slightly convex on both axes, and symmetrical; high steep sides. Two specimens have been used on the sides as well as the bottom. Grinding surface deeply pecked.

Materials used: sandstone.

Distribution in La Sal Mountain area: Uniface manos are approximately one-fourth as numerous as biface manos. Rounded cobble variety are widely distributed at mountain and canyon sites; rare with pottery. Loaf-shaped variety not common; found in Castle Valley (57-50) with pottery, on Wilson Mesa (73-51), south of Spanish Valley (95-50) and at Court House Wash (32-51, 34-51), at dwelling sites (103-50) on Mill Creek, (118-50) in Spanish Valley, (56-52) in Fisher Valley.

General distribution: In the La Sal Mountain area the loaf-shaped manos are associated with traits believed to represent the Fremont culture. Similar manos are reported elsewhere as follows:

Cobble manos
- White Water Creek, Ariz. (Sayles, 1941, Pl. III and Pl. IX) Sulphur Spring and Chiricahua Stages, Cochise
- Castle Park, Colo. (Lister, 1950, p. 28)
- Whitewater District, Ariz. (Roberts, 1940, Pl. 39, a) Anasazi

Loaf-shaped manos
- Humboldt Lake, Nevada (Loud-Harrington, 1929, Pl. 63, d; Fig. 19, b)
- Grantsville, Utah (house #5, personal observation, Univ. of Utah collection)
- Fremont River, Utah (Morss, 1931, Pl. 30)

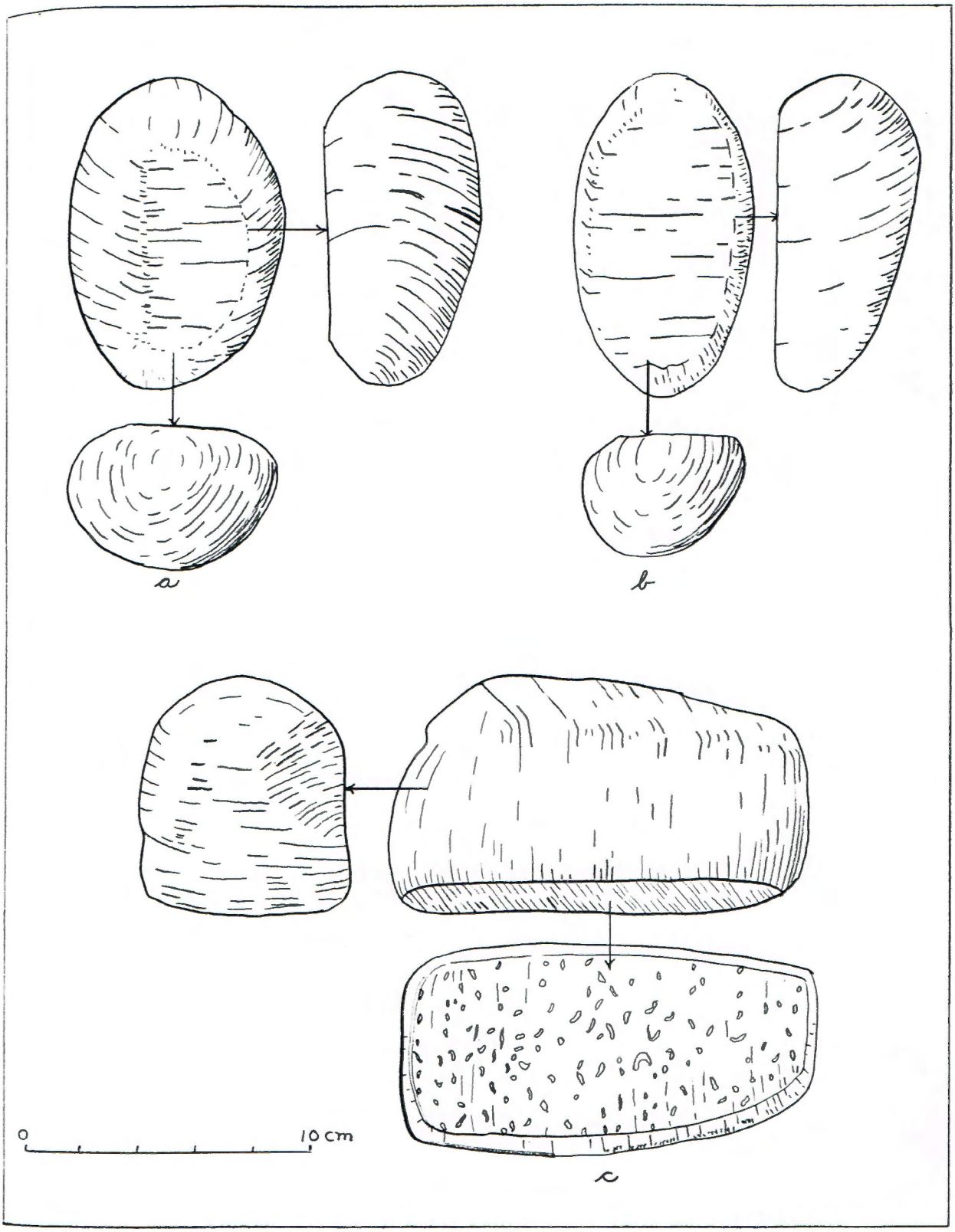


Figure 66

Sub-rectangular biface manos

Description: Sub-rectangular in outline; used both faces; sides slightly rounded. Edges carefully shaped, ends show signs of use as hammer stones; one-hand size. Three varieties, based on proportions of the axes: 3:2:1 (a); 4:2:1 (b); 4:3:1 (c). Specimens sketched are representative as to shape and dimensions. Grinding surfaces are slightly convex parallel to short axis, flat parallel to long axis. Convexity commonly symmetrical, rarely asymmetrical. Many working surfaces have been pecked. Material used: sandstone.

Distribution in La Sal Mountain area: Variety (a) widely distributed at canyon, pinon-juniper and mountain sites, with and without pottery. Varieties (b) and (c) not found at mountain sites; found at canyon and pinon-juniper sites, common with pottery. Manos with flat faces also found at canyon sites, with and without pottery.

General distribution: In the La Sal Mountain area subrectangular manos with proportions 4:2:1 and 4:3:1 generally are associated with traits believed to be representative of the Fremont culture. Similar manos are reported elsewhere as follows:

Castle Park, Colo. (Burgh and Scoggin, 1948, Fig. 26)
Fremont River, Utah (Morss, 1931, Pl. 31)
Provo, Utah (personal surface collection)
Cottonwood Canyon, Utah (Judd, 1926, Pl. 49, a to h)
Big Bend Mesa, New Mexico (Keur, 1941, Fig. 5, 6 to 9) Navaho
Ackmen-Lowry, Colo. (Martin, 1938, Pl. 140; 1939, Fig. 107)
Ventana Cave, Ariz. (Haury, 1950, Fig. 72, a)
Danger Cave, Utah (personal observation, Univ. of Utah collection)

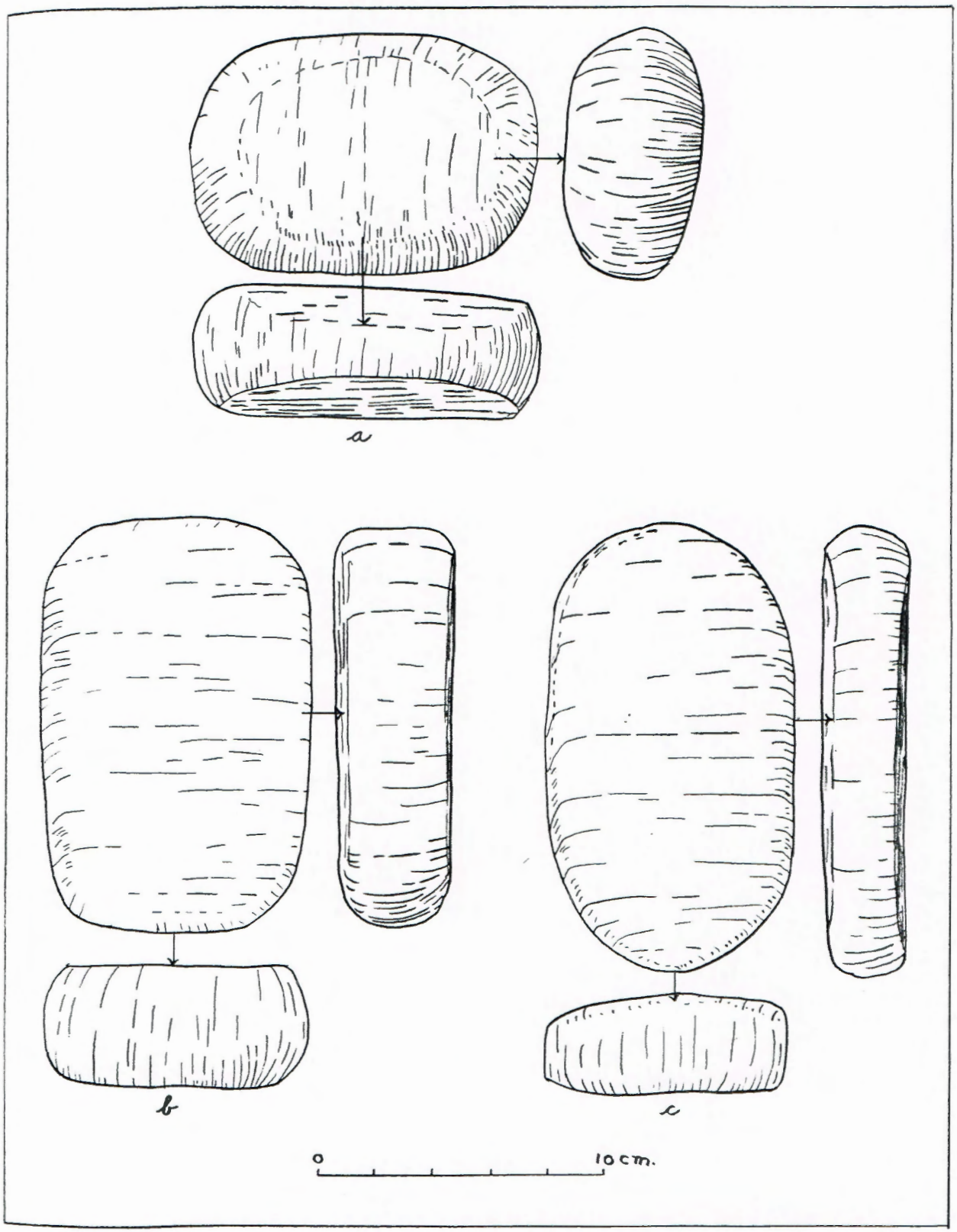


Figure 67

Oval biface manos

Description: Circular to oval in outline, used both sides, one-hand size, commonly about 80 mm. in diameter, 35 to 40 mm. thick. Grinding surface flat on one axis; flat for about two-thirds of the other axis, then becoming asymmetrically convex because of trailing edge (a, c). Some specimens are wedge shaped (b). Ends generally show use as hammerstones. Materials used: sandstone.

Distribution in La Sal Mountain area: Found mostly at pinon-juniper sites, with and without pottery.

General distribution: Similar manos have been reported elsewhere as follows:

Castle Park, Colo. (Lister, 1950, Fig. 27)
Fremont River, Utah (Morss, 1931, Pl. 31)
Paragonah, Willard, Cottonwood Canyon, Utah (Judd, 1926, Pl. 50)
Ackmen Lowry, Colo. (Martin, 1938, Pl. 141; 1939, Fig. 107)
Danger Cave (personal observation, University of Utah collection)

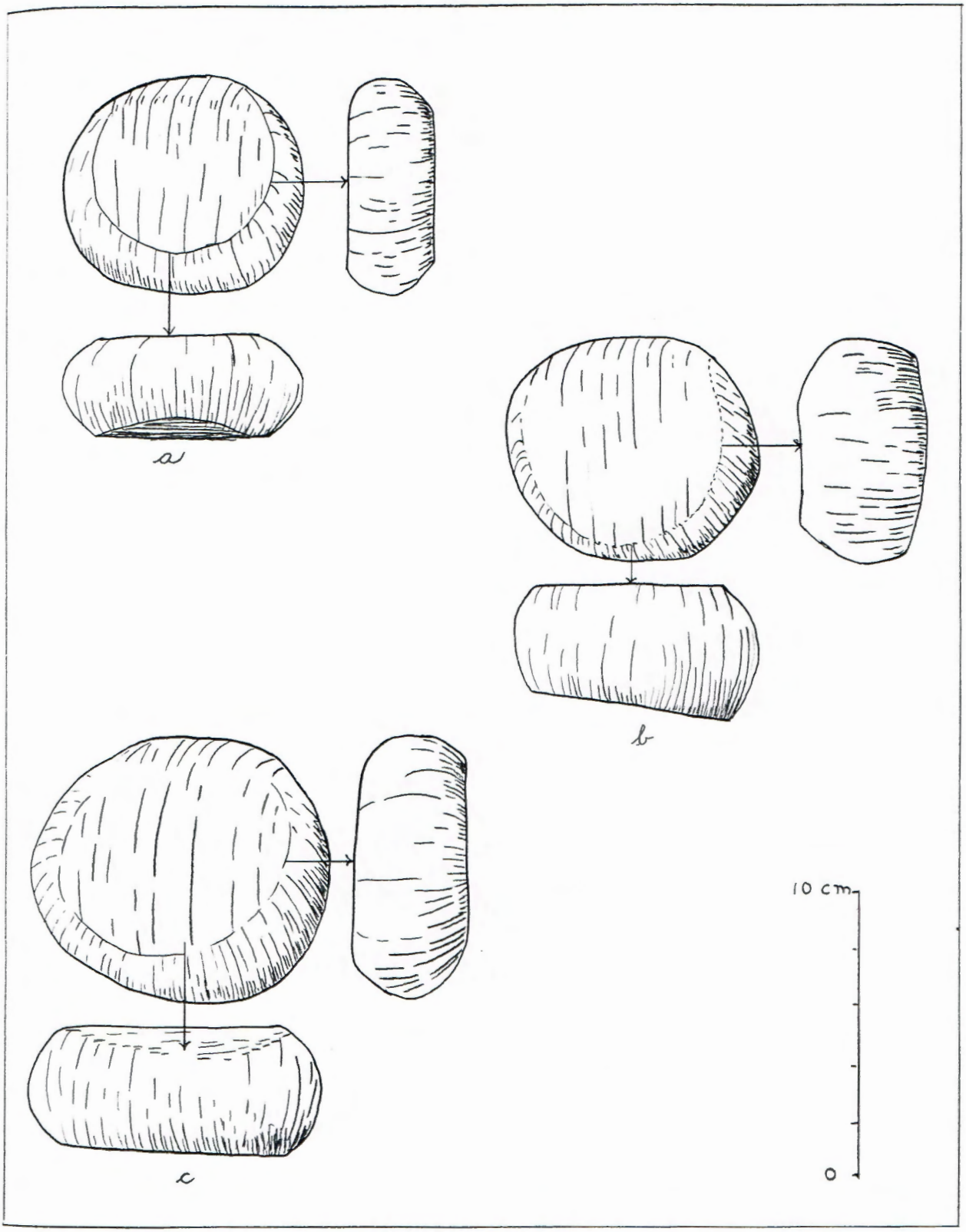


Figure 68

Ellipsoidal biface manos (a)

Description: Long, narrow, thick. Proportions of length, width and height 2:1:1 (a); average length 17 cm. Grinding faces flat on the long axes, symmetrically convex on transverse axes. Finger holds on sides of one specimen. Ends used as hammerstone. Materials used: quartzite and gneiss, apparently mostly cobbles from river gravels.

Distribution in La Sal Mountain area: Not common. Generally found at canyon sites with pottery; a few found at piñon-juniper sites, with and without pottery.

General distribution: Similar manos are reported from pottery levels in southern Basin and Range, and as Basketmaker III in southern Colorado Plateaus. References are as follows:

Ventana Cave, Ariz. (Haury, 1950, Fig. 70, d)
Ackmen Lowry, Colo. (Martin, 1938, Pl. 191)
Danger Cave, Utah (personal observation, University of Utah collection)

Asymmetrically convex biface manos (b)

Description: Grinding faces flat on the long axes, very convex on the transverse axes, with greatest convexity on a line drawn at about 45 degrees to the axes. This is produced by a rocker motion of the mano on a flat or slightly basin-shaped metate (Haury, 1950, Fig. 71 and p. 313). A few specimens have three grinding facets on one face (b), two on the other face. Proportions of length, width and height are 3:2:1; average length 9 cm. Materials used: sandstone.

Distribution in La Sal Mountain area: Not common. Generally found at canyon sites, with and without pottery; rarely at piñon-juniper sites without pottery.

General distribution: Similar manos are reported in the Sulphur Spring and Chiricahua Stages of the Cochise culture, and in Chiricahua levels at Ventana Cave, in the southern Basin and Range Province. They are reported from the northern Colorado Plateaus in the Fremont complex, and from central Utah as Puebloid. References are as follows:

Whitewater Canyon, Ariz. (Sayles, 1941, Pl. 3 and p. 18)
Ventana Cave, Ariz. (Haury, 1950, Fig. 70, e, f, g)
Castle Park, Colo. (Lister, 1950, p. 28; Burgh and Scoggin, 1948, p. 51)
Central Utah (Gillin, 1941, p. 32)
Danger Cave, Utah (personal observation, Univ. of Utah collection)

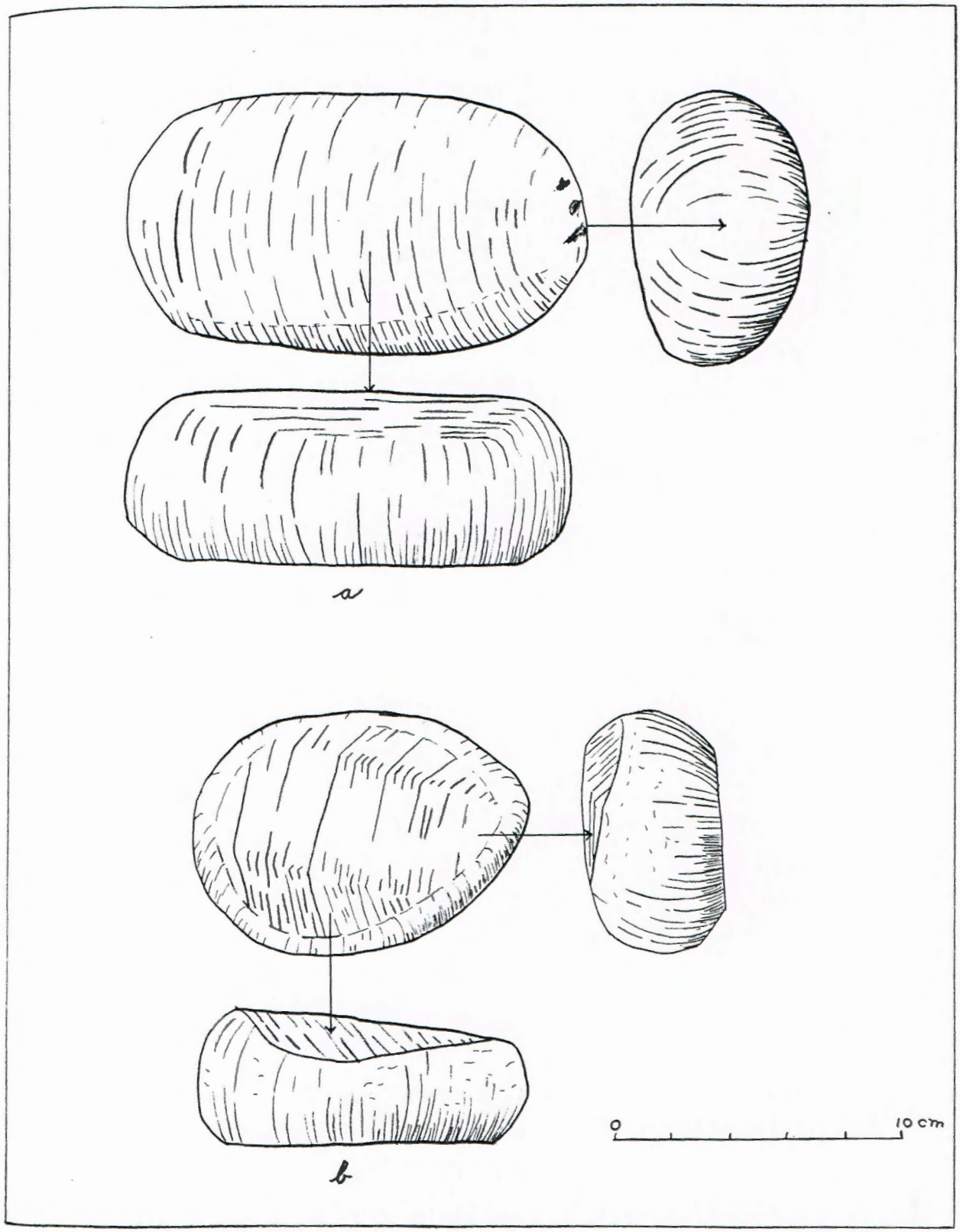


Figure 69

Pottery and Basketry

Pottery. Pottery is uncommon in the La Sal Mountain area; only about 500 sherds were found during the survey. But the collection, though small, proved to be unexpectedly valuable in establishing relationships with other areas.

The sherds represent four principal kinds of wares: red or brown ware, yellow ware, white ware, and gray ware. Comprising each ware were a few types that could be distinguished on the basis of surface finish and kind of temper used.

Materials used for temper seem to vary regionally in the Colorado Plateaus. In northeastern Arizona the common temper is sand (Colton and Hargrave, 1937; Hawley, 1936). In northwestern Colorado and northeastern Utah calcite temper was used (Lister, 1950, p. 33). In the Fremont River area and farther west in Utah, black volcanic rock is a common temper (Morss, 1931, p. 42). Anna Shepard has shown that in the La Plata district the common temper is porphry rock and sherd (Shepard in Morris, 1939); and these are the common tempers in the La Sal Mountain area, too.

The wares and types found in the La Sal Mountain area are as follows:

- Yellow ware
  - Plain, sand tempered
  - Corrugated, sand tempered
  - Tooled, sand tempered
- Red or brown ware
  - Plain brown ware, porphry tempered
  - Painted red ware, rock tempered
- White ware
  - Painted, sand and sherd tempered
  - Painted, sherd tempered
  - Painted, rock tempered, occasional sherd
- Gray ware
  - Corrugated gray
    - Sand tempered
    - Porphry and sherd tempered
  - Decorated gray
    - With indented fillet, sherd tempered
    - With punches, rock tempered
    - Incised rim, porphry and sherd tempered
    - Incised neck, rock tempered
  - Plain gray
    - Mostly porphry tempered
    - Mostly sherd tempered
    - Granite tempered
    - Micaceous paste
    - Calcite tempered

Rim types are classified according to Colton and Hargrave (1937, Fig. 2).

The pottery, like the stonework reveals affiliations between the La Sal Mountain area and 1) other parts of the Colorado Plateaus, 2) the northern Basin and Range and 3) the southern Rocky Mountains. Resemblances to pottery of other areas can be tabulated as follows:

La Sal ware	Resemblance	Age
	Southern Colorado Plateaus	
Painted, red, rock temper	Abajo Red-on-orange	Pueblo I
Painted, white, sherd temper	Mancos Black-on-white	Pueblo II
Gray corrugated, sand temper	Tusayan, Moenkopi corrug.	Pueblo II, III
Do, rock and sherd temper	Alkali Ridge, Utah	Pueblo II
Gray with fillet	Athabascan	historic (?) or protohistoric
Yellow ware, sand temper, plain	Awatobi utility ware (?)	Pueblo IV
Yellow ware, sand temper, corrugated	do	Pueblo IV
	Northern Colorado Plateaus	
Plain gray, calcite temper	Fremont culture	400 to 1200 A. D
Do, sherd, or rock temper	Turner site, Cisco, Utah Fremont culture	Not determined
	Northern Basin and Range Province	
Gray, decorated with punches	Promontory	1000 A. D.
Gray, calcite temper	Promontory	1000 A. D.
Yellow, incised and plain, sand temper	Puebloid in central Utah	Pueblo I-III (?)
	Southern Rocky Mountains	
Plain gray, micaceous paste	Picuris-Taos	1300 A. D. to present
Gray with incised rim	Upper Rio Grande or Chama River	do

Yellow ware

A. Plain yellow (Fig. 70, a)

Description: Paste: light yellow, carbon streaks; 5 per cent silt; particles sub-angular, 0.05 in size. Temper: very coarse sand, rounded to subrounded, mostly quartz, trace of feldspar and chert (?); 20 per cent temper. Walls: 6 to 9 mm. thick, very strong. Fracture: shattering. Surface finish: exterior undulating, deep scraping marks, pitted; interior also scraped but scraping marks less prominent. Temper shows on both surfaces. Surface color: yellow. Rim: IC2 (see Colton and Hargreave, 1937, p. 10, for rim forms).

Distribution in La Sal Mountain area: Found at one canyon site, 21-50, in Fisher Valley.

Comparisons and distribution: Suggestive of Awatobi Yellow Ware; Jeddito Plain (Colton and Hargrave, 1937, p. 144)

B. Corrugated yellow (Fig. 70, b)

Description: Paste: yellow to black, carbon streaks. Clay contains 10 per cent silt; particles<0.1 mm. in diameter, mostly quartz, some feldspar. Temper: very coarse, mostly quartz, some feldspar, 1 mm. in diameter; quartz subrounded; grains are individual crystals as in a sand but subangularity and occasional particles of multiple crystals suggest temper is a crushed sandstone. Grains of temper coated with iron oxide; trace of sulphide minerals (pyrite?) may be source of iron oxide. Temper 10 per cent. Walls: 4 to 5 mm. thick, moderately strong. Fracture: shattering. Surface finish: exterior deeply corrugated and very slightly flattened; coils 5 mm. wide. Interior scraped. Temper shows on both surfaces. Surface color: yellow. Rim IC2.

Distribution in La Sal Mountain area: Found at 2 sites, Harpole Mesa (102) in Castle Valley, and north of town of La Sal (12-51)

Comparisons and distribution: Suggestive of Awatobi Yellow Ware; Jeddito Corrugated (Colton and Hargrave, 1937, p. 144)

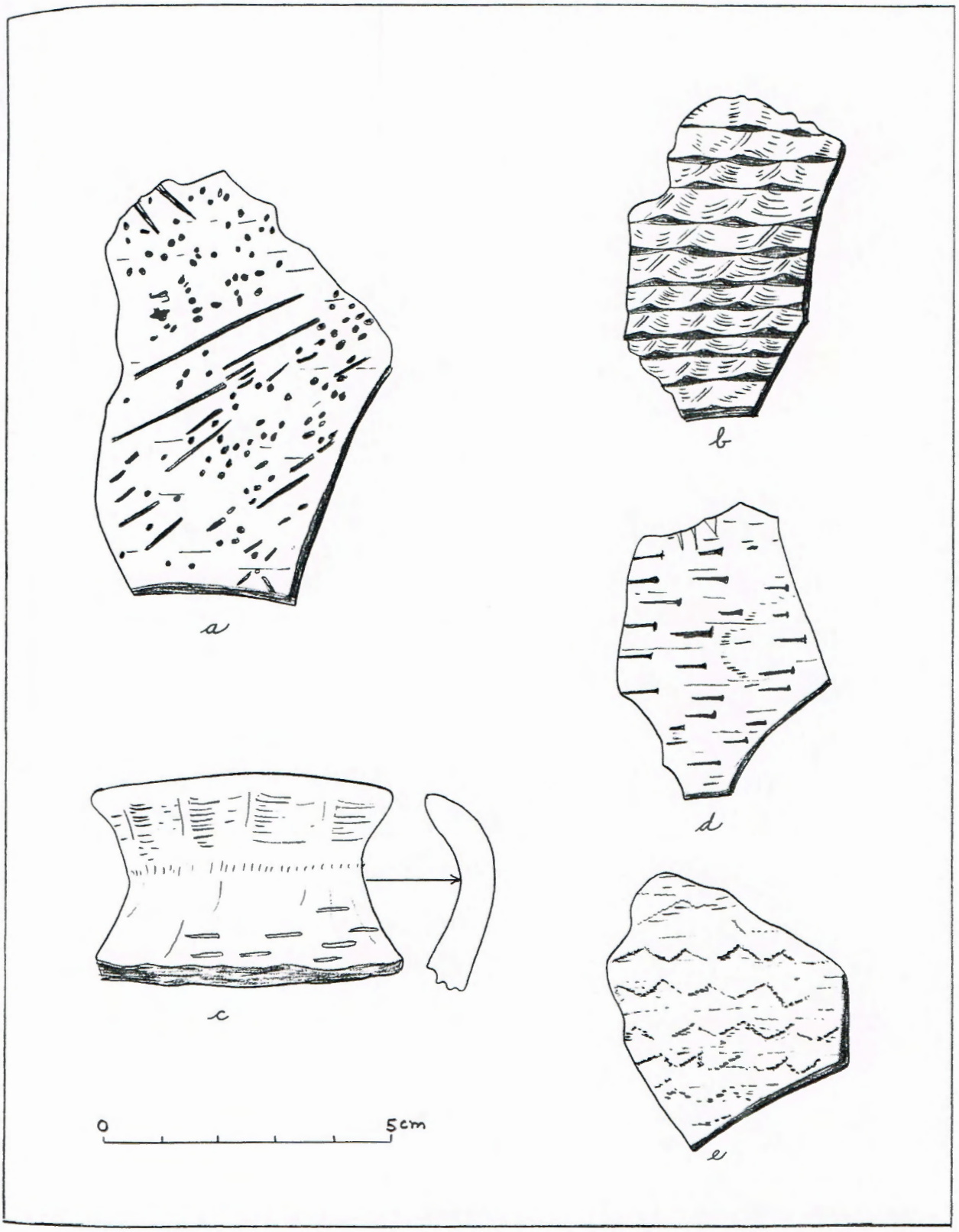


Figure 70

Yellow ware (continued)

C. Tooled yellow (Fig. 70, d, e)

Description: Paste: yellow to orange, carbon streaks; silt content about 20 per cent. Temper: very coarse, mostly quartz sand, some feldspar; 15 per cent; quartz rounded, subrounded and angular. Walls: 4 to 5 mm. thick, very strong. Fracture: shattering. Surface finish: tooled (?), false corrugations (?). Temper shows on both surfaces. Interior scraped. Surface color: yellow. Rim: IC2 (Fig. 70, d).

Distribution in La Sal Mountain area: Found at 2 sites in Fisher Valley (21-50, 112-50), at 2 sites in Castle Valley (57-50) and (91, 92, 95) and at mountain site 24-52.

Comparisons and distribution: Suggestive of Awatobi Yellow Ware: Jeddito Tooled (Colton and Hargrave, 1937, p. 145); also may resemble pottery reported by Gillin (1941, p. 40) from central Utah.

Red and brown ware

A. Painted

Description: Paste: various shades of pink, orange, gray. Temper: medium-fine to medium-coarse angular rock, 20 per cent. Fracture: shattering. Walls: 4 mm. thick, strong. Surface finish: one or both surfaces polished. Surface color: both surfaces brick red, or one surface orange, the other gray. Decoration: painted, purple. Paint: not determined.

Distribution in La Sal Mountain area: Found at 2 sites; Paradox Valley (3-51), and Spanish Valley (106-50).

Comparisons and distribution: Suggestive of Abajo red-on-orange which occurs north of the San Juan River from eastern Utah to the Animas River, eighth century A. D., perhaps earlier (Brew, 1946, p. 254).

B. Plain brown

Description: Paste: outer 1 mm. red-brown, inner 3 to 4 mm. black. Silt content 15 per cent. Temper: very coarse crushed igneous rock, mostly feldspar (andesine), some augite and magnetite, trace of quartz; 50 per cent. Rock fragments up to 1.5 mm. in diameter, feldspar crystals 1 mm. long. Walls: 5 to 6 mm. thick; weak. Fracture: crumbling. Surface finish: coils smoothed but not obliterated on exterior. Temper shows on both surfaces. Interior scraped. Surface color: red to brown. Rim: IB3. Finger indentations, probably accidental, on exterior of rim.

Distribution in La Sal Mountain area: Found at 1 site (86-50) in Castle Valley.

Comparisons and distribution: An unidentified pottery. Not Anasazi. May be Shoshonean as it was found with Shoshonean type stonework.

White ware

A. Black-on-white, sand and sherd tempered (Fig. 71, a)

Description: Paste: white, very light gray, carbon streak. Temper: abundant, medium coarse sand and sherd. Walls: 5 to 7 mm. thick, strong. Fracture: shattering. Surface finish: interior smoother than exterior; both surfaces slipped, crazed. Surface color: chalky white. Rim: IA3. Decoration: painted. Paint: black, probably organic parint. Design: triangle scroll.

Distribution in La Sal Mountain area: Found at 2 sites in Spanish Valley (118-50, 105-50).

Comparisons and distribution: Triangle scroll design on black-on-white pottery is early Pueblo III in La Plata district, Colo. (Morris, 1939, Pl. 299, k), and Pueblo II at Alkali Ridge, Utah (Brew, 1948, Fig. 137, J).

B. Black-on-white, sherd tempered (Fig. 71, b)

Description: Paste: white, light to dark gray, carbon streak. One variety contains less than 5 per cent silt; second variety contains about 20 percent silt. Temper: sherd. In one variety the sherd temper is 25 per cent of the core, and up to 1 mm. in diameter. Some of this sherd temper contains rock fragments. In the second variety the sherd temper is 10 per cent or less, maximum size 0.5 mm. Walls: 5 to 10 mm. thick, very strong. Fracture: shattering. Surface finish: exterior surface scraped, polished or slipped. Interior surface scraped, rarely polished or slipped. Surface color: white, light or pearly gray. Rim: IB2 and IA3. Decoration: Black paint, probably mineral. Design: Diagonal hatchures; terraced elements. Rim IB2 has painted edge.

Distribution in La Sal Mountain area: Found at 10 canyon sites; in Spanish Valley (104-50, 105-50, 118-50, 119-50), on Court House Wash (33-51), on Mill Creek (103-50, 77-51), in Paradox Valley (3-51, 4-51) and in Fisher Valley (115-50).

Comparisons and distribution: Suggestive of Mancos Black-on-white (Colton, 1937, p. 230). Similar diagonal hatchures and terraced elements reported from Pueblo II levels on Alkali Ridge, Utah. Hatching and painted rims are a common feature on Mancos Black-on-white (Brew, 1946, Fig. 118).

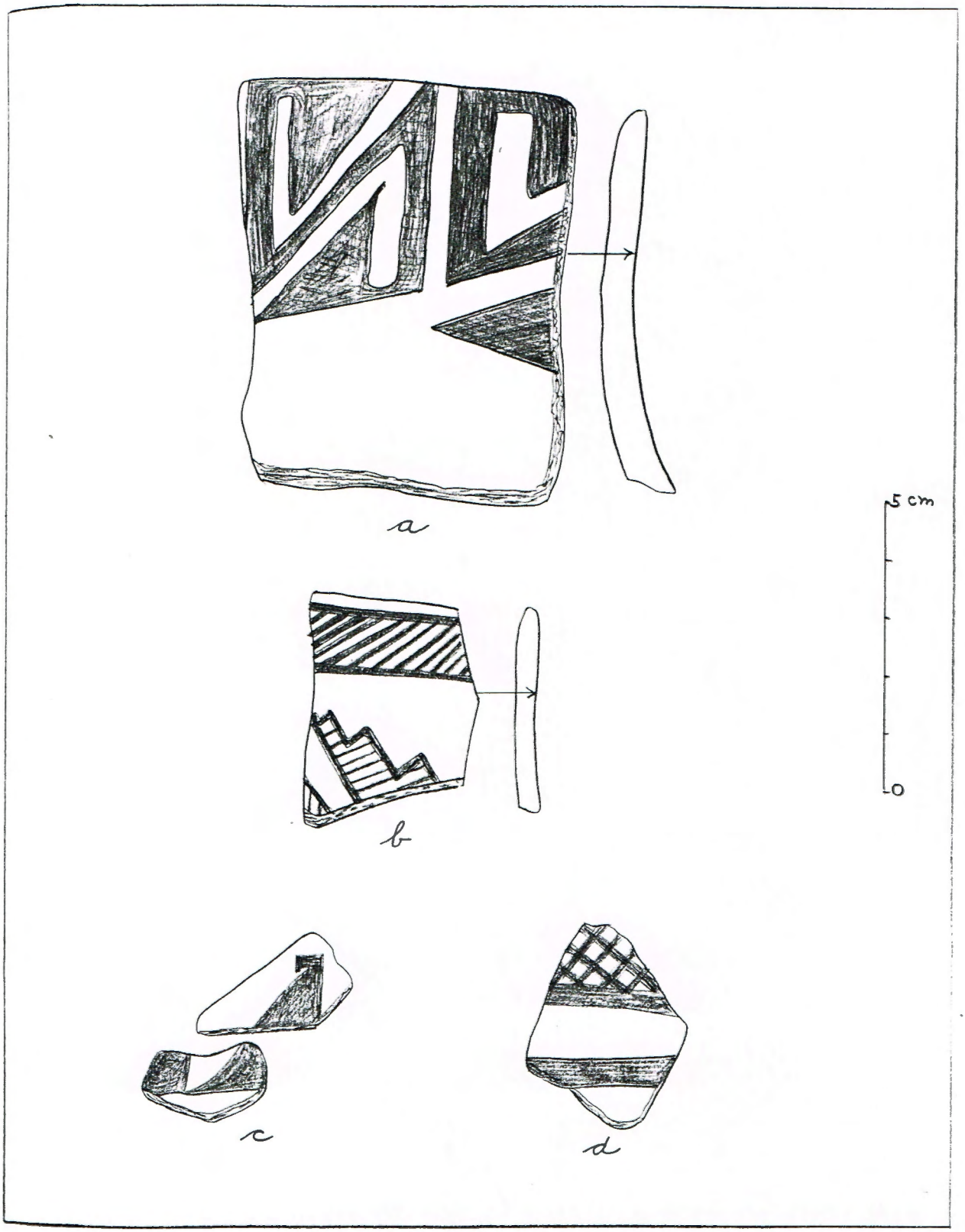


Figure 71

C. Black-on-white, rock tempered, occasional sherd (Fig. 71, c, d)

Description: Paste: light to dark gray; silt content ranges about 10 per cent. Temper: igneous rock fragments; in one variety 10 per cent; in another variety 50 per cent. Size mostly 0.3 mm., maximum 0.7 mm. Walls: 3 to 4 mm. thick, medium strong. Fracture: shattering. Surface finish: slip on one or both surfaces; slightly crazed. Temper shows on unslipped surfaces. Surface color: lustrous pearly gray on slipped surfaces, gray on unslipped surfaces. Decoration: painted, probably a mineral paint. Design: checkerboard hatching, solid bands, and triangle with ticks.

Distribution in La Sal Mountain area: Found at 7 sites; Spanish Valley (106-50), Court House Wash (31-51), south of Spanish Valley (95-50), Mill Creek (103-50), Harpole Mesa, Castle Valley (101), Paradox Valley (5-51) and La Sal pass (3).

Comparisons and distribution: Cross hatching and ticked triangles common on Alkali Ridge in Pueblo II horizons (Brew, 1946, Fig. 111, n and p. 275). I found surface sherds at Alkali Ridge that are similar to these in design, surface finish and temper.

Bowl in Fig. 72 found on top of plateau above site 118-50. Owner: Loren Robertson, Moab, Utah. Dimensions: width 8 inches; height 4 inches. Offset quarter layout with triangle scroll pattern reported from Pueblo II levels at Alkali Ridge, Utah (Brew, 1946, Fig. 113, j), and from Pueblo III levels at La Plata district, Colo. (Morris, 1939, Pls. 296, c, c' and 317, i to q). Also from the Village of the Great Kivas (Roberts, 1932, Pl. 32, d and p. 122).

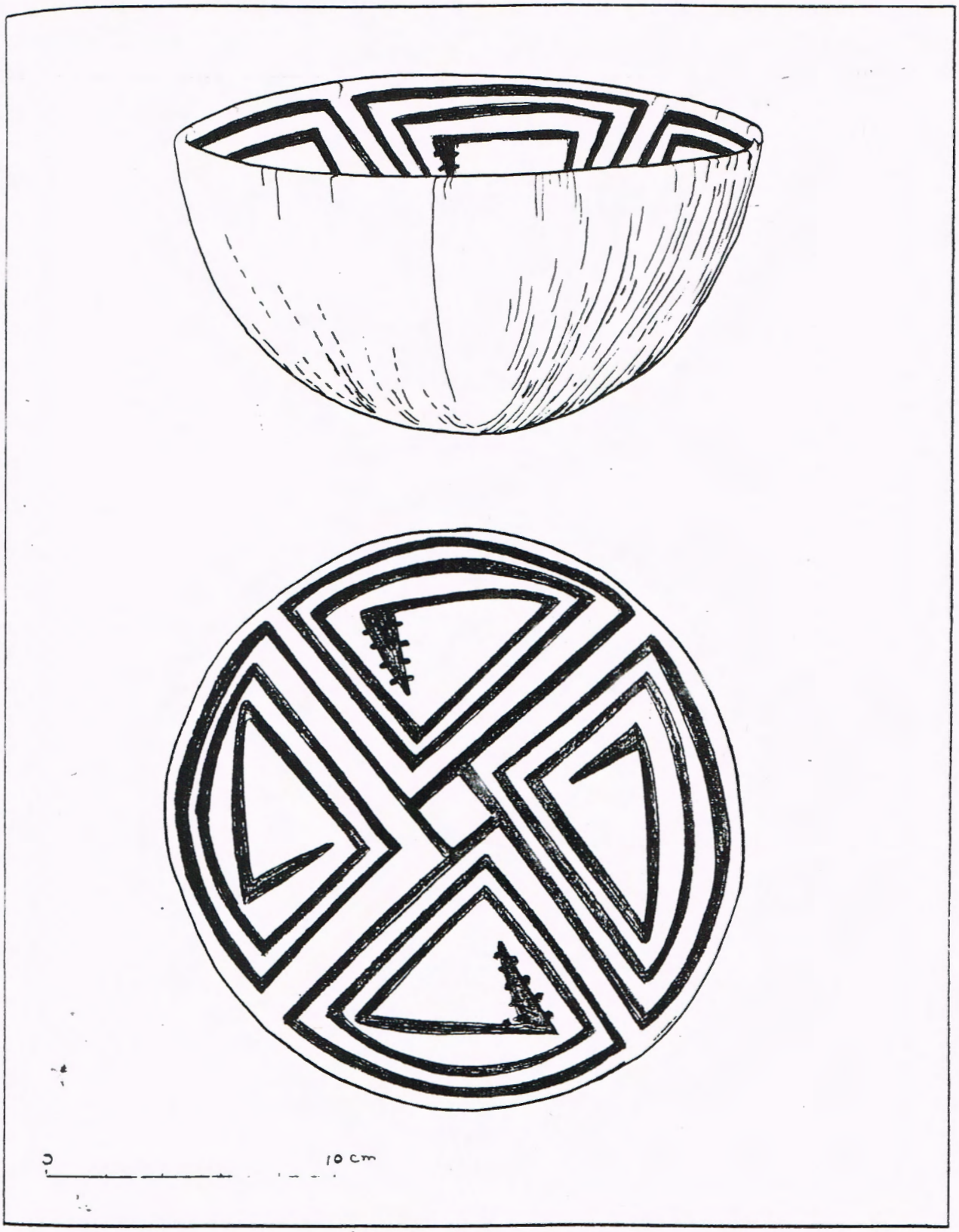


Figure 72

Gray ware, corrugated (Fig. 73)

A. Gray corrugated, sand tempered

Description: Paste: black with outer 0.5 mm. light gray; little silt. Temper: 25 per cent of core; rounded sand, mostly quartz, some feldspar, and a little rock, some sherds; medium coarse, 0.25 to 0.5 mm. Walls: 4 to 6 mm. thick, weak. Fracture: crumbling. Surface finish: corrugated, coils manipulated and flattened. Rough, temper shows both surfaces. Interior scraped. Surface color: gray to buff.

Distribution in La Sal Mountain area: Found at 6 sites; along the Colorado River near mouth of Castle Creek (36-51), Castle Valley (81-50), Wilson Mesa (109-50), Spanish Valley (118-50), and Court House Wash (33-51, 34-51), Colorado River Granary (16-51), dated by radio carbon at 1000 A.D. ± 150. Sherd found here resembles Tusayan Corrugated.

Comparisons and distribution: Possibly Tusayan Corrugated (Colton and Hargrave, 1937, p. 196). Some sherds with flatter corrugations may be Moenkopi Corrugated (Colton and Hargrave, 1937, p. 197).

B. Gray corrugated, rock and sherd tempered

Description: Paste: light gray to black; carbon streak. Very silty; silt particles (0.1 in size) constitute 25 per cent of paste. Temper: 10 to 35 per cent of core, fine to coarse, rock and sherd. Walls: weak to strong. Fracture: crumbling to shattering. Surface finish: many of the standard indentation techniques are present, such as wavy effects (b), rectangular effects (f), fingernail incisions (e). Some of the corrugated sherds are not indented (a, c, d). In (d) the demarcation between coils is emphasized by incising. Surface color: light gray to black. Rim: IB3. Rim fillet 10 to 14 mm. wide.

Distribution in La Sal Mountain area: Common. Most abundant in Spanish Valley at sites 104-50, 105-50, 118-50, and in Court House Wash at sites 31-50, 32-50, 33-50, and 34-50. A few sherds were found in Paradox Valley at sites 3-51, 4-51, on Mill Creek at 103-50, 47-51, on Seven Mile Canyon at 85-51, near the town of La Sal at 12-51, and on the Colorado River near the mouth of Castle Creek at 26-51.

Comparisons and distribution: Probably Pueblo II. Similar indented and non-indented corrugated sherds were found in Pueblo II levels at Alkali Ridge, Utah (Brew, 1946, Figs. 148, 149, 150). On Alkali Ridge the small rim fillet is diagnostic of Pueblo II (Brew, 1946, Fig. 149).

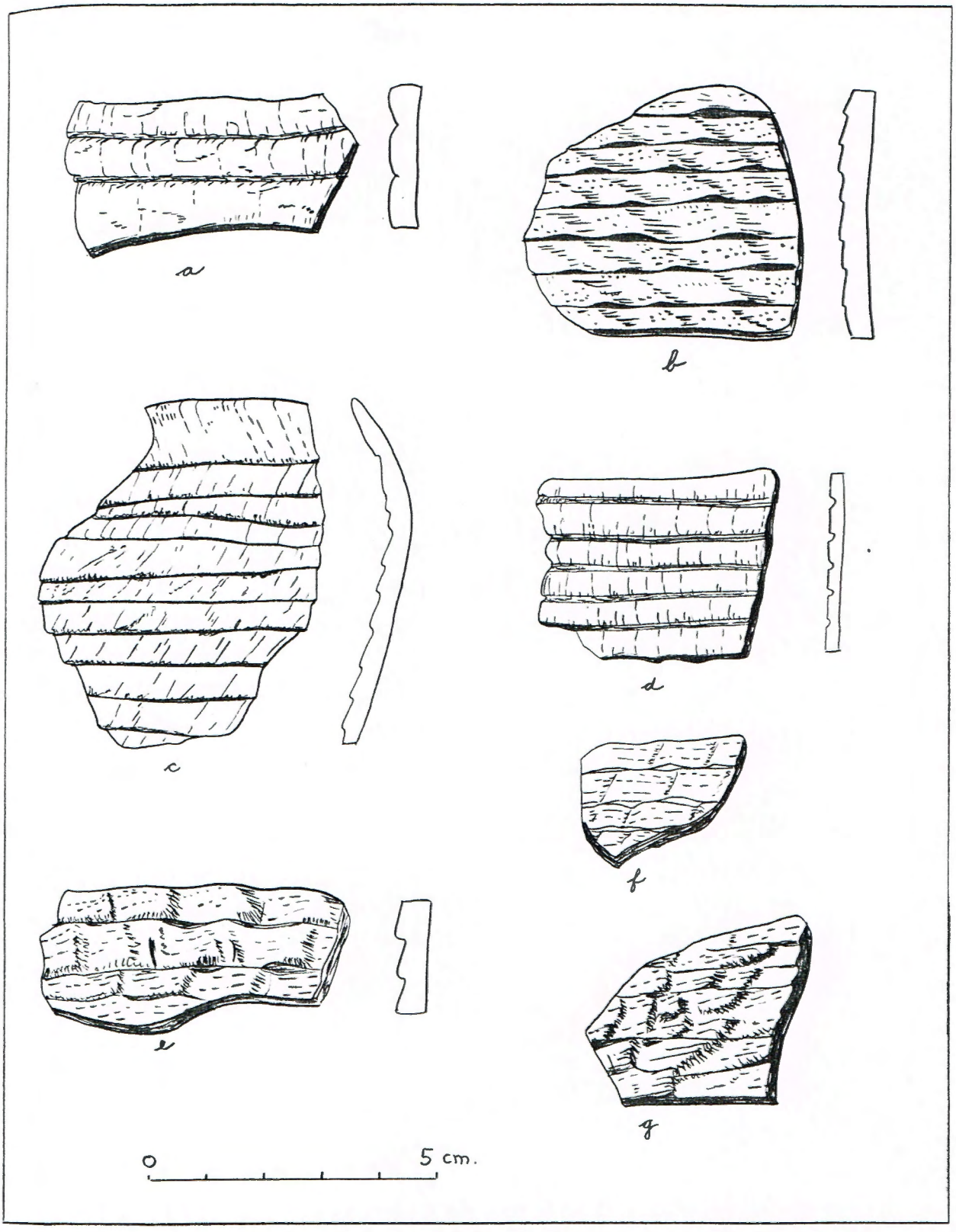


Figure 73

Gray ware, decorated

A. Decorated with indented fillet (Fig. 74, a)

Description: Paste: high carbon, silty. Temper: mostly sherds, some sand or crushed rock; 40 per cent. Walls: 5 to 6 mm. thick, weak. Fracture: shattering. Surface finish: exterior rough, temper shows, conspicuous diagonal scraping marks about 5 mm. apart. Interior smoother than exterior, temper shows. Surface color: gray-black. Decoration: fillet, a strip of clay 12 mm. wide, 5 mm. thick, encircles neck 10 mm. below rim. Fillet indented (finger?); indentations 11 mm. apart. Rim: IB3.

Distribution in La Sal Mountain area: Found at one site near town of La Sal (12-51).

Comparisons and distribution: Very similar to Navaho pottery at Denver Art Museum. Similar Navaho pottery described by Hill (1937, pp. 3, 11 to 13). See also Fremont complex sherd (Morss, 1931, pl. 21, middle row, left).

B. Decorated with punches (Fig. 74, b)

Description: Paste: gray. Temper: abundant very coarse angular rock. Closely spaced, punched dots, 2 mm. in diameter, 1 to 2 mm. deep, 5 mm. below rim. Rim thickened and rounded.

Distribution in La Sal Mountain area: Found at one site (34-51) in Court House Wash.

Comparisons and distribution: Suggestive of Promontory ware (Steward, 1937, Fig. 19, h).

C. Rim incised (Fig. 74, c)

Description: Paste: black. Temper: mostly plagiclase feldspar, some mica; a crushed feldspathic rock but probably not from La Sal Mountains; a few sherds. Walls: 5 mm. thick, weak. Fracture: shattering. Surface finish: surfaces rough, temper shows, mica flakes prominent, deep scraping marks. Surface color: brownish gray. Decoration: diagonal rim incisions from exterior to interior, 2 mm. deep, 10 mm. long. Rim: IA3.

Distribution in La Sal Mountain area: Found at site 12-51.

Comparisons and distribution: Similar pottery is found with Chama or Upper Rio Grande provenience.

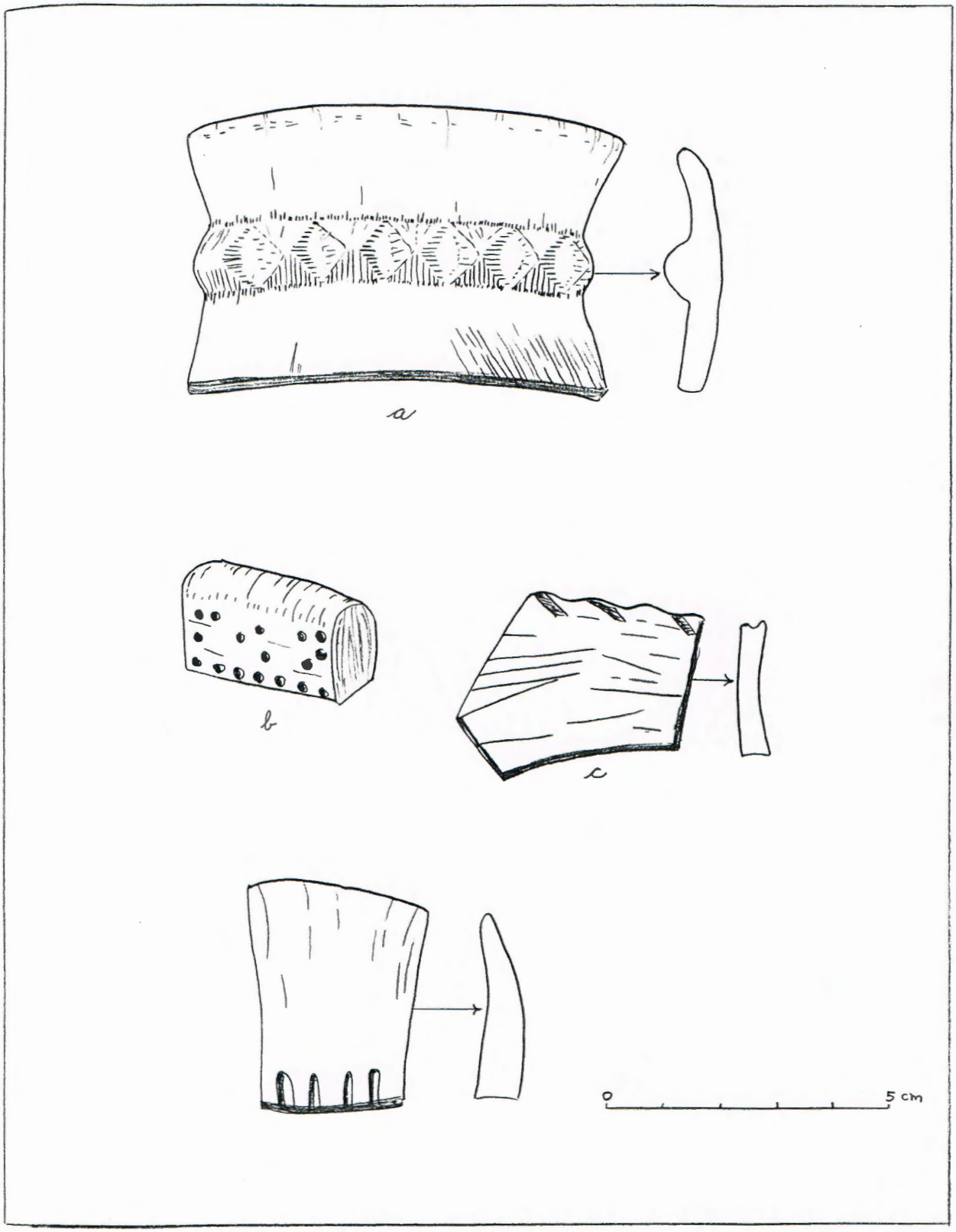


Figure 74

Gray ware, decorated

D. Neck incised (Fig. 74, d)

Description: Paste: blue-gray. Temper: abundant medium-coarse with occasional very coarse angular rock. Walls: 6 to 7 mm. thick. Surface finish: rough, temper shows, scraped. Surface color: medium gray. Rim: IA7. Decoration: thumb-nail or stick impressions on exterior at base of neck, 25 mm. below rim; incisions are 7 to 8 mm. long, 2 mm. deep.

Distribution in La Sal Mountain area: Found at one site (3-51) in Paradox Valley.

Comparisons and distribution: Suggestive of thumb nail indented wares from Beaver and Salt Lake City, Utah (Judd, 1926, p. 143, Pl. 37, e).

Gray ware, plain

A. Plain gray, mostly porphry tempered

Description: Paste: gray to black, carbon streak. Silt content about 10 per cent. Temper: very coarse crushed porphry (feldspar, augite, magnetite, occasional quartz; feldspar in part sericitized but to different degrees in different sherds). Occasional sherd in temper. Temper 25 to 30 per cent of core. Walls: 5 to 7 mm. thick, weak to strong. Fracture: crumbling or shattering. Surface finish: in one variety the exterior surface is smoothed or polished, the inside scraped. Temper shows both surfaces but not conspicuously. Surfaces are smooth, not bumpy; walls strong. Variety 2 is very crude with bumpy surfaces, lightly scraped. Temper shows both surfaces, but not conspicuously. Edges of sherds tend to break off in layers. Walls weak. Surface color: light to dark gray. Rim: IA3, variety 2.

Distribution in La Sal Mountain area: Common. Found at Geyser Pass (42), Mill Creek (103-50), Spanish Valley (105-50, 118-50), Court House Wash (33-51, 34-51), Colorado River near mouth of Castle Creek (36-51), and Paradox Valley (2-51, 3-51, 4-51, 5-51).

Comparisons and distribution: The crude variety is similar in appearance to a plain gray ware found at the Turner site near Cisco, Utah (M. Wormington, personal communication).

B. Plain gray, mostly sherd tempered

Description: Paste: light gray, carbon streak. Silt content about 10 per cent. Temper: sherds of irregular shape and size, 15 per cent of core. Walls: 4 to 6 mm. thick, strong. Fracture: shattering. Surface finish: interior scraped. Exterior may be scraped and polished to a high gloss or scraped and left unpolished. Temper shows both surfaces, slight crazing. Surface color: polished varieties are dark gray or black; unpolished varieties are light gray or blue. Rim: IA3, unpolished varieties.

Distribution in La Sal Mountain area: Found on Mill Creek (103-50), Spanish Valley (105-50, 118-50), Court House Wash (31-51, 32-51, 33-51, 34-51), and Paradox Valley (2-51, 3-51, 4-51).

Comparisons and distribution: Polished variety is similar in appearance to that found at the Turner site near Cisco, Utah (M. Worthington, personal communication). The unpolished variety seems to be similar to the Pueblo III, plain blue-gray, unpainted, smoothed pottery on Alkali Ridge, Utah (Brew, 1946, p. 257).

C. Plain gray, granite tempered

Description: Paste: dark gray to black, high carbon. Temper: abundant, very coarse; angular quartz, feldspar (microline and oligoclase) and mica, probably a crushed granite. Temper up to 2 mm. in diameter. Walls: 6 mm. thick, weak. Fracture: crumbling. Surface finish: rough, pitted, temper conspicuous on both surfaces; prominent scraping marks both surfaces. Surface color: dark gray to black. Rim: IA3.

Distribution in La Sal Mountain area: Found just north of the town of La Sal (12-51) and in Castle Valley (31-50).

Comparisons and distribution: An unidentified type. Granite occurs on the Uncompagre Plateau and in gravels along Colorado River. A gray corrugated sherd collected near Uruvan on the western slope of the Uncompagre is granite tempered.

D. Plain gray, micaceous paste

Description: Paste: micaceous, mica flakes up to 0.5 mm. long. Temper: crushed rock (quartz and feldspar), 15 per cent. Walls: 3.5 to 4.0 mm. thick, weak. Fracture: shattering. Surface finish: both surfaces rough, scraped, temper shows. Exterior slightly undulating as if coils were not completely obliterated. Surface color: brownish gray.

Distribution in La Sal Mountain area: Found at one site (30-51) in Court House Wash.

Comparisons and distribution: Probably Picuris pottery. (personal communication, Anna Shepard, Carnegie Inst. of Wash. D. C.)

E. Plain gray, calcite tempered

Description: Paste: black. Temper: abundant, very coarse, angular powdery calcite. Walls: 10 mm. thick, weak. Fracture: crumbling. Surface finish: exterior slightly polished, undulating; interior scraped (?), temper shows. Surface color: dark gray to black.

Distribution in La Sal Mountain area: Found at site 34-51.

Comparisons and distribution: Similar to calcite tempered pottery reported from Fremont complex, Castle Park, Colo. (Lister, 1951, p. 32). Calcite tempered pottery also found in Promontory complex, Great Salt Lake caves (Jennings, personal communication), and at Turner site, Cisco, Utah (Wormington, personal communication).

Basketry. Three baskets, belonging to the collection of Kenneth Allred, Moab, Utah, were found at shelter site 83-51 on Seven Mile Canyon, nested, one inside the other, three feet below the present surface. Associated materials were a bundle of snares, roll of cordage, roll of twined rabbit fur string, four arrow shafts and four bone awls.

Description: The three baskets each have a different technique of construction. (1) Split rod and bundle foundation. Uninterlocked stitch. Shallow tray: top diameter 11 inches, bottom diameter 4 inches, height 3.5 inches. Finely woven: 10 stitches to the inch, 8 rows to the inch. Bottom of basket was repaired using (3) technique. Inside of basket was coated with rosin.

(2) Split rod and bundle foundation. Interlocked stitch. Small basket: top diameter 6 inches, bottom diameter 5 inches, height 3 inches. Finely woven: 12 stitches to the inch, 7 to 8 rows to the inch. Basket patched around edge.

(3) Two rod foundation. Interlocked stitch. Shallow bowl; top diameter 8 inches, bottom diameter 3 inches, height 3 inches. Coarsely woven: 7 stitches to the inch, 5 rows to the inch.

Distribution in La Sal Mountain area: Found at site 83-51 by Kenneth Allred, Moab, Utah.

Comparisons and distribution: Similar basketry is found in northwestern Colorado and eastern Utah in the Fremont complex. It is the most common type of basketry at Etna Cave, Nevada, at Basketmaker II rock shelters near Durango, and occurs but is rare in the Great Salt Lake Caves, Utah, in the Promontory complex. References are as follows:

Grantsville and Unitah Basin, Utah (Steward, 1936, p. 55)
Castle Park, Colo. (Burgh and Scoggin, 1948, Figs. 33, 34)
Fremont River, Utah (Morss, 1931, p. 73)
Durango Rock Shelters, Colo. (Burgh and Scoggin, 1948, p. 83)
Etna Cave, Nevada (Wheeler, 1942, p. 17)
Great Salt Lake Caves, Utah (Steward, 1937, p. 34)

Miscellaneous Small Objects

Stone ball: Well shaped ball, 60 mm. in diameter; sandstone. Found at piñon-juniper campsite; probably Fremont. Similar objects are reported as follows:

Castle Park, Colo. (Lister, 1951, p. 29). Levels 2, 3 (Fremont) and 13.
Western Utah (Steward, 1936, p. 38) Puebloid sites.
Central Utah (Gillin, 1941, Pl. VIII, 19)

Pottery disc: Circular pottery disc, 15 mm. in diameter, 2.5 mm. thick, edged like small coin. Probably a gaming piece. Found at dwelling site 45-52, probably late Fremont. Similar discs are reported as follows:

Nine Mile Canyon, Utah (Gillin, 1938, p. 28)
Paragonah, Utah (Steward, 1936, p. 21)
Marysvale, Utah (Gillin, 1941, Pl. V, B2)

Crescentic stone: length 35 mm., width 12 mm., thickness 3 mm. One face concave; other face convex. Material used: pink chert. Found at dwelling site 58-52; probably early Fremont. Similar crescentic stones or scrapers are reported from the Basin and Range Province, as follows:

Southeastern Oregon (Cressman, 1936, Fig. 13)
Pleistocene Lake Mohave, Calif. (Campbell and Campbell, 1937, Pl. XXXVIII, f)

Bone pendant: probably turkey leg bone with 6 mm. tubular opening; length 4.5 cm. Blackened, but found in hearth. Possibly pendant, or used in cup and pin game. (Hodge, 1912, p. 485). Found at Fremont dwelling site.

Smooth, elongate cobble: length 100 mm., diameter 14 to 24 mm. An imported stream cobble, possibly an incompletely worked stone tool; more probably a phallic object. Found at late Fremont site 105-50.

Corn cobs: 24 corn cobs were collected at 3 granaries and 5 Fremont dwelling sites in the area. The number of rows of kernels ranges from 10 to 18, with a mean of 14. The kernels are paired; diameter and length of ears vary widely. A cob collected near the granary dated by radiocarbon at 1000 A.D. ± 150 (16-51) has 14 rows of corn, paired; length 110 mm.; cob slightly elliptical, 17 mm. by 20 mm.

Minerals:

Asphalt; resembles gilsonite but does not fuse and is insoluble. Found scattered over the surface in small nodules at dwelling site 58-52, probably early Fremont.
Specular hematite: in plates up to 3 cm. in diameter. Obtainable in the La Sal Mountains.
Feldspar crystals: 2 cm. long. Obtainable in the La Sal Mountains.
Quartz crystals: 5 and 6 sided crystals, about 3 cm. long, obtainable in north La Sal Mountain; rounded quartz pebbles, 1 cm. in diameter, obtainable locally.
Copper minerals: malachite and chrysocolla. Obtainable locally.

Petroglyphs and Pictographs

Petroglyphic art reached its highest development north of Mexico in eastern Utah (Steward, 1936, p. 422). Petroglyphs (pecked figures) are abundant in the La Sal Mountain area; pictographs (painted figures) are rare. Petroglyphs are numerous along the Colorado River and canyons tributary to it, where sheer sandstone walls and sides of big boulders were available to the Indians for pecking or painting their figures.

The petroglyphs are classified into four main groups of subjects: human, animal, tracks, and abstract designs. Pictographs are treated separately. The classification is as follows:

- Pecked human figures
  - Horned
  - Ornamented
  - Fringed
  - Humpbacked flute player
  - Grouped
  - Miscellaneous
- Pecked animal figures
  - Sheep, deer, snakes
  - Birds and miscellaneous
- Pecked tracks
- Pecked abstract designs
- Pictographs

The anthropomorphic horned, ornamented and fringed figures were pecked in realistic style and with attention to detail. They are typical of the Fremont culture. The humpbacked flute player, one of the abstract designs--a spiral figure, foot and hand prints, and the large pictographs, are found in Basket Maker-Pueblo areas to the south as well as in eastern Utah. Most of the abstract design figures are like those that occur in the Basin and Range province, and to a lesser extent in the Plains.

No means have been developed for correlating petroglyphs with other archeological stratigraphy. However it seems reasonable to infer that styles in petroglyphs, like styles in pottery decoration and stonework, evolved exceedingly slowly. As additional information about them is gathered, they may become a useful typological tool for dating.

Geologic evidence provides only general clues as to the age of the petroglyphs of the La Sal Mountain area. The petroglyphs are younger than the main coat of desert varnish which is cut by the pecking; but some are coated weakly with more recent varnish. Some petroglyphs, for example along Mill Creek, are high on the cliffs forty feet or more above the creek, as if there had been an alluvial pedestal that has been removed by erosion. But the pedestal, if there ever was one, could have been eroded during any one of the several epochs of arroyo cutting.

Petroglyphs

Horned human figures (Fig. 75)

Description: Square shouldered, horned figures. Bodies mostly trapezoidal (a, b, c, d, f), some triangular (g, h, i), or rectangular (e, j, k). Height commonly about 1 foot, but range is from 6 inches (g) to 4 feet (e, f). May be horned images of gods or decorated ceremonial dancers.

Distribution in La Sal Mountain area: Widely distributed on Mill Creek; also found along Colorado River and Sterns Wash and in Fisher Valley.

General distribution: Reported from Utah and southeastern Nevada. (Fremont culture). References are as follows:

Fremont River area, Utah (Morss, 1931, Pls. 15, 16 and p. 35; Steward, 1929, Pls. 81, a, b and 82, e). Morss found pecked figures similar to (a) superimposed on very large red painted square shouldered figures. These were overlain by pecked ornamented figures like (a) (Fig. 76).

Great Salt Lake caves, Utah (Steward, 1936, Pl. 4). Steward's figure almost identical to (f), except that it was painted red, not pecked.

Virgin River, Nevada (Steward, 1929, Pl. 93, c, d)

Northeastern Arizona (Haury, 1945, Fig. 15). Like (j) but painted.

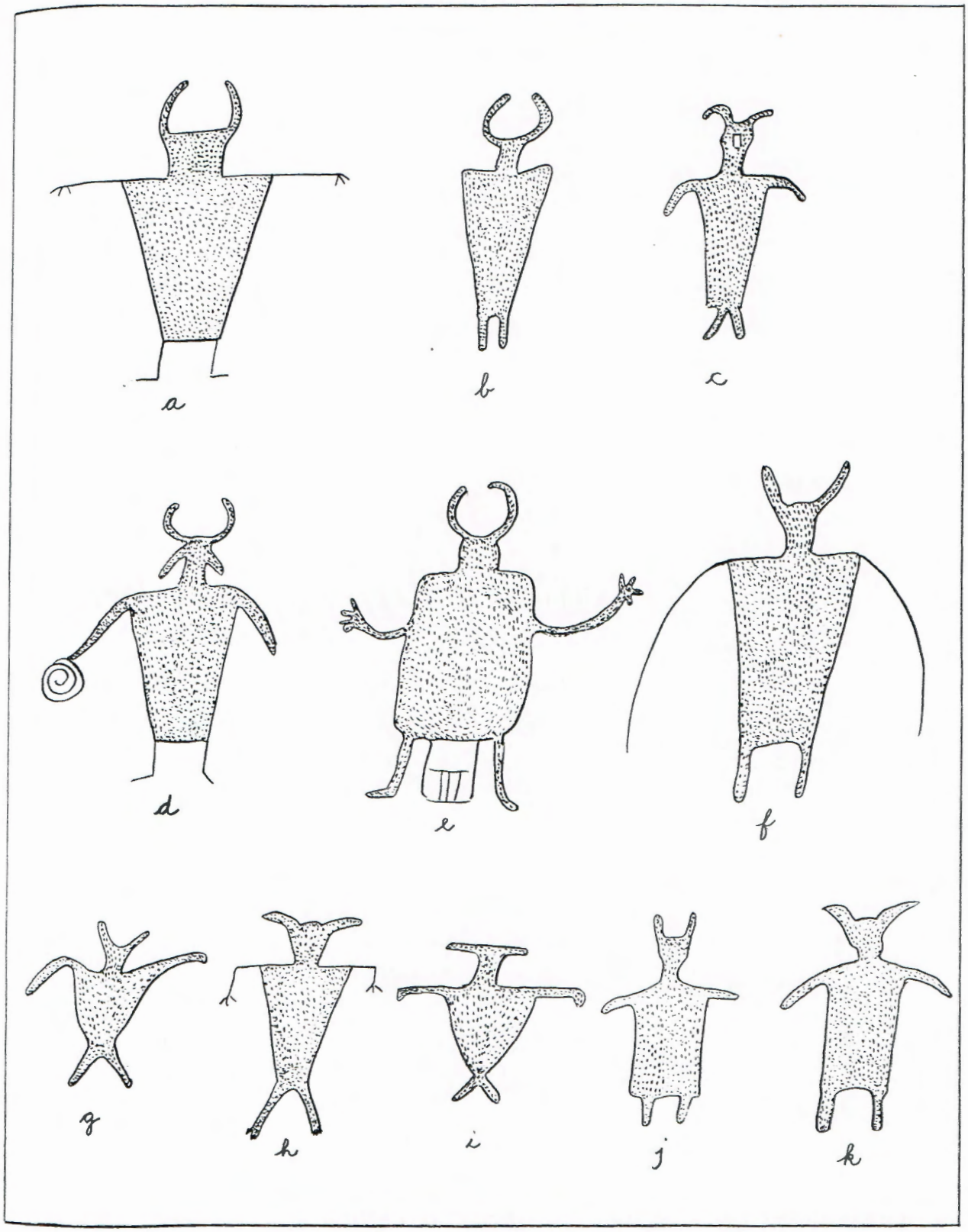


Figure 75

Ornamented human figures (Fig. 76)

Description: pecked in outline. Square shouldered with trapezoidal, triangular or rectangular bodies. Heads commonly round, with neck, rarely square or trapezoidal and set on body without neck (a). Generally about 1 foot figh, but some are 2 or 3 feet high (d, h).

Distribution in La Sal Mountain area: Widely distributed on Mill Creek; also found at Sterns Wash, at entrance to Court House Wash and on Colorado River near Moab. (c) was near granary (16-51) dated by radio-carbon at 1000 A.D. ± 150.

General distribution: Widely distributed on Colorado Plateaus. Range: Fremont culture. References are as follows:

Square or trapezoidal heads like (a)
- Fremont River area, Utah (Morss, 1931, Pl. 13, f and p. 35; Steward, 1929, Pl. 82, a, b, d)
- Colorado River, 5 miles below mouth of Fremont River (Steward, 1929, Fig. 85, c)
- Thompsons, Utah (Morss, 1931, Pl. 14, c)
- Dinosaur National Monument, Utah (Burgh and Scoggin, 1948, p. 71)

Round heads and necks
- Vernal, Utah (Steward, 1936, Pl. 3)
- Northern Ariz. (Steward, 1929, Pl. 84, b)

Figures with tear-lines somewhat like (g) are common in the northern Periphery (Steward, 1936, p. 432).

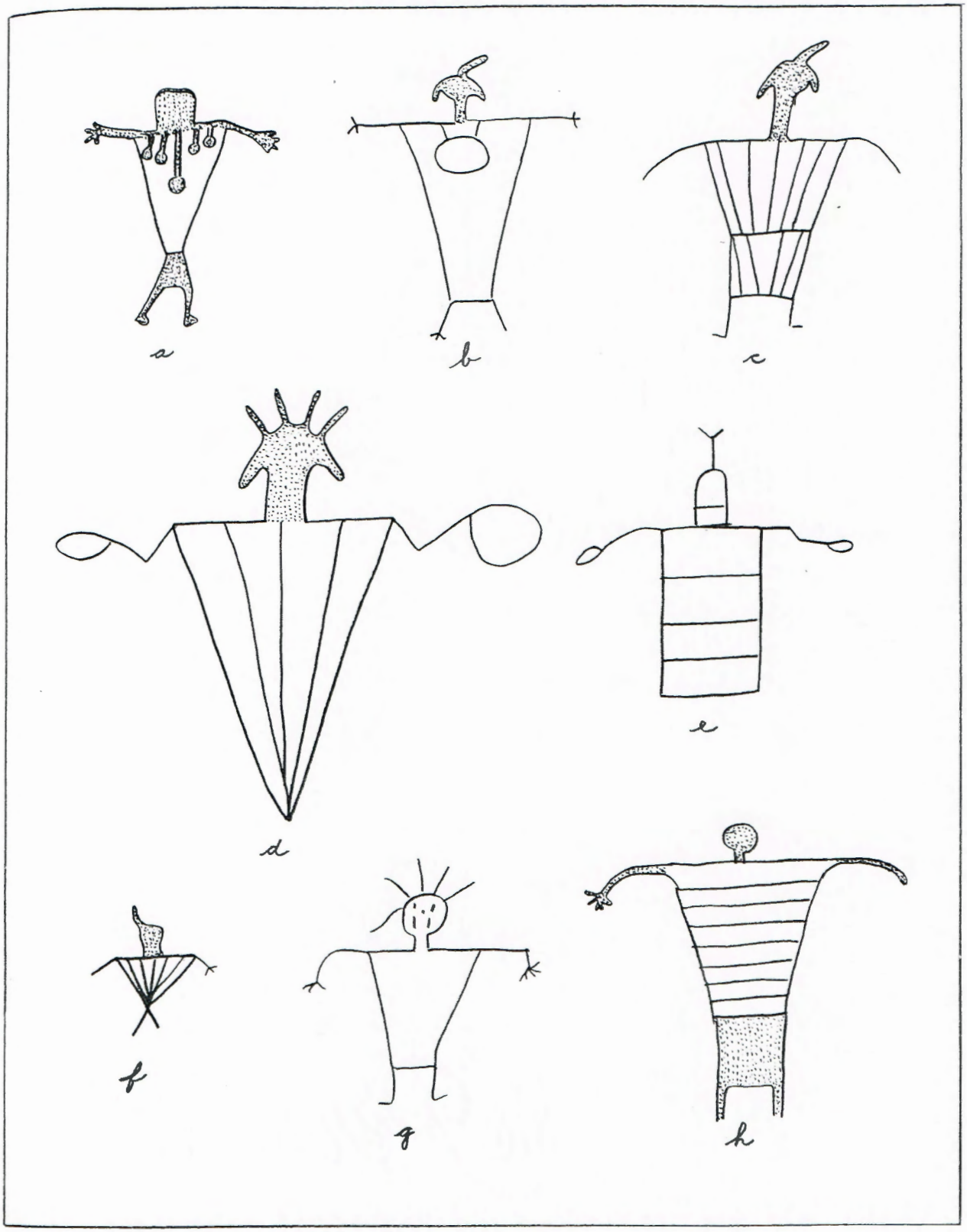


Figure 76

Fringed human figures (Fig. 77)

Description: Fringes pendant from headdress, arms, or both. Some figures square shouldered with trapezoidal bodies (c, d, h, i); others round shouldered and realistic (a, b) or shoulderless (f). Figure (i) was pecked upside-down. Heights commonly about 1 foot, but range from less than 1 foot to 3 feet (i).

Distribution in La Sal Mountain area: Common along Mill Creek; also along Colorado River, near bridge north of Moab.

General distribution: Reported from Colorado Plateaus and Alaska. Range: Fremont culture and Athabascan. References are as follows:

Fruita, Utah (Morss, 1931, Pl. 13, a, d). Painted petroglyphs with fringe on horns.

Nine Mile Canyon, Utah (Morss, 1931, Pl. 13, b). Painted petroglyphs with fringe on horns. Figure has neck. Fringe appears to be antlers. See antlers on deer (Morss, 1931, Pl. 14A, a)

Sieber Canyon, Glade Park, Colo. (Lister and Dick, 1952, Fig. 3, a, b) Identical to (a) and (b).

Southcentral New Mexico near rock circles and artificial rock walls (Hough, 1907, Pl. VI and p. 73; Hales, 1892, Fig. 2, p. 538 and Fig. 4, p. 540)

Alaska (Mallery, 1893, Fig. 1159, d, and Fig. 1160)

Northeastern Arizona (Haury, 1945, Fig. 16 and page 68). Hairdress (but not fringes) identical to that found on pictographs at Painted Cave, and assigned to Basketmaker II.

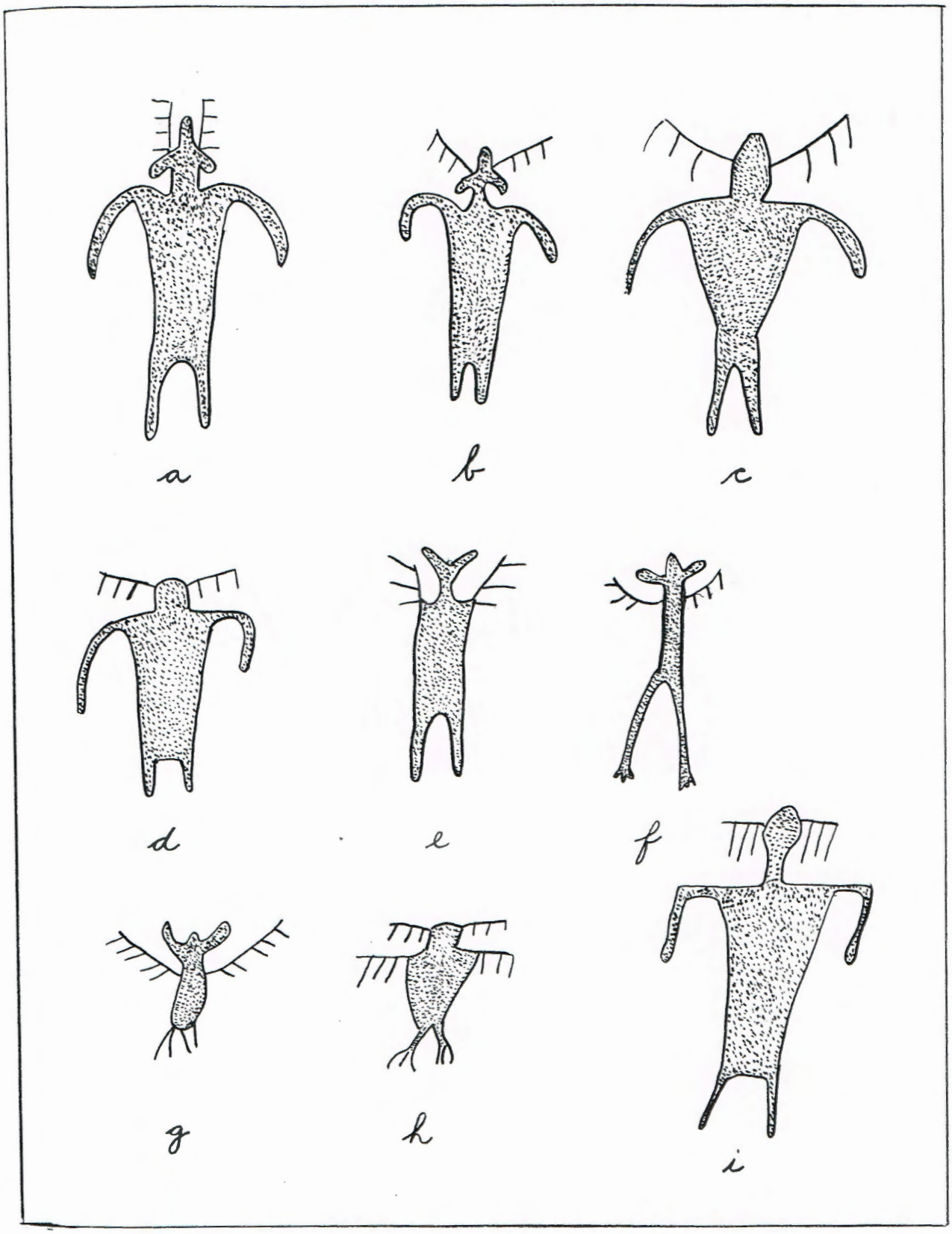


Figure 77

Humpbacked flute player (Fig. 78)

Description: Generally round backed (not humped) flute players in sitting or standing position. Not phallic. Height about 6 inches. Humpbacked flute player generally is regarded as being ancestral to Kokopelli, modern kachina god of the Hopis (Hawley, 1937, p. 646; Titiev, 1939, p. 91). In the La Sal Mountain area the flute player is associated with beetle-like insects which are found only in association with the flute player (c). One theory about the humpbacked flute player interprets him as an insect (Parsons, 1938, p. 337). Humpbacked flute players with large humps (not illustrated) occur at site 104-50.

Distribution in La Sal Mountain area: Found at Court House Wash, Mill Creek, La Sal Creek Canyon, and on plateau SW of Moab (site 104-50).

General distribution: The humpbacked flute player appears to be late Fremont in the La Sal Mountain area. Widely distributed on the Colorado Plateaus. Pueblo I to III. References are as follows:

Chaco Canyon, N. M. on Black-on-white sherds dated as Pueblo I, and in petroglyphs (Hawley, 1937, p. 645)

Painted house, Fewkes Canyon, Mesa Verde, Colo. as a pictograph (Fig. 78, f). (Fewkes, 1916, Fig. 2 and Pl. 7)

La Plata region, Colo. on Mesa Verde style pottery (Morris, 1939, p. 244)

Monument Valley, Ariz. on petroglyphs near and in Flute Player House (Kidder and Guernsey, 1919, p. 196, Fig. 96 and Pl. 93). See Fig. 78, d.

Casas Grandes, Chihuahua. Seated humpbacked male with female on painted effigy ware. No flute (Kidder, 1916, p. 259 and Pl. 3).

Village of the Great Kivas, Zuni Reservation, N. M. on petroglyphs and pottery (g). (Roberts, 1932, Pl. 61 and Fig. 27, a). Buildings here erected between 1000 and 1100 A.D.

Mouth of Ticaboo Canyon, 5 miles below Hite, on Colorado River, Utah, on petroglyph (e). Photographed by Charles B. Hunt, U.S.G.S. Site not reported before.

Rainbow Park, Colo. (Burgh and Scoggin, 1948, p. 72)

Nine Mile Canyon, Utah (Gillin, 1938, p. 30)

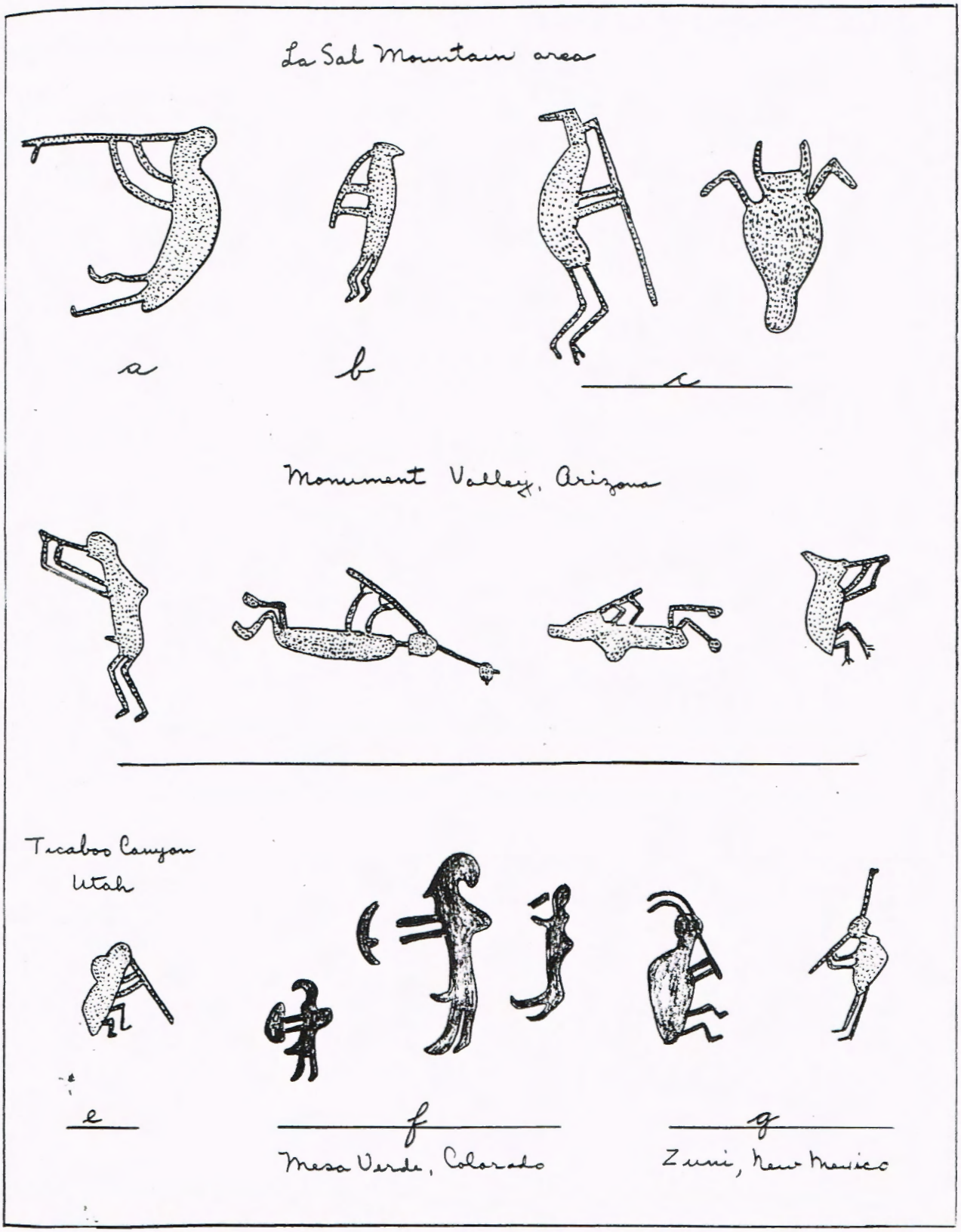

La Sal Mountain area
a
b
c
Monument Valley, Arizona
Tucaboo Canyon
Utah
e
f
Mesa Verde, Colorado
g
Zuni, New Mexico

Figure 78

Grouped figures (Fig. 79)

Description: Rows of dancing figures. One kind (a, b, c, d) has square shoulders, triangular or trapezoidal body, and a neck with round head. Another kind (e) is composed of realistic figures (children?) holding hands. This is one of the prettiest petroglyphs in the area. Rows of dancing figures are among the few North American Indian attempts at composition (Steward, 1936, p. 422).

Distribution in La Sal Mountain area: Found along Mill Creek with exception of (d) which was reported from La Sal Canyon (Jeancon, 1926, Pl. III, b). The rows of conventionalized stick figures (f) are rare.

General distribution: Figures similar to the natural looking group (e) are reported in the Monte Vista District, Colorado (Renaud, 1936, Pl. 20, Fig. 20); on the San Juan River, 10 miles below the mouth of the La Plata, New Mexico (Holmes, 1878, Pl. 53); and near Tucson, Arizona (Steward, 1936, Fig. 7).

Miscellaneous human figures (Fig. 80)

Description: Conventionalized humans are depicted in figures (a), (b), (c), and (d). Figures (h) and (i) appear to be wearing antlers. Headdress of figure (d) may also have been antlers, but was too dim to decipher. Figure (j) is unique in having such exaggeratedly large hands and feet. Height of (b, c, d) about 1 foot; of (a) about 2 feet. Size of triangular and rectangular figures with breasts or arms held close in front of body ranges from 1 foot (g) to life size (e, f).

Distribution in La Sal Mountain area: Figures (a, b, c) are from site 43-51 on Mill Creek. Figure (d) is from the Arches National Monument, north of the La Sal area, and was associated with petroglyphs depicting men on horseback. Figures (e, f, g) are found only on Sterns Wash. Figures (h, i, j, k) are from Mill Creek.

General distribution: A petroglyph similar to (c) is reported from Milford, Utah (Mallory, 1886, Fig. 153). Mallory calls this a Shoshonian petroglyph. Figure (k) is also found in Castle Park, Colorado (Burgh and Scoggin, 1948, Fig. 45, a).

Miscellaneous human figures (Fig. 81)

Distribution in La Sal Mountain area: All the figures are from Mill Creek except for (c), (e) and (f). Figures (c) and (f) are from Court House Wash and figure (e) is found both on Mill Creek and on the Colorado River near Moab.

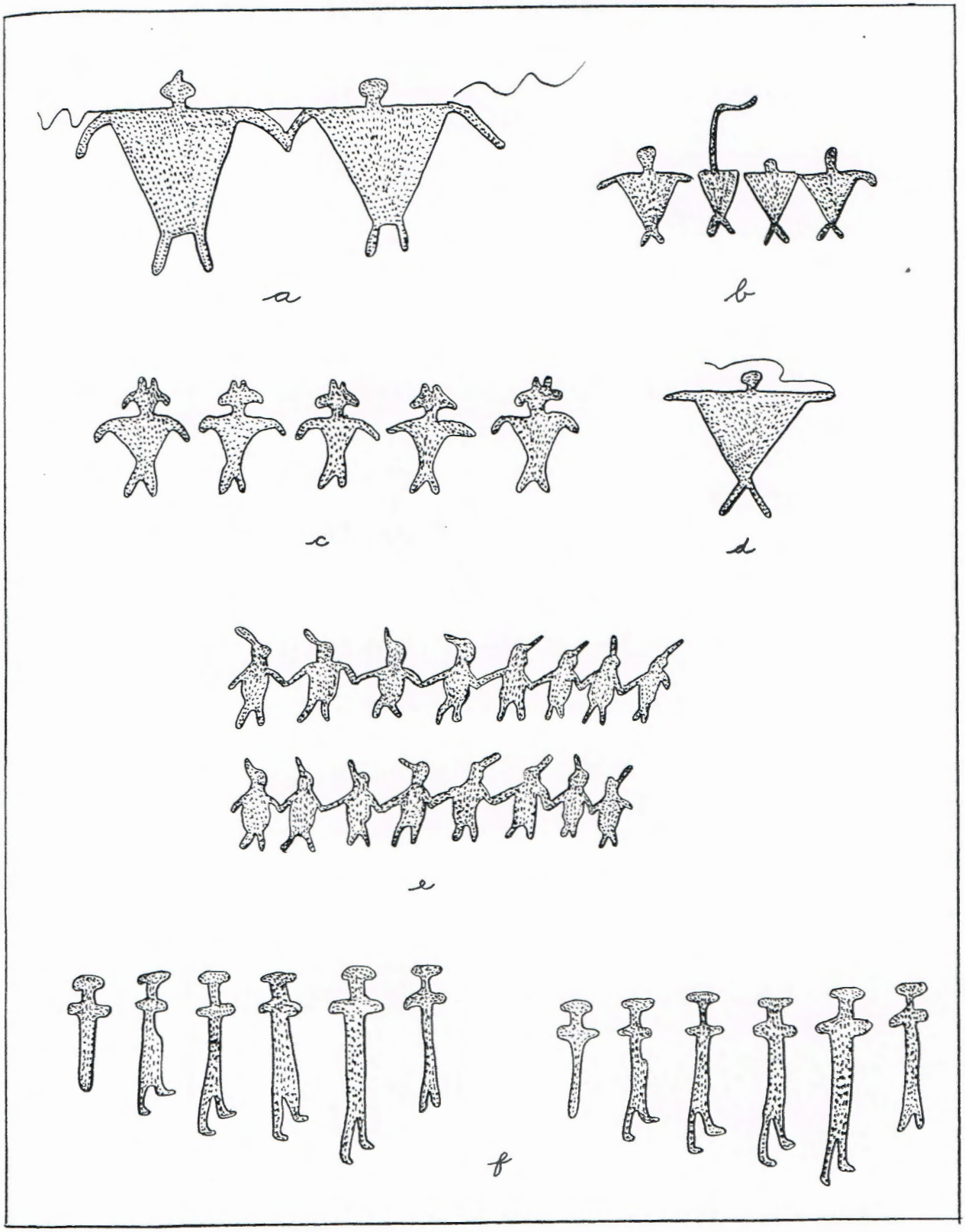


Figure 79

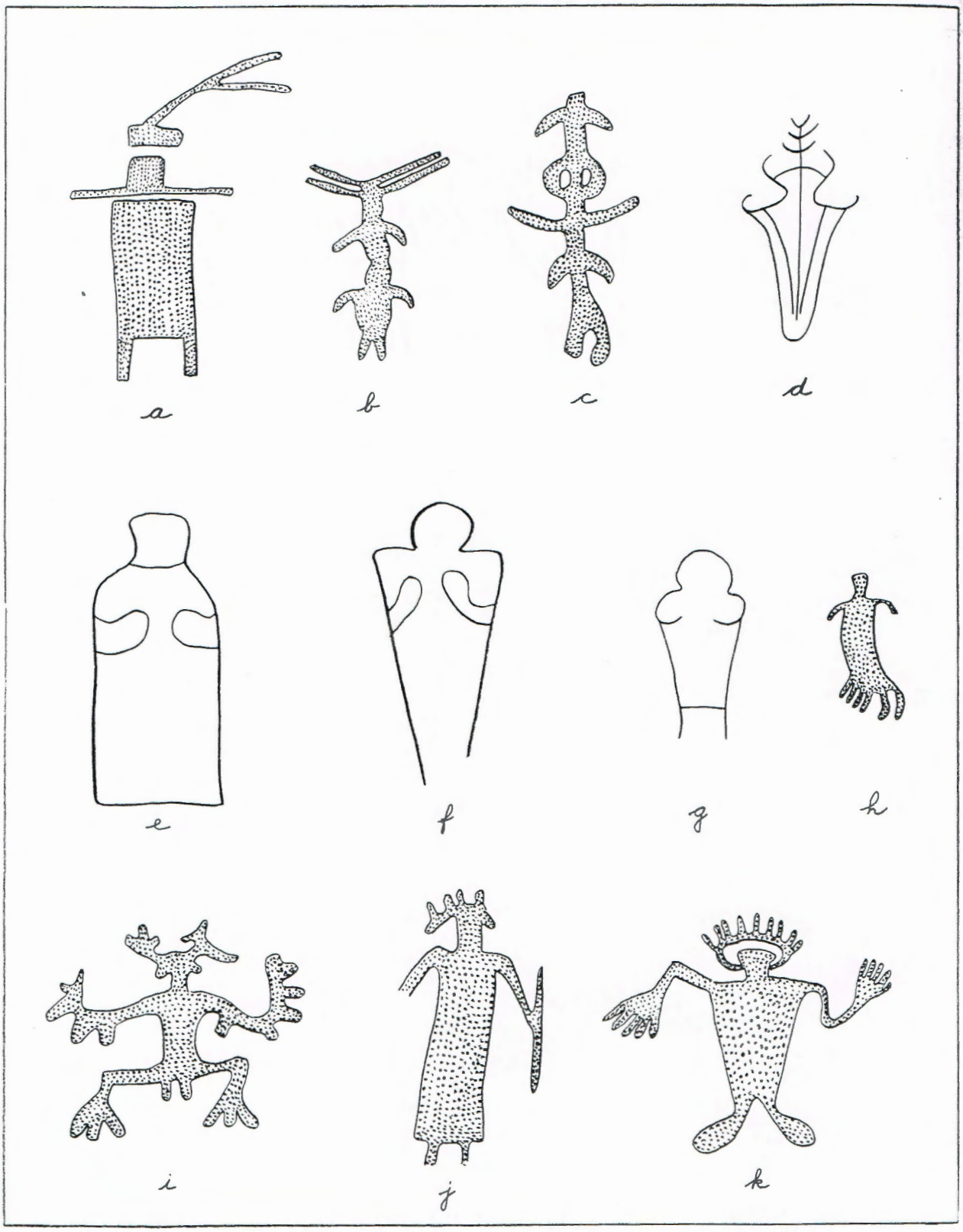


Figure 80

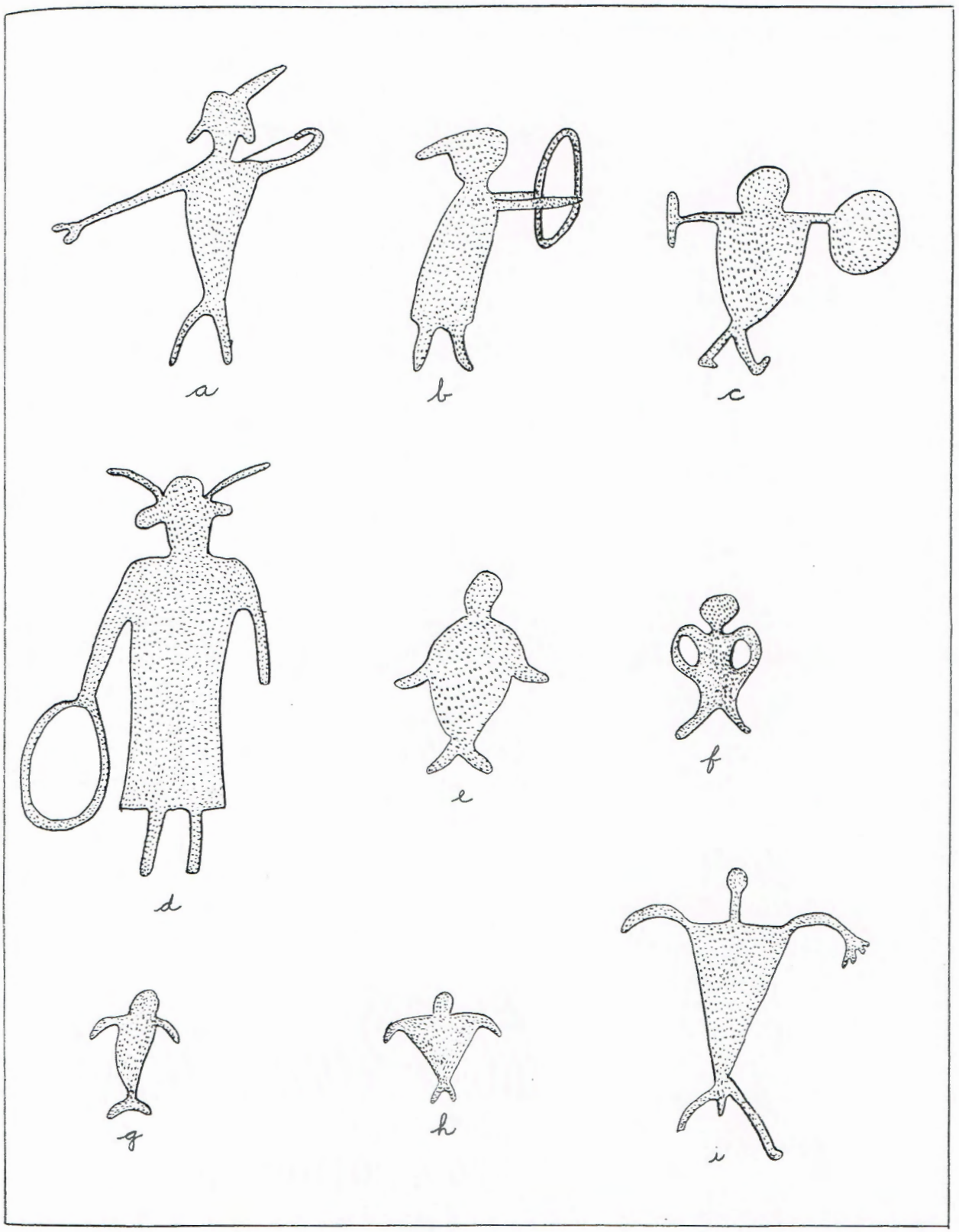


Figure 81

Animal figures

Mountain sheep (Fig. 82)

Description: Generally lifelike. Bodies crescent shaped (d, e), square (b) and oval (f). Hoofs indicated by two parallel lines (a, f) or by thickening at base of leg (c). Ears not indicated. Some have tails (f, g, i, j), tusks (e, j), decorated body (h), or rectangle left unpecked within body (l). Herds of sheep not uncommon. Size regularly less than 1 foot although some life-sized sheep are depicted.

Distribution in La Sal Mountain area: Commonest of all figures; occur in practically every group of petroglyphs in area. Sheep horns (k) found only at one site (42-51) on Mill Creek.

General distribution: Widely distributed on Colorado Plateau, and Basin and Range Province. Crescent bodied sheep, sheephorns and conventionalized portrayals are characteristic of Basin and Range. Realistic attention to details of hoofs, mouths, ears is characteristic of eastern Utah and northeastern Arizona. References are as follows:

Sheep with hoofs (Fig. 82, a, c, f)
- Northeastern Arizona (Kidder and Guernsey, 1919, Pl. 89, a, b, f, h, k, l)
- Fruita, Utah (Steward, 1929, Pls. 81, b, c, d; 82, e). Ears not portrayed in La Sal Mt. area as in Fruita and northeastern Arizona)

"Laughing" sheep (Fig. 82, i)
- Northeastern Ariz. (Kidder and Guernsey, Pls. 89; 93, a, b; Fig. 96)
- Fremont River area, Utah (Morss, 1931, Pl. 13, e; Steward, 1929, Pl. 81, b)

Crescent shaped sheep (Fig. 82, d, e, i, j)
- Southern Basin and Range (Steward, 1929, p. 152)
- Southern Wyoming (Renaud, 1936, Pl. 13; Figs. 1, 3)
- Westcentral Wyoming (Gebhard and Cahn, 1950, Fig. 67)

Sheephorns (k)
- Owens Valley, Calif. (Steward, 1929, Fig. 20, k)
- Southeastern Nevada (Steward, 1929, Fig. 20, k)
- Pocatello, Idaho (Erwin, 1931, p. 91)

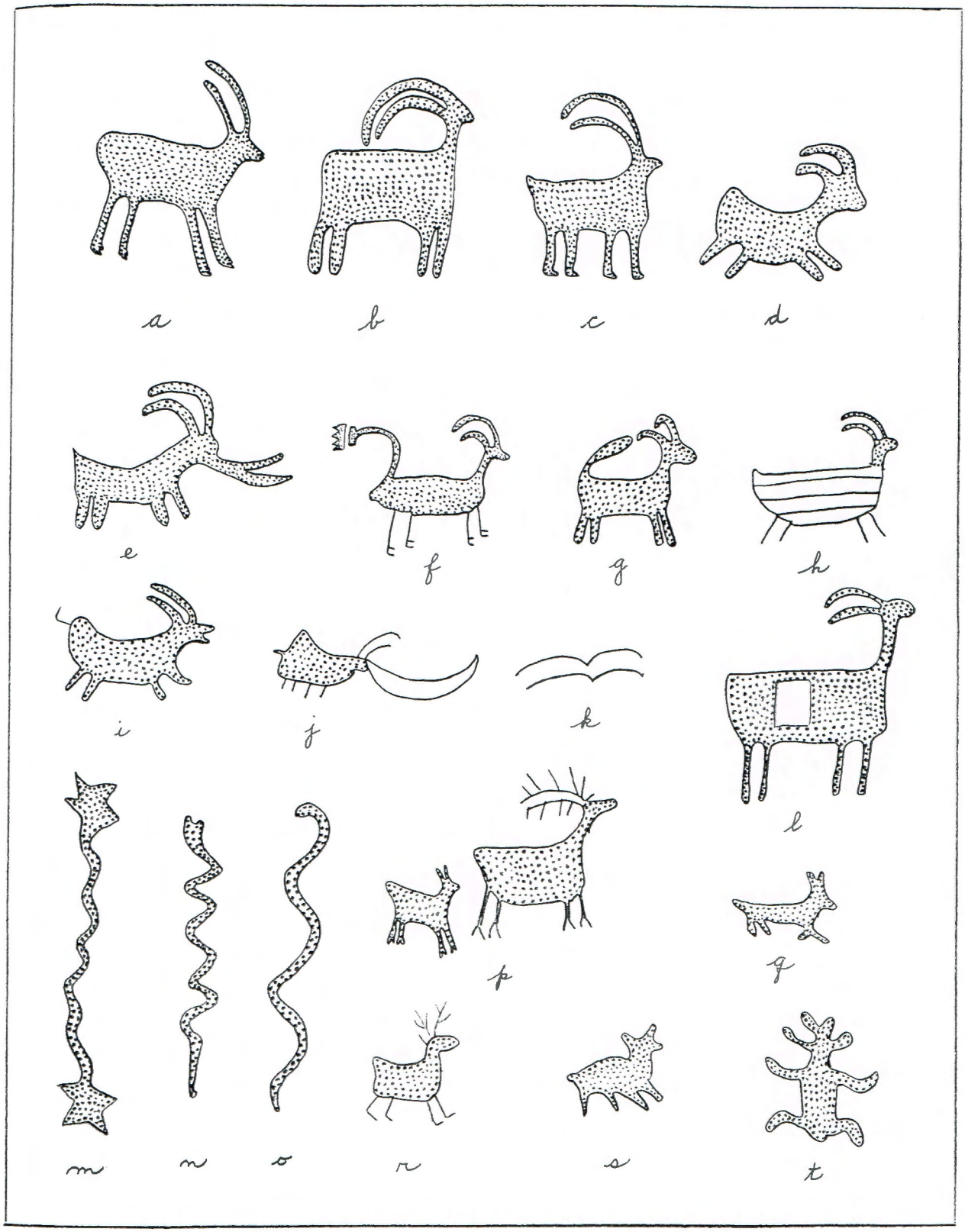


Figure 82

Snakes (Fig. 82, m, n, o)

Description: Long (2 to 3 feet) sinuous lines, commonly thickened at one end to indicate head. One snake has 4 dots near coils.

Distribution in La Sal Mountain area: Very common on Court House Wash, Sterns Wash and Mill Creek. Snake with dots at one site only.

General distribution: Reported from Colorado Plateaus and southern Basin and Range Province. References are as follows:

Colorado Plateaus, southern Basin and Range (Stewart, 1929, map 10)
Central Washington (Cain, 1950, map 6)
Western Texas (Jackson, 1936, Pls. CCXCIII, CIV, CV)
Western Nevada (Steward, 1929, Pl. 58, e) Snake with dots in coils.
Central Washington (Cain, 1950, Fig. 30) Snake with dots in coils.

Deer (Fig. 82, p-t)

Description: Presence of antlers identifies figures as deer. Does are more difficult to recognize.

Distribution in La Sal Mountain area: Rare. Found on Sterns Wash and Mill Creek.

General distribution: Reported on Colorado Plateaus, Northern Basin and Range Province, and western Texas. References are as follows:

Southern Utah, northeastern Arizona (Steward, 1929, Fig. 87, j, m, o, q)
Southern Wyoming (Renaud, 1936, Pl. 13, Figs. 1 and 3)
Western Texas (Jackson, 1936, map XXIV; Pl. CCLXXXIV)
Central Washington (Cain, 1950, map 20)

Miscellaneous (Fig. 83)

Description: Miscellaneous animal figures including birds, (a, b, c) bats (d, e), beetle (f), lizard (g), cougar (h), duck (i), centipede (j), dog (k), tracks (l), boar (m). Height of figures about 1 foot; duck, centipede several feet in height. Most figures occur only once in area.

General distribution: Similar figures are reported elsewhere as follows:

Birds: Greatest concentration in Arizona (Steward, 1929, map 44)
Dog: Fruita, Utah (Steward, 1929, Pl. 81, c, d)
Cougar: Western Nevada (Steward, 1929, Pl. 57, f)
Centipede: Southern Nevada (Steward, 1929, Pl. 79, a)

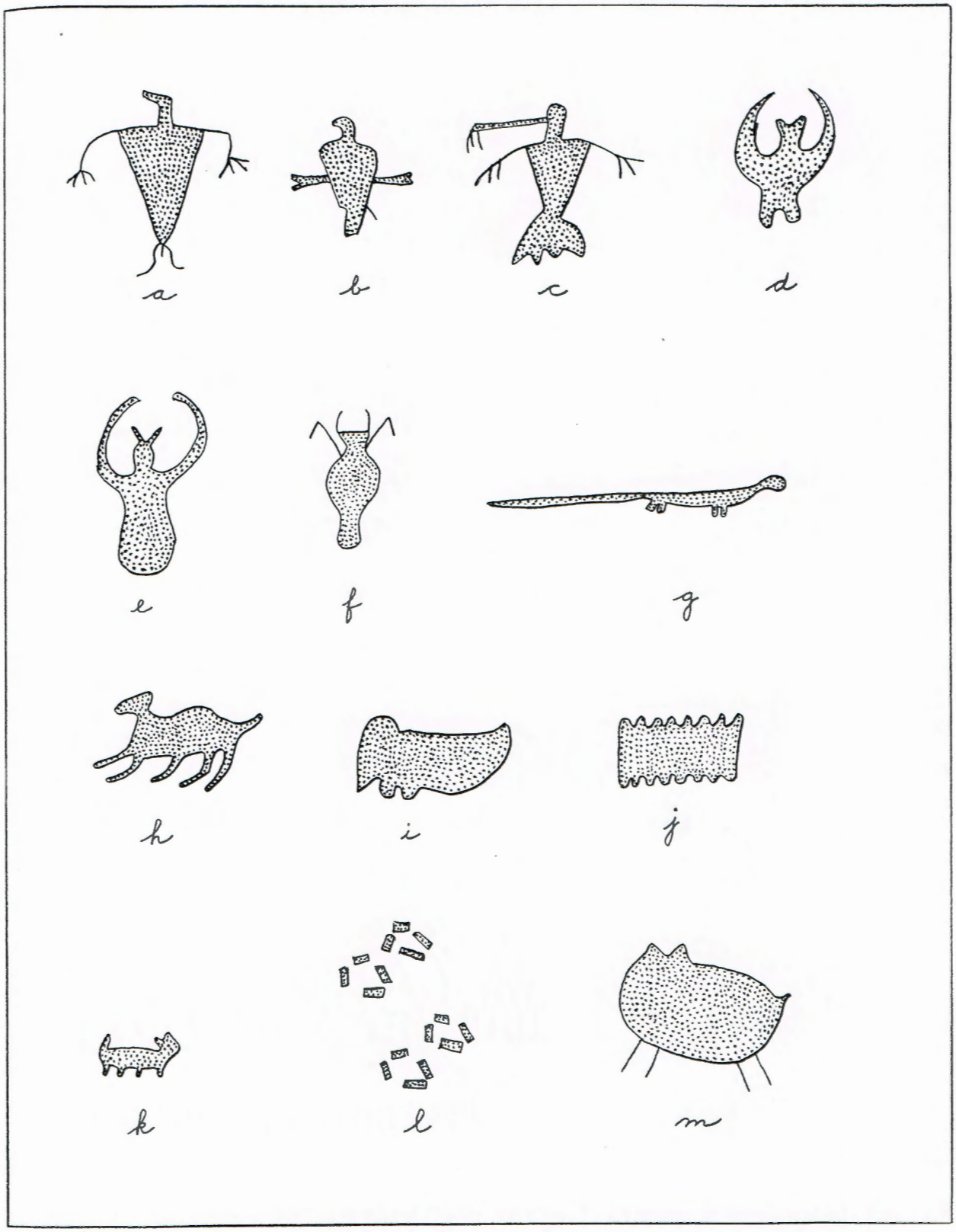


Figure 83

Tracks (Fig. 84)

Description: Figures in the first row appear to be sandals; figures in the second row to be realistic and conventionalized representations of feet; figures (m) and (n) appear to be hands. Figure (p) is a type of projectile point characteristic of Basketmaker III-Pueblo I (Morris, 1939, Pls. 125, 126; Brew, 1946, Fig. 172, a-g). Figure (o) is a hafted axe or maul of a type not found in the area.

Distribution in La Sal Mountain area: Sandals are found at the big shelter site 103-50 on Mill Creek, pecked on big slabs which are lying on the floor, and at Court House Wash. Foot-prints are found on Mill Creek; hands are rare in the area, and are found chiefly in Fisher Valley.

General distribution: Track petroglyphs are widely distributed in the Basin and Range Province and the Colorado Plateaus. References are as follows:

Feet
- Utah, Arizona, southwestern Nevada, California (Steward, 1929, map 8, p. 188)
- Southern Colorado (Renaud, 1936, Pl. 20, Fig. 20)
- Western Texas (Jackson, 1936, Pl. CCCXX)

Hands
- Utah, northeastern Arizona, southwestern Nevada (Steward, 1929, map 7, p. 189)
- Western Texas (Jackson, 1936, Pl. CCLXX)

Sandals
- Idaho (Erwin, 1931, Pls. 2, 39, 40). Erwin calls these "bear tracks."

Projectile points
- Fruita, Utah (Steward, 1929, Pl. 81, d)
- Western Texas (Jackson, 1936, Pl. CCLXXVI)
- Central Washington (Cain, 1950, map 24)

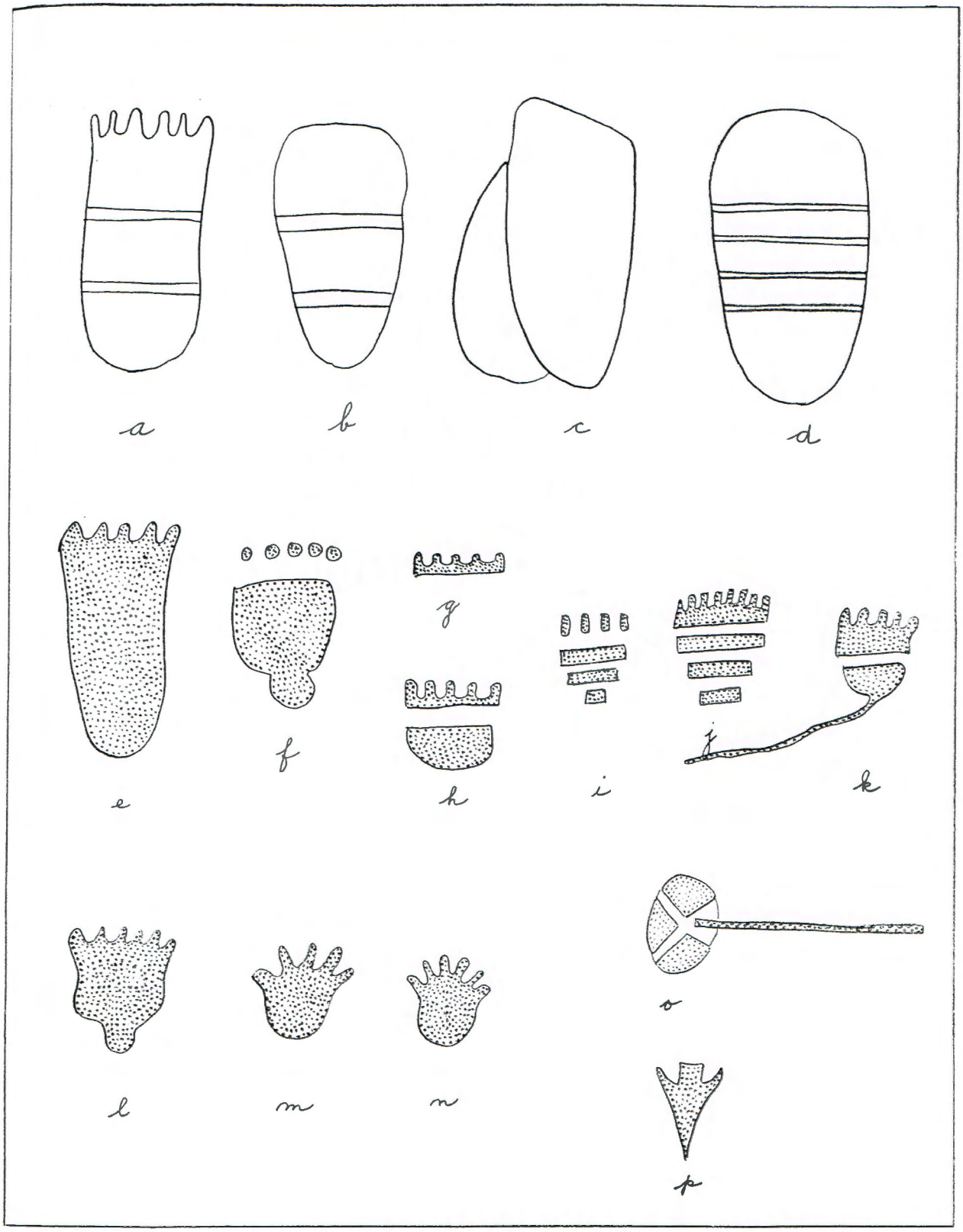


Figure 84

Abstract designs (Fig. 85)

Description: Circular motif predominates.

Distribution in La Sal Mountain area: Wavy line (a), and spiral (b, c, d) common; other designs rare.

General distribution: Widely distributed in Basin and Range Province, Plains and Columbia Plateau. References are as follows:

Wavy line (a): One of the four most widely distributed elements (Steward, 1929, map 2)

Spiral (b, c, d): Common throughout southwest especially in Arizona where Steward thinks it may have originated (Steward, 1929, map 9, and p. 189)

Rake (f): Great Basin (Steward, 1929, map 30)
Watrous, N. M. (plains) (Renaud, 1936, Fig. 4, Pl. 6)
Eastern Colo. (Renaud, 1936, Fig. 4, Pl. 6)
Central Washington (Cain, 1950, map 13). Very common.
Oregon (Cressman, 1937, map 12)
Western Texas (Jackson, 1936, Pl. CCCVII)

Rain symbol (g, h): Eastern California, western Nevada, Arizona (Steward, 1929, map 24)
Fruita, Utah (Morss, 1931, pl. 13c)
Western Texas (Jackson, 1936, Pl. CCCIV)
Watrous, N. M. (plains) (Renaud, 1936, Fig. 4, Pl. 6)
Oregon (Cressman, 1937, map 11)

Connected circles (k): California and Nevada (Steward, 1929, map 13, Pl. 74,d)
Central Washington (Cain, 1950, map 8)
Oregon (Cressman, 1937, map 16)
Western Texas (Jackson, 1936, Pl. CCCVI)

Sun disk (l): California, Nevada, southern Ariz. (Steward, 1929, map 4)

Joined circles (m, p): California and Nevada (Steward, 1929, map 15 and Pls. 59b, 66d, and 68d)

Rectangular gridiron (o): Owens Valley, Calif. and southern Nevada (Steward, 1929, Pls. 36c, 30e, and 72)
San Cristobal, N. M. (Sims, 1950, Pl. XVII) Plains influence.

Circular gridiron (q): Eastern California and southern Nevada (Steward, 1929, map 18 and Pls. 65a, 86d)
Idaho (Erwin, 1931, Pl. 58)
Eastern Oregon (Cressman, 1937, Map 7)
Monte Vista, Colo. (Renaud, 1936, Pl. 18, Fig. 1)

Cross hatching (r): Eastern Calif. and western Nevada (Steward, 1929, map 21)
Lamar, Colo. (Renaud, 1931, Pl. 10, Fig. 4, 5)

Ladder (t): western Texas (Jackson, 1936, Pl. CCCV, map XXXVII)
Central Washington (Cain, 1950, map 12)

Ladder (x): Eastern Calif., western Nevada, southern Ariz. (Steward, 1929, map 29)
Southeastern Colorado (Tatum, 1944, Fig. 1, D and E)
Eastern Oregon (Cressman, 1937, map 18)

Series of short parallel lines (u): Oregon (Cressman, 1937, map 8)

Dots (v): Nevada (Steward, 1929, Pls. 93b and 58e)
Idaho (Erwin, 1931, Pls. 49, 50)
San Cristobal, N. M. (Sims, 1950, Pl. XVII). Plains influence.
Central Washington (Cain, 1950, map 7)

Ticked line, ticks opposing (y): New Mexico plains (Renaud, 1936, site N.M. 235)

"Candelabra" (z): Southeastern Idaho (Erwin, 1930, Pl. 35)

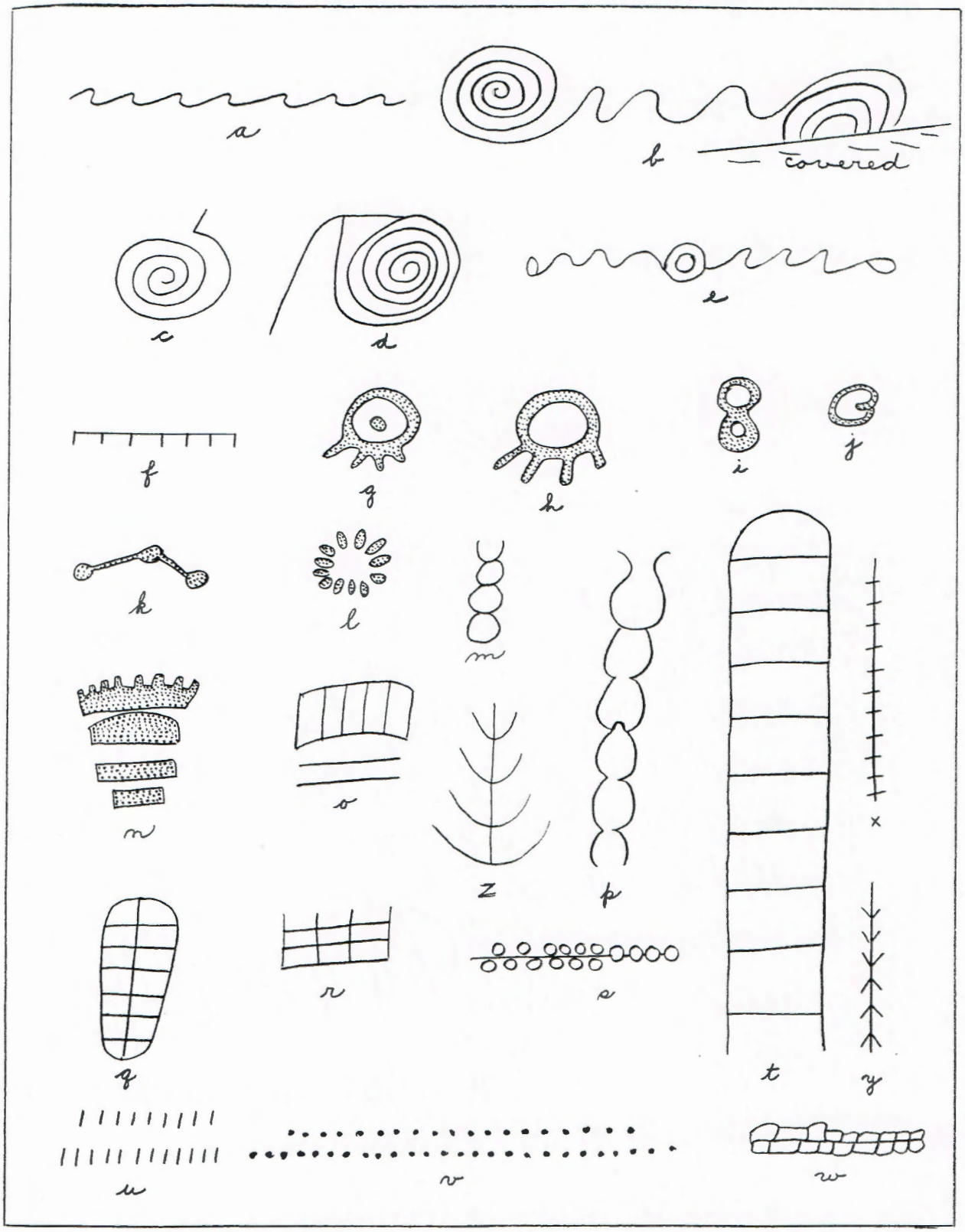


Figure 85

Pictographs (Fig. 86)

Description: Very large, commonly life size, long triangular figures painted red and white. Red indicated by solid black areas in figures in Fig. 86. Red faded to purplish pink in original figures. Figures (a-f) were very difficult to make out as only vague shadows remain. (e) is all that remains of a large horned figure. Not illustrated is a human figure, pecked in outline and painted red and white. Body is round, 2 ft. in diameter. Head (no neck) is square. May be figure of man behind shield.

Distribution in La Sal Mountain area: Rare. Found at shelter site 103-50 on Mill Creek and at 30-51 at entrance to Court House Wash, protected by slight overhang. Man-behind-shield figure at 104-50 only.

General distribution: Reported in Utah and northeastern Arizona. References are as follows:

Figures illustrated

- Northeastern Arizona (Kidder and Guernsey, 1919, Fig. 100 and 101). Regarded as Basketmaker.
- Barrier Canyon, Utah (Morss, 1931, p. 39; Steward, 1936, Pl. 4, a)
- Crescent Creek, Utah (Morss, 1931, p. 39)
- Thompson, Utah (Morss, 1931, p. 39 and Pl. 18, b)
- Cave north of Great Salt Lake, Utah. This "small red figure of the Basketmaker style" (Steward, 1936, p. 421 and Pl. 4, a) is like the horned human figures with triangular bodies of the La Sal Mountain area (Fig. 75, f).

Man behind shield

- S. Central Idaho (Erwin, 1930, Pl. 45)

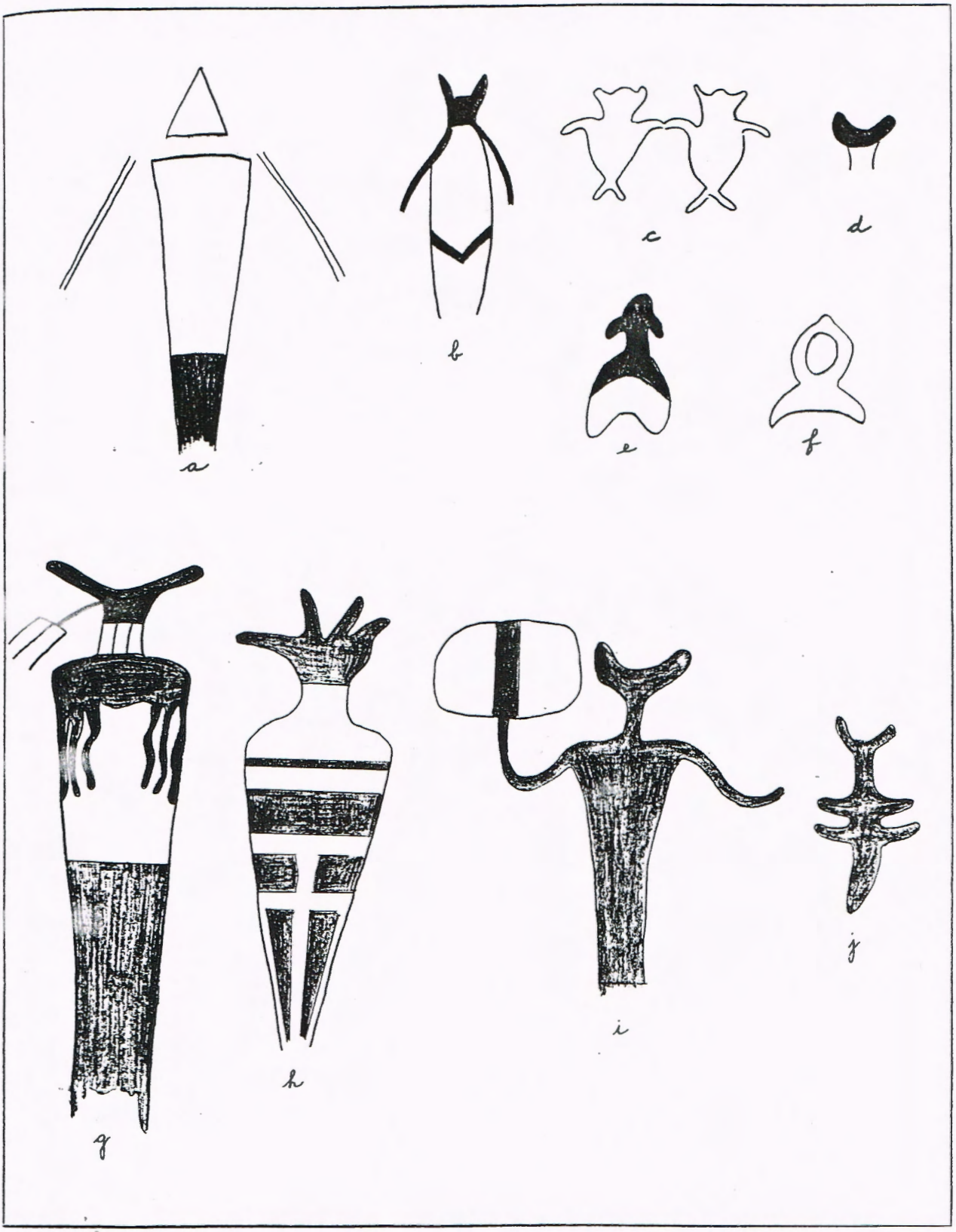


Figure 86

Architecture

Granaries. Storage chambers in the La Sal Mountain area are found in rock shelters and in caves along the canyons of the Colorado River and its tributaries. Seven different types of storage chambers have been distinguished, and these have been divided into groups on the basis of whether the entrance is in the roof or the side. The classification is as follows:

Roof entrance
- Subterranean
  1. Pot holes
  2. Small and large slab-lined cysts
- Semi-subterranean
  3. Horizontal masonry on top of vertical slab
- Above ground
  4. Horizontal masonry
  5. Both horizontal and slab masonry

Side entrance
  6. Horizontal and slab masonry
  7. Horizontal masonry

Granaries with a roof entrance, types 2, 4, and 5, are identical to those reported from Castle Park, Colorado, in the Fremont complex (Burgh and Scoggin, 1948). A tree ring date for one of the Castle Park masonry granaries is 750 ± 50 A. D. (Lister, 1950, p. 46). A radiocarbon date of 1000 ± 150 A. D. was obtained for a granary (type 5) by the Colorado River a mile above Moab (site 16-51). The wood analyzed was entirely encased in adobe and thereby protected against contamination and weathering.

Corn cobs generally are the only articles found in or near the granaries. A medium sized (4 cm.) serrated projectile point with short tangs, slightly expanding stem and straight base (Fig. 10, h) was found beside a granary of type 4 (59-50 in Castle Valley). Similar points are reported from the Fremont culture layers of Hells Midden, Colorado. Sherd tempered white ware was found near a granary of horizontal masonry and side entrance at site 119-50 and also at 115-50. Sherd tempering was not common in the La Plata district until Pueblo II (Shepard, 1939, p. 272). Corrugated pottery was found beside the granary dated by radiocarbon.

Storage Chambers

Roof entrance, subterranean

1. Pot holes

Description: Generally bell shaped. Dug in hardpan or shale; unlined. Diameter generally about 2.5 feet, and depth about the same.

Distribution in La Sal Mountain area: Probably common in caves, but only three, opened previously by pot hunters, were seen. One was at cave site 89-50, two at cave site 64-51 on Mill Creek. Skeleton of baby, wrapped in hide and placed in a large basket, is reported to have been removed from a pot hole at site 89-50. Widely scattered corn cobs found at site 64-51.

General distribution: Reported as part of the Fremont complex both at Castle Park (Burgh and Scoggin, 1948, p. 30) and in the Fremont River area (Morss, 1931, p. 4). Those at Castle Park generally were lined with adobe. Also reported from Basketmaker caves in northeastern Arizona where they were used for burial places (Kidder and Guernsey, 1919, p. 27).

2. Slab-lined cysts

a. Small, no cover

Description: Walls slightly flaring. Three vertical slabs form three walls; fourth wall missing. Cracks between slabs plastered with adobe. Rectangular. Dimensions are: 2 feet long, 1.5 feet wide, 1.5 feet deep. No superstructure.

Distribution in La Sal Mountain area: Only one found in cave on Seven Mile Canyon (83-51). Opened previously by pothunters.

General distribution: Reported in Fremont complex both at Castle Park, Colorado (Burgh and Scoggin, 1948, p. 32) and in the Fremont River area (Morss, 1931, p. 5). Also reported from Basketmaker caves in southeastern Arizona (Kidder and Guernsey, 1919, p. 77).

2. Slab-lined cysts
b. Large, covered

Description: Semicircular. Large boulder forms straight front wall; five large, thin, slabs, set upright, form rest of wall. Interstices between slabs filled with adobe. Floor of cyst is bedrock. Roof formed by two layers of poles lying across each other at right angles. Poles are anchored in layer of rubble and adobe resting on top of slabs. A smooth thick coat of adobe covers the timbers, except for the entrance opening, one foot in diameter. The adobe is rounded into a collar 2 to 3 inches thick at the opening. The opening is covered by a shaped, semi-circular flat sandstone slab. This cyst is in excellent condition. A few corn cobs remain in the bottom. There is no layer of reeds, bark or other minor vegetation between poles and mud in the roof. Dimensions: 2.5 feet in diameter; 2.5 feet deep.

Distribution in La Sal Mountain area: Found in shelter site 37-51, overlooking the Colorado River. Types 3 and 4 also were found there.

General distribution: Reported from Range Creek, Utah (Leh, 1936, p. 162), and from northeastern Arizona in Basketmaker II caves (Kidder and Guernsey, 1919, p. 88). Roof construction identical to that found at Lizard Canyon, 20 miles south of Yampa Canyon, Colo. (Burgh and Scoggin, 1948, Fig. 6).

Roof entrance, semi-subterranean

3. Horizontal masonry and vertical slabs

Description: Semicircular. Back and front wall of granary formed by natural boulders. Two large, thin slabs, set upright, form west wall. Large rocks set horizontally form east wall. Dimensions are: 2 feet long, 1.5 feet wide, 2.5 feet deep. Roof on this granary uses only six poles. Four main support poles lie across the east and west sides. Two smaller poles and a rock slab rest on these at right angles, on the south side. There are no poles across north side. Instead a slab is laid horizontally. On top of this pole and slab construction is laid 1) a layer of adobe, 2) another layer of horizontal slabs, 3) a thick layer of adobe with rounded collar at granary entrance. Entrance hole 1 foot in diameter.

Distribution in La Sal Mountain area: Found at same shelter site (37-51) as types 2 and 4.

General distribution: Reported in Fremont complex at Castle Park, Colo. (Burgh and Scoggin, 1948, p. 33) and from Basketmaker II caves in northeastern Arizona (Kidder and Guernsey, 1921, p. 110).

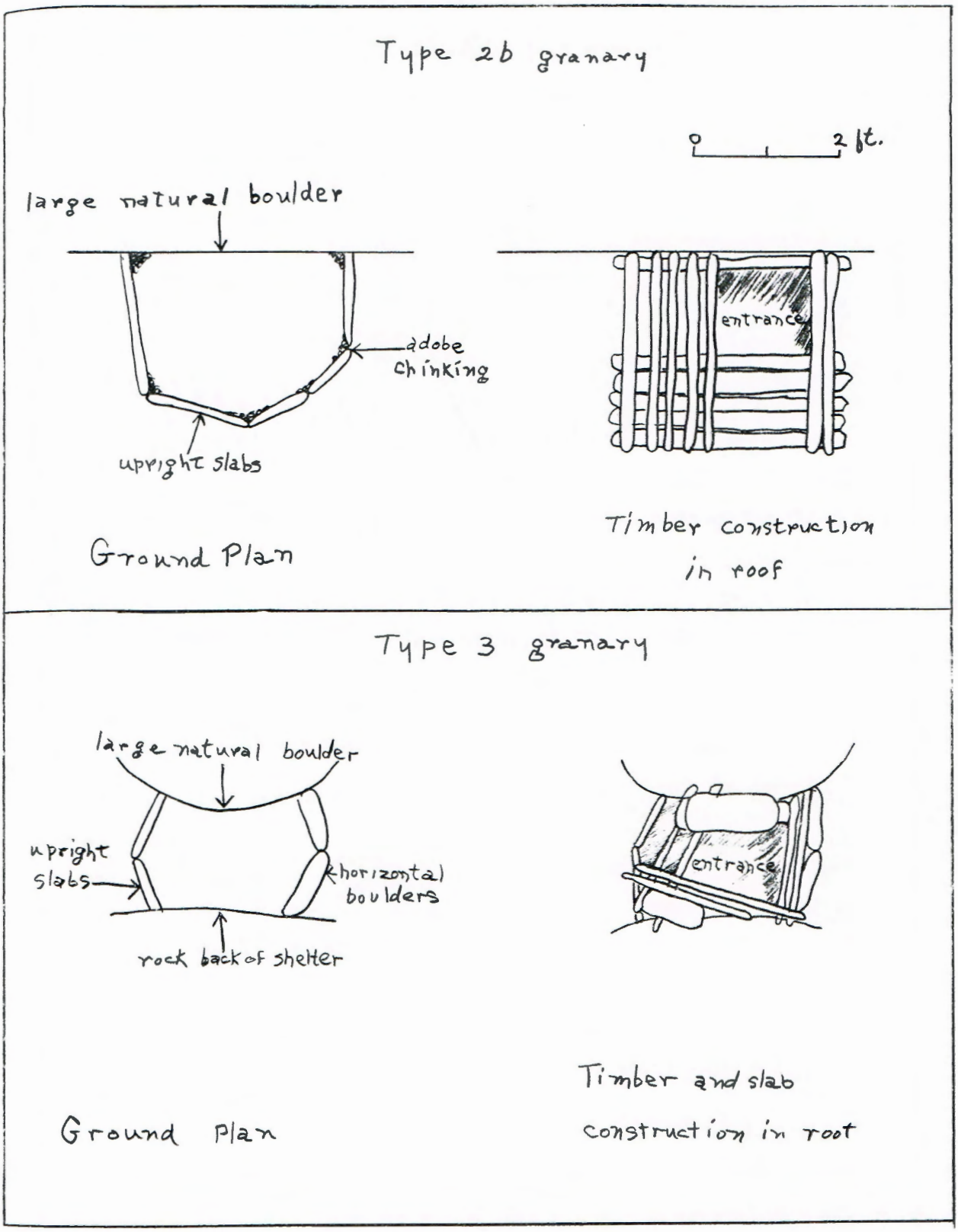

Type 2b granary
0
2 ft.
large natural boulder
adobe chinking
upright slabs
Ground Plan
entrance
Timber construction in roof
Type 3 granary
large natural boulder
upright slabs
horizontal boulders
rock back of shelter
Ground Plan
entrance
Timber and slab construction in roof

Figure 87

Roof entrance, above ground

4. Horizontal masonry

Description: Walls are formed by slabs or boulders laid horizontally. Roof is made of two layers of poles set at right angles and overlaid by 3 horizontal slabs around the top entrance opening. The whole top is covered with a thick layer of adobe, leaving an entrance of 1.5 feet. Ends of the poles project through the masonry sides. This granary unusually well preserved.

Distribution in La Sal Mountain area: This is the most common type found in the La Sal Mountain area. The granary described above is found at site 37-51, with types 2 and 3. Roofs of the storage chambers at sites 59-50 and 60-50 in Castle Valley had been destroyed.

A storage chamber at site 103-50 consists of very thin, long, narrow sandstone slabs, 12 inches long, 5 inches wide, and 0.5 inches thick, set in thick pads of adobe resembling turtlebacks. The wall is very regular and less than half a foot thick--much thinner than the usual storage chamber wall. The wall is now 1.5 feet high.

General distribution: Reported from Castle Park, Colorado, in the Fremont culture complex (Burgh and Scoggin, 1948, p. 33). Also Pueblo I storage chambers at Alkali Ridge, Utah, are reported as constructed of long narrow stones imbedded between cushions of mud (Brew, 1946, p. 191). Adobe turtlebacks used in Pueblo I house excavated by Morris (1939, p. 30) between Bennett's Peak and the foothills of the Chuska Mountains.

5. Horizontal and slab masonry

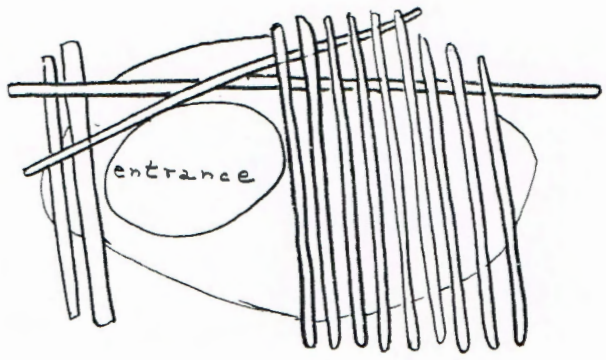
Description: Four sandstone slabs, 4 feet by 2 feet by 0.5 inch, set on end, compose over half of the inside wall. Outside the slab wall is a second wall of unshaped sandstone slabs laid horizontally in adobe. This second wall completes the circumference. Diameter of granary is 5 feet. Roof has been destroyed.

Distribution in La Sal Mountain area: Found at site 84-50 with types 2 and 6; at site 16-51, dated by radiocarbon at 1000 ± 150 A.D., and associated with gray corrugated pottery; and at site 85-52.

General distribution: Similar storage chambers reported from Range Creek, Utah, (Leh, 1936, p. 162).

Type 4 granary

0 ——— 2ft.



Timber construction of roof

poles are covered with:

1) layer of adobe
2) layer of slabs
3) layer of adobe
4) layer of slabs
5) layer of adobe

entrance rimmed by narrow shaped slabs; this slab collar covered by 3inch layer of adobe.

Type 5 granary

0 ——— 2ft.

horizontal boulder masonry laid in adobe

upright slabs

Ground plan

Figure 88

Side entrance

6. Horizontal and slab masonry

Description: Half of inner wall formed by 3 large, thin sandstone slabs set on end; remainder of wall is horizontal rough masonry which extends around the remainder of the circumference. Diameter 5 feet, height 5.5 feet. Roof and floor of granary formed by ceiling and floor of shelter. Door opening 1.5 feet square. Door lintel formed by horizontal pole. Large sandstone slabs about 5 feet long and 2 feet wide form steps up to granary opening. No signs of fire in granary. Corn cobs found in shelter. At same site is smaller vertical slab and rubble granary, $2\frac{1}{2}$ feet high, 3 feet in diameter. Roof is constructed of 2 poles, layer of slabs and layer of adobe. Entrance from side.

Distribution in La Sal Mountain area: Found at Colorado River shelter site 84-50, with granary types 2 and 5.

General distribution: Unknown.

7. Horizontal masonry

Description: Constructed of slabs of sandstone laid in liberal amounts of sand and mud plaster. Rounded back or side wall of shelter forms part of wall of granary. Some of these granaries are little more than a round wall across the front of a small shelter. More commonly, however, the roof is domed toward the shelter wall. In one such granary (14-51) the lintel is formed by a large sandstone slab. Diameter about 3 feet. Door opening 10 by 12 inches.

Distribution in La Sal Mountain area: Found at sites 14-51, 119-50 on the Colorado River, and at site 115-50 in Fisher Valley.

General distribution: Reported as rare type from Fremont River area (Morss, 1931, p. 16). Most cysts in Fremont River area were constructed of sandstone slabs set on edge, instead of horizontal masonry.

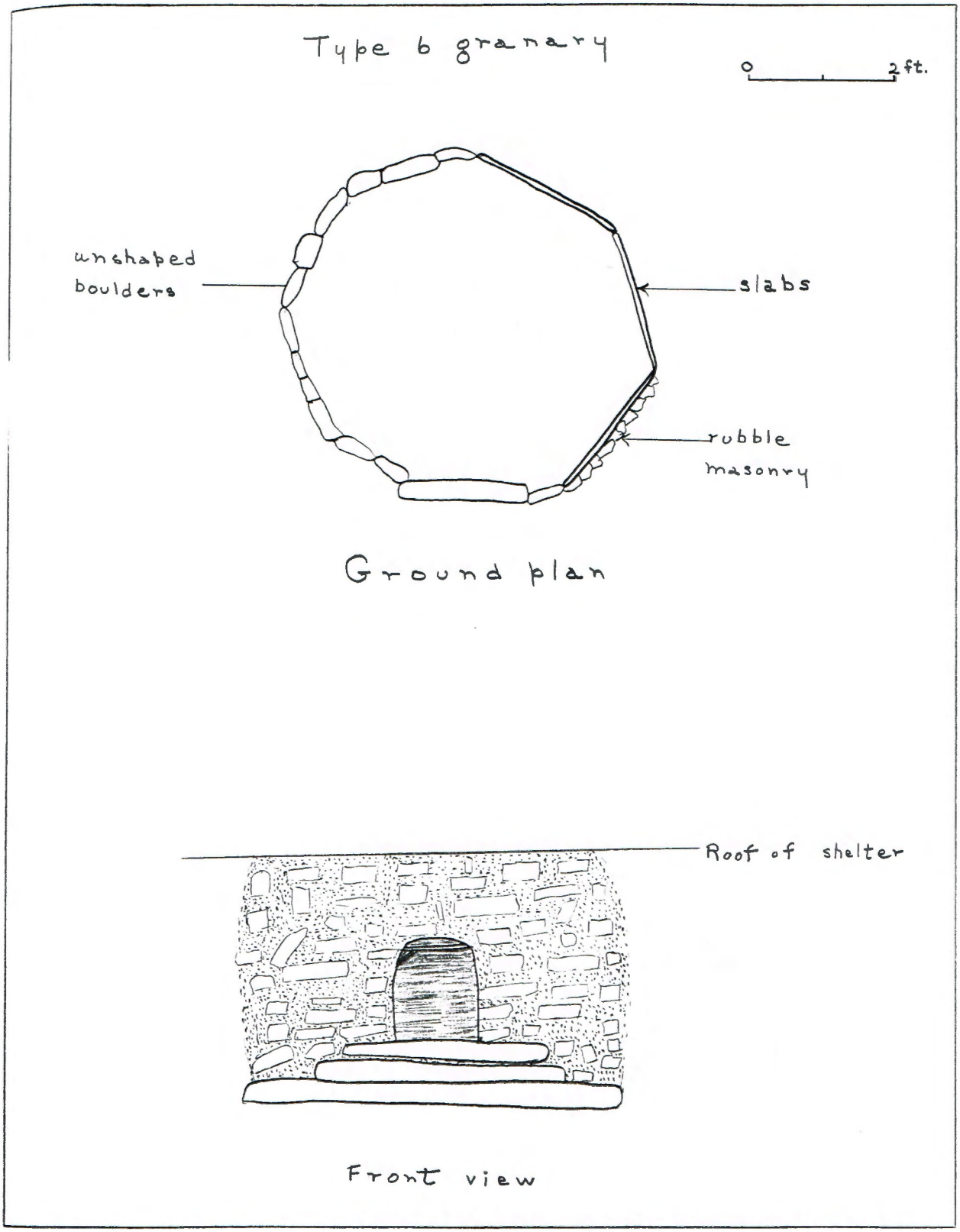

Type b granary
0
2 ft.
unshaped boulders
slabs
rubble masonry
Ground plan
Roof of shelter
Front view

Figure 89

Other architectural remains, including dwellings. In addition to storage chambers, numerous other ruins are found in the canyons of the La Sal Mountain area and one, 104-50, is on the plateau surface at an altitude of about 6,000 feet. These ruins are one room, circular or rectangular structures, in shelters or on open sites. Some are of dry laid masonry. They are classified as follows:

Ruins in shelters or caves
1. Subterranean high rock walls, circular
2. Low rock walls, circular
3. Retaining walls

Ruins on open sites
4. Low rock circles
5. High rock circles
6. Slab foundations, rectangular (?)
7. Retaining walls
8. Watch towers

Ruins in shelters or caves

1. Subterranean high rock walls, circular, dry laid

Description: Semicircular walls. Back of shelter forms one wall. Diameter 10 to 12 feet; floor about 4 feet below present surface. Wall constructed of unshaped boulders; walls, 4 feet high, are composed of 5 layers of rock. Some huge boulders, 10 to 25 feet long, were used as walls. One entrance passageway 3 to 4 feet long, 1.5 feet wide. Dwellings 5 to 100 feet apart. No roofs preserved but many poles scattered about shelter suggest some kind of pole roof. Evidences of fire and pottery inside dwellings.

Associated materials: Plain gray ware, both sherd and porphry tempered; Black-on-white rock tempered pottery; many Fremont type petroglyphs and pictographs; granary, type 4; basin metates. Also small projectile points with slightly expanding stem, long tangs; slightly expanding stem, short tangs; side-notched; and "miniature"; oval and rectangular knives, crescent side scrapers, cobble and disc scraper planes, cobble and disc choppers.

Distribution in La Sal Mountain area: Six dwelling foundations at site 103-50 on North Fork of Mill Creek. Stonework typology, petroglyphs suggest a long occupation from late pre-pottery through late Fremont.

General distribution: Similar structures reported in Fremont River area (Morss, 1931, p. 22)

2. Low rock walls, circular

Description: Circular walls, 8 to 12 feet in diameter, built of medium sized, unshaped boulders, commonly two rock layers high. Found under small

overhanging ledges. No evidence of what was above foundation; no adobe plaster preserved--may have been dry laid.

Associated materials: Corrugated gray pottery, rock and sherd tempered; plain gray ware, both porphry and sherd tempered; black-on-white pottery, both sherd and rock tempered.

Distribution in La Sal Mountain area: Found at sites 31-51, 32-51, and near 33-51, in Court House Wash; probably late Fremont.

General distribution: not known.

3. Retaining walls

Description: Remains of walls, 4 or 5 boulders high, across front of caves or shelters. Probably retaining walls to level floor. No adobe plaster preserved.

Associated materials: The following materials were found at cave site 33-51, on Court House Wash. Corrugated gray pottery, rock and sherd tempered; plain gray pottery, both porphry and sherd tempered; black-on-white pottery, both sherd and rock tempered; few sherds calcite tempered pottery. Small triangular, 'miniature' and side notched projectile points; cobble and disc scrapers, cobble choppers; basin metates near-by. Numerous petroglyphs including humpbacked flute player.

Distribution in La Sal Mountain area: Common. Found at sites 33-51 on Court House Wash, and sites 102-50, 67-51, 52-51, 49-51, 42-51 on Mill Creek.

General distribution: Similar retaining walls reported at Castle Park, Colorado (Burgh and Scoggin, 1948, p. 19). Probably Fremont culture in La Sal Mountain area.

Ruins on open sites

4. Low rock circles

Description: Similar to rock circles found in shelter sites (type 2), but located on ridges or elevations above valley bottom. Diameters range from 6 to 12 feet. At one site (76-50 in Castle Valley) there are ruins of a low dry laid wall around edge of ledge.

Associated materials: At site 115-50 in Fisher Valley, black-on-white sherd tempered pottery; granary, horizontal masonry, top entrance; 'watch tower' and unidentified ruin directly below circles on valley floor. At this site there were six rock circles on a ridge 50 feet above the valley floor. At site 76-50 a plain brown ware, side notched projectile points, side and concave notched base projectile points, and slab and slightly basin shaped metates were found.

Distribution in La Sal Mountain area: Found at sites 115-50 in Fisher Valley and 76-50 in Castle Valley.

General distribution: Similar rock circles are widely distributed. They are reported from the Fremont River area, Utah (Morss, 1931, pp. 14, 17); from southern and western Colorado (Huscher and Huscher, 1943, p. 5); from south-central New Mexico (Hough, 1907, p. 73). Probably most are Fremont culture in La Sal Mountain area; at site 76-50, judging by associated artifacts, they are recent Shoshonean.

5. High rock circles

Description: Two circular structures of thin, horizontally laid sandstone slabs, 16 and 10 feet in diameter, present heights ranging from 2 to 4 feet. No adobe preserved; may have been dry laid. Access probably through top; no side entrance. An adjoining stone wall, now about 2 feet high, extends along edge of ledge for about 20 feet.

Associated materials: painted red ware, plain gray and corrugated pottery, petroglyphs including humpbacked flute player and figures with shields.

Distribution in La Sal Mountain area: Found at site 104-50 on plateau above Spanish Valley.

General distribution: Reported from Nine Mile Canyon, Utah (Gillin, 1938, pp. 31, 32). Probably late Fremont in La Sal Mountain area.

6. Slab foundations

Description: About 20 large sandstone slabs, now lying horizontally forming an oval enclosure about 15 feet by 12 feet.

Associated materials: Corrugated and plain gray pottery; projectile point with greatly expanding stem, short tangs, elongate and large; oval and rectangular knives; disc and pointed scraper planes; core and cobble choppers.

Distribution in La Sal Mountain area: Blow out on sand bank of Colorado River, site 36-51. Probably late Fremont in La Sal Mountain area.

7. Retaining wall

Description: Wall, 4 feet high, 23 feet long, of unshaped sandstone boulders and slabs. No evidence of adobe--may be dry laid. Area levelled is 23 feet long and 14 feet wide. Large boulders form three walls of levelled area, which opens to the southeast.

Associated materials: No associated materials.

Distribution in La Sal Mountain area: Found at site 63-50 in Castle Valley.

8. Watch tower (?)

Description: Oval masonry structure, 4 feet by 6 feet, 4 feet high, open at top and rear; located on ledge having commanding view up valley. Masonry is of thin, narrow sandstone slabs, laid horizontally and covered with a thick coat of adobe.

Associated materials: Cf. low rock circles 115-50.

Distribution in La Sal Mountain area: Found at site 115-50 in Fisher Valley.

TABLE I

Distribution of Traits Within the La Sal Mountain Area

The relationship of the occupations to the natural environment within the La Sal Mountain area has been described in an earlier section of this report. The following table shows the number of each kind of artifact found in each of the three altitudinal zones.

Artifact type C, common; X, uncommon	Location of sites		
	Mountain sites above 8,000 feet I	Piñon-juniper sites 6,000 to 8,000 feet II	Canyon sites below 6,000 feet III
Projectile points			
Lanceolate, without stem	1	0	0
Triangular, without stem	1	14	20
Tapering stem, short tangs	8	5	1
Slightly expanding stem, short tangs (miniature)	0	12	19
Do, long and thin	2	6	8
Do, with long straight-sided stem	1	6	0
Slightly expanding stem, long tangs	1	2	10
Greatly expanding stem, short tangs, short	10	9	3
Do, long	13	11	5
Greatly expanding stem, long tangs	12	18	9
Stem wider than blade, corner notched	7	9	2
Do, side notched with rounded stem	5	3	1
Do, side notched, straight edged stem, straight base	0	0	10
Do, concave base	1	3	7
Do, notched concave base	0	4	8
Sawtooth edged	4	4	3
Bifurcated stem narrower than blade	0	1	1
Bifurcated stem wider than blade	2	3	5
Miscellaneous	8	4	2
Knives			
Oval, thick	1	3	4
Oval, thin	17	26	47
Rectangular with straight base	17	27	16

Table I (cont.)

Artifact type C, common; X, uncommon	Location of sites Mtn. I	 P-J II	 Can. III
Rectangular with convex base	12	17	31
Triangular	7	2	7
Asymmetrical	9	7	16
Stemmed	17	4	6
End cutters	0	2	4
Tips and bases	42	78	65
Miscellaneous	2	4	5
Drills, gravers, saws			
Drills with small flanges	1	3	8
Drills with large flanges	2	5	6
Drills, unclassifiable	7	9	6
Gravers	5	4	9
Saws	3	10	4
Scrapers			
Snub-nose, flat, small	10	14	12
Snub-nose, flat, medium size	2	12	8
Snub-nose, keeled, small	4	10	12
Snub-nose, keeled, large	0	0	1
Spatulate end scrapers	0	5	11
Miscellaneous end scrapers, narrow and broad blade	0	9	10
Elongate keeled side scrapers	15	20	29
Oval side scrapers	2	18	34
Side scrapers with concave cutting edge	11	8	9
Doubly convex blades	3	17	62
Scraper planes			
Cobble	0	1	10
Core	1	3	7
Disc	2	13	25
Elliptical	0	2	4
Pointed	0	1	5
Choppers			
Cobble	2	3	13
Core, large	2	12	14
Do, smaller	0	0	40
Disc	12	35	32
Elliptical	4	4	9
Pointed	0	5	12

Table I (cont.)

Artifact type C, common; X, uncommon	Location of sites Mtn. I	 P-J II	 Can. III
Pottery (no. of sherds)			
Plain yellow utility ware	0	0	22
Corrugated yellow utility ware	0	47	0
Tooled yellow utility ware	8	39	8
Red, painted	0	0	10
Plain brown	0	0	60
White wares	1	35	50
Gray corrugated, sand temper	0	10	20
Do, rock and sherd temper	0	0	115
Gray, decorated with indented fillet	0	2	0
Gray, decorated with punches	0	0	1
Gray, rim incised	0	1	0
Gray, neck incised	0	0	1
Plain gray, porphry temper	10	0	120
Do, sherd temper	0	0	65
Do, granite temper	0	2	0
Do, mica temper	0	0	2
Do, calcite temper	0	0	2
Metates (incomplete count)			
Uniface, flat	C	C	C
Do, slight basin	X	X	C
Do, deep basin	0	0	C
Biface, flat both sides	X	0	X
Do, flat one side, deep basin on other	0	X	X
Manos (incomplete count)			
Uniface cobble	C	0	C
Do, loaf	0	X	C
Biface, sub-rectangular	X	X	C
Do, oval	C	C	C
Do, asymmetrically convex		X	X
Do, ellipsoidal		X	X
Petroglyphs			C
Coiled basketry			X
Architecture			
Granaries			X
Other architectural remains, including dwellings		1	X

TABLE 2

Regional Distribution of Traits Found in the La Sal Mountain Area

The regional affiliations and probable chronology of the occupations in the La Sal Mountain area have been described in an earlier section of this report. The following table shows the relative abundance of each artifact, in pottery and non-pottery horizons, in five regions in and around the Colorado plateaus.

Artifact type (C, common; X, uncommon)	I Northern Colorado Plateaus E. Utah, N. W. Colorado		II Southern Colorado Plateaus S. of La Sal Mountains		III Southern Basin and Range S. Nev., S. Calif. S. Ariz. S. New Mex., W. Texas		IV Northern Basin and Range W. Utah, N. E. Nev., S. E. Ore.		V Great Plains and S. Rocky Mountains	
	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery
Projectile points										
Lanceolate, without stem										X
Triangular, without stem	C	C	C		C				C	
Tapering stem, short tangs				X		C				
Slightly expanding stem, short tangs, (miniature)	C									
Do, long and thin	C				C					
Do, with long, straight-sided stem						C				
Slightly expanding stem, long tangs	C	X	C							
Greatly expanding stem, short tangs, short		C						X		
Do, long	X	X	X					X		
Greatly expanding stem, long tangs	X	X	X				X	X		
Stem wider than blade, corner notched	X	X	X					X		
Do, side notched with rounded stem	X	X	X	X						

Table 2(cont.)

Artifact type (C, common; X, uncommon)	I		II		III		IV		V	
	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery
Do, side notched, straight edged stem, straight base	X		C		C		X		C	
Do, concave base					C		X		C	
Do, notched concave base	X				C		C			
Sawtooth edged										
Bifurcated stem narrower than blade				X		C		C		
Bifurcated stem wider than blade						C		C		
Knives										
Oval, thick	X									
Oval, thin	C	C		X		C	C		C	X
Rectangular with straight base	C	C	C			X				
Rectangular with convex base	X	X	C					X		
Triangular	X	C				C			X	
Asymmetrical	C				X	X				
Stemmed	X	X								
End cutters		X								X
Combined knife and drill	X							X		
Doubly pointed					X	C			X	
Drills, gravers, saws										
Drills with small flanges	C	C	C		X	C			X	
Drills with large flanges	C	X	C		X	C	C		C	X
Gravers	X	C			X	C				X
Saws	X		X							
Scrapers										
Snub-nose, flat, small	X	X		X	X	C	X		C	C
Snub-nose, flat, medium size					X	C				
Snub-nose, keeled, small		X			X	C			C	X
Snub-nose, keeled, large						C				
Spatulate end scrapers									X	
Narrow end scrapers						X				
Keeled side scrapers		X			C	C		X	C	X
Oval side scrapers	X					C				
Crescent side scrapers						X		X		X
Doubly convex blades		X			X	C				

Table 2 (cont.)

Artifact type (C, common; X, uncommon)	I		II		III		IV		V	
	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery
Scraper planes										
Cobble						X				
Core		X			X	C				
Elliptical	X	X			X	X				
Disc	X				X	C		X	X	
Pointed	X				X	X				
Choppers										
Cobble					X	C				
Core	X	C		C		C		X		
Elliptical					X	C				X
Disc	C	C			X	C				X
Pointed	C			X	C	C				C
Hammerstones										
Cobble	X		C			C	X	X	X	X
Pottery										
Plain yellow			C				X			
Corrugated yellow			C				X			
Tooled yellow							X			
Red, painted			C							
Plain brown										
White wares			C							
Gray corrugated, sand temper			C							
Gray corrugated, rock and sherd temper	X		C							
Gray decorated with indented fillet			C							
Gray decorated with punches							C			
Gray, rim incised									C	
Gray, neck incised							X			
Plain gray, porphry temper	C									
Do, sherd temper	C									
Do, granite temper										
Do, mica temper									C	
Do, calcite temper	C						X			

Table 2 (cont.)

Artifact type (C, common; X, uncommon)	I		II		III		IV		V	
	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery	Pottery	Non-pottery
Petroglyphs										
Horned human figures	C				X		X			
Ornamented human figures	C		X							
Fringed human figures	C		X							
Humpbacked flute player	C		C							
Grouped figures			X		X					
Miscellaneous human figures	X						X			
Sheep with details of hoofs, mouth	X		X							
Crescent shaped sheep					X					
Sheephorns					X		X			
Snakes			X		X		X		X	
Deer	X		X				X		X	
Miscellaneous animals	X		X		X					
Hands, feet	X		X		X		X		X	
Sandals							X			
Projectile points	X						X		X	
Abstract designs	X		X		X		X		X	
Painted petroglyphs	C		X				X			
Metates										
Uniface, flat	X		X			X	X	X		
Do, slight basin	C				X	C		X		
Do, deep basin			X			C				
Biface, flat both sides								X		
Do, flat one side, basin on other										
Manos										
Uniface, cobble	X		X			X				
Do, loaf	X						X	X		
Biface, sub-rectangular	C		X				X	X		
Do, oval	C						X	X		
Do, ellipsoidal			X		X	X		X		
Do, asymmetrically convex	X					C	X	X		
Basketry, coiled										
Split rod and bundle	C						C			
Two rod	C									

Table 2 (cont.)

Artifact type (C, common; X, uncommon)	I Pottery	I Non-pottery	II Pottery	II Non-pottery	III Pottery	III Non-pottery	IV Pottery	IV Non-pottery	V Pottery	V Non-pottery
Storage chambers										
Roof entrance, subterranean										
Pot holes	C		X	X						
Small slab-lined, no cover	C		X	X						
Large slab-lined, covered	X		X							
Roof entrance, semi-subterranean										
Horizontal masonry on vert. slab	X		X							
Roof entrance, above ground										
Horizontal masonry	X									
Horizontal and slab masonry	X									
Side entrance										
Horizontal and slab masonry										
Horizontal masonry	X									
Other ruins, including dwellings										
Ruins in shelters or caves										
Subterranean high rock walls, circ.	X									
Low rock walls, circ.										
Retaining walls	X									
Ruins on open sites										
Low rock circles	C				X?		X?			
High rock circles										
Slab foundations										
Retaining walls										
Watch towers										

TABLE 3

Archeological Sites in the La Sal Mountain Area

U. of U. Survey No. *	Site No.	Location and altitudinal zone	Site description; culture represented
42Sa93-97	1 to 5	Sec 35, T27S, R24E; mountain zone.	Campsite. Abundant stone tools. Black-on-white pottery. Possible house foundations. Cultures probably represented: Amargosa II; late prepottery; Fremont; Fremont (?).
42Sa98	6	Sec 31, T27S, R25E; mountain zone.	Probable campsite. Abundant chips. Cultures represented: unidentifiable.
42Sa99-100	7, 8	Sec 6, T28S, R25E; mountain zone.	Numerous campsites. Abundant stone tools. Cultures probably represented: late prepottery, Fremont (?).
42Sa101	9	Sec 18, T28S, R25E; mountain zone.	Questionable site. Abundant rock chips. Cultures represented: unidentifiable.
42Sa102	10	Sec 18, T28S, R25E; mountain zone.	Campsite. Abundant stone tools. Culture probably represented: late prepottery and/or Fremont (?).
42Sa103	12	Sec 33, T27S, R24E; mountain zone.	Probable campsite. Stone tools. Culture represented: unidentifiable.
42Sa104	13	Sec 33, T27S, R24E; mountain zone.	Campsite. Stone tools. A dozen or so unexplained mounds, 2 to 4 feet high and 50 to 100 feet wide cover several acres. Cultures probable represented: late prepottery and/or Fremont (?).

* In the Trinomial site designators used in this column, 42 represents Utah; 5 represents Colorado; Sa represents San Juan County; Gr represents Grand County; Mn represents Montrose County.

Table 3 (cont.)

U. of U. Survey No	Site No.	Location and altitudinal zone	Site description; culture represented
42Sa105	14	Sec 27, T27S, R24E; mountain zone.	Campsite. Stone tools. Cultures represented: unidentifiable.
42Sa106	16	Sec 22, T28S, R24E; mountain zone.	Campsite. Abundant stone tools. Culture probable represented: late prepottery and/or Fremont (?).
42Sa107	17	Sec 19, T27S, R24E; piñon-juniper zone.	Probable campsite. Stone tools. Cultures represented: unidentifiable.
42Sa108	18	Sec 19, T27S, R24E; piñon-juniper zone.	Probable campsite. Stone tools. Cultures represented: unidentifiable.
42Sa109	19	Sec 24, T27S, R23E; piñon-juniper zone.	Campsite. Stone tools. Cultures represented: unidentifiable.
42Sa110	20	Sec 24, T27S, R23E; piñon-juniper zone.	Probable campsite. Stone tools. Culture represented: unidentifiable.
42Sa111	21	Sec 17, T27S, R24E; mountain zone.	Campsite. Circle of stones about 8 feet in diameter. Metate. Culture probably represented: Fremont campsite, or Fremont (?).
42Sa112-115	22, 23, 24, 25	Sec 17, T27S, R24E; mountain zone.	Extensive area of campsites. Abundant stone tools. Cultures probably represented: Amargosa II to Fremont (?).
42Sa116	26	Sec 31, T27S, R24E; mountain zone.	Questionable site. Abundant rock chips.
42Sa117, 118	27, 28	Sec 31, T27S, R24E, piñon-juniper zone.	Campsites. Chipped stone tools. Cultures probably represented: Recent Shoshonean (Ute?) at site 27; unidentifiable at site 28.
42Sa119	29	Sec 30, T27S, R24E; piñon-juniper zone.	Probable campsite. Chipped stone tools. Cultures probable represented: late prepottery and Fremont (?).
42Sa120	30	Sec 25, T27S, R23E, piñon-juniper zone.	Probable campsite. Chipped stone tools. Culture represented: unidentifiable.
42Sa121, 122	31, 32	Sec 24, T27S, R24E; piñon juniper zone.	Campsites. Abundant chipped stone tools. Culture represented: unidentifiable.

Table 8 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Sa123, 124	33, 34	Sec 8, T27S, R24E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.
42Sa125, 132	35, 42	Sec 2, T27S, R24E; mountain zone.	Campsite. Chipped stone tools, plain gray pottery. Culture probably represented: Fremont.
42Sa126, 128, 131, 136, 153, 160	36, 38, 41, 48, 73, 96	Sec 6, T 27S, R24E; mountain zone.	Campsites. Very abundant stone tools. Cultures probably represented: late prepottery and Fremont (?).
42Sa127	37	Sec 30, T27S, R24E; piñon-juniper zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	38 (see 36)		
42Sa129	39	Sec 5, T27S, R24E	Probable campsite. Chipped stone tools. Culture represented: unidentifiable.
42Sa130	40	Sec 7, T27S, R24E	Campsite. Chipped stone tools. Culture represented: unidentifiable.
	41 (see 36) 42 (see 35)		
42Sa133	43	Sec 3, T27S, R24E; mountain zone.	Campsite. Chipped stone tools. Cultures represented: late prepottery and Fremont (?).
42Sa134, 135	44, 45	Sec 4, T27S, R24E; mountain zone.	Campsites. Stone tools. Culture probably represented: Amargosa II at site 44; unidentifiable at site 45.
42Gr52	46	Sec 20, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr53, 67, 72	47, 80 88	Sec 30, T26S, R24E; mountain zone.	Campsites. Stone tools. Culture probably represented: Amargosa II.
	48 (see 36)		
42Sa137 138, 139, 151	49, 50, 51, 69	Sec 5, T27S, R25E; mountain zone.	Campsites. Stone tools. Cultures probably represented: Amargosa II to Fremont (?).

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Sa140, 141, 142	52, 53, 54	Sec 6, T27S, R25E; mountain zone.	Campsites. Stone tools. Cultures probably represented: late prepottery or Fremont (?) at site 54; unidentifiable at sites 52 and 53.
42Sa143, 144, 145 146	55, 56, 57, 58	Sec 4, T27S, R24E; mountain zone.	Campsites. Abundant stone tools. Cultures probably represented: late prepottery and/or Fremont (?).
42Sa147, 148	59, 60	Sec 5, T27S, R24E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.
42Gr54	61	Sec 36, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr55, 56, 57, 58, 59	62, 63, 64, 65, 68	Sec 36, T26S, R24E; mountain zone.	Campsites. Very abundant stone tools. Cultures probably represented: Amargosa II to Fremont (?).
42Sa149, 150	66, 67	Sec 1, T27S, R24E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.
	68 (see 62) 69 (see 49)		
42Gr60	70	Sec 33, T26S, R25E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Sa152	71	Sec 34, T27S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr61	72	Sec 33, T26S, R25E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	73 (see 36)		
42Sa154	74	Sec 7, T27S, R24E; mountain zone.	Campsite. Abundant stone tools. Culture represented: unidentifiable.
42Gr62	75	Sec 31, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture probably represented: late prepottery and/or Fremont.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Gr63	76	Sec 36, T26S, R23E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr64	77	Sec 25, T26S, R23E; mountain zone.	Campsite. Stone tools. Culture probably represented: late prepottery.
42Gr65	78	Sec 30, T26S, R24E; mountain zone.	Campsite. Few stone tools. Culture represented: unidentifiable.
42Gr66	79	Sec 13, T26S, R23E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	80 (see 47)		
42Sa155 156	81, 82	Sec 4, T27S, R25E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.
42Gr68	83	Sec 34, T26S, R25E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	84 (no site)		
42Gr69, 74, 75, 76, 77, 78, 79, 80, 83, 85, 252	85, 90, 91, 92, 101, 102, 103, 104, 107, 108a, 6-52	Sec 5, T26S, R24E; piñon-juniper zone.	Campsite. Cultures probably represented: everything from Amargosa to historic Ute. One of the most popular and one of the most accessible sites, ancient and modern.
42Gr70	86	Sec 28, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr71	87	Sec 29, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	88 (see 47)		
42Gr73	89	Sec 18, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	90, 91, 92 (see 85)		
42Sa157 158, 159	93, 94, 95	Sec 6, T27S, R25E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.

158, 159		zone.	sented: unidentifiable.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
	96 (see 36)		
42Sa161, 162	97, 98	Sec 6, T27S, R24E; mountain zone.	Campsites. Stone tools. Culture probably represented: unidentifiable at site 98; Amargosa II at site 97.
42Sa163	99	Sec 7, T27S, R24E; mountain zone.	Campsite. Abundant stone tools. Culture represented: unidentifiable.
42Sa164	100	Sec 23, T27S, R23E; piñon-juniper zone.	Campsite. Stone tools. Culture represented: unidentifiable.
	101 to 104 (see 85)		
42Gr81, 82	105, 106	Sec 4, T26S, R24E; piñon-juniper zone.	Campsites. Stone tools. Cultures probably represented: Fremont; Fremont (?); recent Shoshonean.
42Gr84	108	Sec 35, T25S, R23E; piñon-juniper zone.	Campsite. Abundant stone tools. Culture represented: unidentifiable.
42Gr86, 87	109, 110	Sec 25, T25S, R23E; piñon-juniper zone.	Campsite. Stone tools. Cultures probably represented: Amargosa II to Fremont (?). A popular campsite.
42Gr88	111	Sec 25, T25S, R23E; piñon-juniper zone.	Campsite. Stone tools. Cultures probably represented: late prepottery to Fremont (?).
42Gr89	112	Sec 28, T25S, R24E; piñon-juniper zone.	Campsite. Stone tools. Culture probably represented: recent Shoshonean.
42Gr90	113	Sec 33, T25S, R24E; piñon-juniper zone.	Campsite. Scarce stone tools. Culture represented: unidentifiable.
42Gr91, 92	114, 115	Sec 18, T26S, R24E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.
42Gr93, 94, 95	116, 117, 118	Sec 18 & 19, T26S, R24E; mountain zone.	Campsites. Stone tools. Culture represented: unidentifiable.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description, culture represented
42Gr96	119	Sec 32, T26S, R24E; mountain zone.	Campsite. Few stone tools. Culture represented: unidentifiable.
	120 (see 13-50)		
42Gr98, 99	121, 122	Sec 6 & 7; T26S, R24E; piñon-juniper zone.	Campsites. Very abundant stone tools. Culture represented: unidentifiable at site 121; late prepottery to Fremont (?) at site 122.
42Gr100	123	Sec 24, T25S, R24E; mountain zone.	Campsite. Stone tools. Cultures probably represented: late prepottery and early Fremont.
42Gr101	124	Sec 20, T25S, R25E; mountain zone.	Campsite. Stone tools. Cultures probably represented: late prepottery and Fremont (?).
	125 (not in area)		
42Sa165	126	Sec 3, T27S, R24E; mountain zone.	Probable campsite. Projectile points. Cultures probably represented: early Fremont and Fremont (?).
42Gr102	1-50	Sec 18, T26S, R25E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr103	2-50	Sec 6, T26S, R25E; mountain zone.	Campsite. Stone tools. Cultures probably represented: late prepottery and Fremont (?).
42Gr104, 105, 106, 107, 108, 110, 111, 112	3-50, 4-50, 5-50, 6-50, 7-50, 9-50, 10-50, 11-50	Sec 8, 9, 17, T26S, R25E; mountain zone.	Campsites on top of and between three hills. Abundant stone tools. Cultures probably represented: late prepottery, Fremont (?) and recent Shoshonean.
42Gr109	8-50	Sec 18, T26S, R25E; mountain zone.	Plainview (Yuma) type projectile point found lying on surface here. No other artifacts found.

found.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented.
	9-50 to 11-50 (see 3-50)		
42Gr113	12-50	Sec 5, T26S, R25E; mountain zone.	Campsite. Stone tools. Cultures probably represented: Fremont and recent Shoshonean.
42Gr114-119, 131, 143-162, 167, 171, 172, 97	13 to 18-50 30-50 56 to 75-50 80, 85 86-50, and 120	Secs 10, 14, 15, 24, T25S, R23E; canyon zone.	Series of hogback ridges northeast of Castle Creek. Numerous sites. Stone tools and slightly basin-shaped metates abundant. Yellow utility ware like Awatobi ware and plain brown pottery. Two crude granaries with sand mortar and retaining wall. Rock circles on top of ridge with brown pottery. Cultures probably represented: Fremont, Fremont (?), recent Shoshonean, and possibly prehistoric Hopi.
42Gr120	19-50	Sec 1, T26S, R24E; piñon-juniper zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr121	20-50	Sec 24, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr122	21-50	Sec 25, T24S, R24E; canyon zone.	Campsite. Yellow utility ware resembling Awatobi ware: Jeddito Plain and Incised. Abundant stone tools, basin metate. Cultures probably represented: recent Shoshonean or prehistoric Hopi.
42Gr123-126, 169	22 to 25-50, 82-50	Sec 28, T25S, R24E; piñon-juniper zone.	Abundant stone tools. No pottery. Good location for dwellings. Cultures probably represented: late prepottery, Fremont (?) and Fremont.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Gr127, 128	26, 27-50	Sec 35, T25S, R24E; mountain zone.	Campsites. Abundant stone tools. Culture probably represented: Fremont (?).
42Gr132-142, 168	31 to 41-50, 81-50 28, 29-50	Secs 29, 32, 33, T25S, R24E; piñon-juniper zone.	Campsites with abundant stone tools. Some corrugated pottery. Good location for dwellings but none found. Cultures probably represented: mixed sites on main route of travel to mountains. Early and late prepottery (possibly Amargosa II) and Fremont, Fremont (?) and recent Shoshonean.
42Sa166	42-50	Sec 31, T27S, R23E; canyon zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Sa167 168-170	43-50 53 to 55-50	Sec 19, T28S, R23E; Sec 24, T28S, R22E; canyon zone.	Quarry sites. Abundant stone tools and chips. Cultures probably represented: late prepottery and Fremont (?).
	56 to 75-50 (see 13-50)		
42Gr163-166	76 to 79-50	Sec 35, T25S, R23E; piñon-juniper zone.	Abundant stone tools. Campsites. Cultures probably represented: late prepottery, Fremont and Fremont (?).
	80-50, (see 13-50) 81-50, (see 28-50) 82-50, (see 22-50)		
42Gr170	84-50	Sec 2, T26S, R21E; canyon zone.	Three storage chambers. Culture probably represented: late Fremont.
	85, 86-50 (see 13-50)		

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
	87-50	Sec 35, T24S, R22E; canyon zone.	Campsites in shelters. Stone tools. Culture represented: unidentifiable.
42Sa171	89-50	Sec 19, T28S, R23E; canyon zone.	Shelter site. Stone tools including basin metates. Burial reported. Cultures probably represented: late prepottery.
42Sa172-175	90 to 93-50	Secs 31, 32, T28S, R24E; canyon zone, lower edge of piñon-juniper zone.	Quarry sites. Abundant stone tools. Metates lacking except for one imported deep basin type. Cultures probably represented: Fremont and Fremont (?).
42Sa176, 177	94, 95-50	Sec 14, T29S, R23E; canyon zone.	Campsites in open and in shelters. By spring, on natural travel route. Quarry area. Abundant stone tools. Few sherds black-on-white pottery, rock tempered. Cultures probably represented: Amargosa II to Fremont.
42Gr174-176	101 to 103-50	Secs 4 and 8, T26S, R22E; canyon zone.	Dwelling sites. Site 102-50 has retaining wall. Abundant petroglyphys between sites. Site 103-50 has remains of 6 circular, high, rock foundations; well constructed granary; abundant stone tools, polished gray, black, black-on-white pottery, abundant petroglyphs. Cultures represented: late prepottery, early and late Fremont.
42Gr177	104-50	Sec 13?, T26S, R21E; canyon zone.	Two high rock circles of thin slabs with adjoining wall. Entrance probably through roof. Abundant petroglyphs. Culture represented: late Fremont.
42Gr178	105-50	Sec 7, T26S, R22E; canyon zone.	Dwelling remains on hill top. Abundant pottery: gray corrugated, plain gray and red-on-orange. Abundant stone tools including basin shaped metates. Culture represented: early Fremont.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Gr179	107-50	Sec 30, T25S, R23E; canyon zone.	Cave site. No pottery. Deep basin metate. Culture probably represented: Fremont.
42Gr180-182	108 to 110-50	Secs 10 and 11, T26S, R23E; piñon-juniper zone.	Open sites (camp?). Abundant stone work. Few sherds gray corrugated pottery. Cultures probably represented: prepottery, possibly Amargosa II; Fremont (?).
42Gr183-188	111 to 116-50	Fisher Valley, T24S, T25S, R24E, R25E; canyon zone.	At site 115-50 are low rock circles on ledges, crude granary and watchtower. Other sites are open campsites. Cultures probably represented: late prepottery; early Fremont; Fremont (?).
42Gr189	117-50	Sec 32, T25S, R24E; piñon-juniper zone.	Shelter site under big boulder. Abundant stone tools. Culture probably represented: late prepottery.
42Gr190	118-50	Sec 26, T25S, R21E; canyon zone.	Dwelling remains on hill top with abundant pottery similar to 104-50. Culture represented: late Fremont.
42Gr191	119-50	Sec 25, T25S, R21E; canyon zone.	Granary site. Horizontal masonry, side entrance (type 7). Culture represented: late Fremont.
42Gr192	121-50	Sec 26, T25S, R21E; canyon zone.	Low rock circle on Colorado River. Stone tools. Culture probably represented: Fremont.
42Gr193	125-50	Sec 15, T25S, R23E; canyon zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr194	126-50	Sec 25, T25S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
5Mn1-7	1 to 7-51	Sites in Paradox Valley	In part Fremont, in part Fremont (?) but with stronger Anasazi influence than in the La Sal Mountain area.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Sa178-182	8 to 12-51	Secs 34 and 36, T28S, R24E and Sec 1, T29S, R24E; lower edge of piñon-juniper zone.	Open campsites. Possible dwelling at 12-51, as well as abundant stone tools and variety of pottery including decorated gray with indented fillet; rim incised; yellow utility ware like Awatobi ware; gray corrugated and plain gray, granite tempered. Site 12-51 is a popular campsite. Cultures probably represented: Fremont; recent Shoshonean; prehistoric Hopi; Navaho.
42Sa183	13-51	Sec 11, T28S, R22E; canyon zone.	Quarry or camp site. Stone tools abundant. Culture represented: unidentifiable.
42Gr195, 196	14 and 16-51	Sec 26, T25S, R21E; canyon zone.	Storage chambers on Colorado River; type 7 granary at site 14-51; type 5 granary and gray corrugated pottery at site 16-51, dated by radiocarbon as 1000 A.D. ± 150. Culture probably represented: late Fremont.
42Gr197	17-51	Sec 31, T25S, R23E; piñon-juniper zone.	Campsites. Stone tools. Cultures probably represented: late prepottery: Fremont.
42Gr198-202	18 to 22-51	Secs 4 and 8, T26S, R22E; canyon zone.	Petroglyphs. Cultures represented: mostly early Fremont.
42Sa184	23-51	Sec 4, T28S, R23E; canyon zone.	Campsite. Stone tools. Cultures probably represented: late prepottery and Fremont (?).
42Sa185, 186	24, 25-51	Secs 28 and 33, T28S, R23E; upper edge of canyon zone.	Quarry sites. Abundant stone tools. Cultures probably represented: late prepottery; Fremont (?); recent Shoshonean.
42Gr203	30-51	Sec 23, T25S, R21E; canyon zone.	Pictographs and petroglyphs. Two sherds plain gray pottery, micaceous (Taos-Picuris).

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
			Cultures probably represented: late Fremont; recent Shoshonean
42Gr204-207	31 to 34-51	Sec 15, T25S, R21E; canyon zone.	Dwelling sites 33-51 and 34-51 are in large cave and shelter, respectively. Abundant stone tools including side-notched projectile points and basin metates. Pottery includes plain gray; gray decorated with punches; calcite tempered; gray corrugated and black on white. At sites 31 and 32-51 there are low circular rock walls. Petroglyphs include humpbacked flute player. Culture represented: late Fremont.
42Gr208	35-51	Sec 21, T24S, R23E; canyon zone.	Petroglyphs. Culture probably represented: early Fremont.
42Gr209	36-51	Sec 34, T24S, R22E; canyon zone.	Foundation rectangular (?) house. Pueblo III type gray corrugated pottery. Culture probably represented: late Fremont.
42Gr210	37-51	Sec 2, T26S, R21E; canyon zone.	Granaries (types 2b, 3, 4) in Colorado River shelter. Culture probably represented: late Fremont.
42Gr211-243	38 to 70-51	Sites along Mill Creek. Tsps. 27S, R23E; 26S, R22 and 23E; canyon zone.	Abundant petroglyphs, stone tools. Few sherds black-on-white pottery. Remains of retaining walls. Five cave sites with bell-shaped granaries, corn cobs. Cultures probably represented: late pre-pottery; early and late Fremont; recent Shoshonean.
42Gr244	72-51	Sec 2, T26S, R22E; canyon zone.	Campsite. Stone tools. Culture represented: unidentifiable.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Gr245	73-51	Sec 11, T26S, R23E; piñon-juniper zone.	Campsite. Abundant stone tools. Culture probably represented: late Fremont.
42Sa187	74-51	Sec 31, T28S, R24E; piñon-juniper zone.	Campsite. Stone tools. Culture probably represented: Fremont (?).
42Sa188	75-51	Sec 24, T28S, R23E; piñon-juniper zone.	Campsite. Stone tools. Culture probably represented: Fremont (?).
42Sa189-191	76 to 78-51	Secs 27 and 34, T28S, R24E; piñon-juniper zone.	Campsites. Stone tools. Possible house site and few sherds white ware at 77-51. Cultures probably represented: late prepottery; Fremont; Fremont (?).
42Gr246	79-51	Sec 19, T25S, R22E; canyon zone.	Cliff dwelling. Not visited.
42Gr247	80-51	Sec 30, T24S, R25E; canyon zone.	Petroglyphs. Culture represented: late Fremont.
42Gr248	81-51	Sec. 20, T24S, R25E; canyon zone.	Cave site, crude dry laid masonry wall. Culture represented: not identifiable.
42Sa192	1-52	Sec 1, T28S, R22E; canyon zone	Shelter site buried by alluvium and dune sand. Hearths and stonework in alluvium under dune sand. Cultures probably represented: late prepottery and Fremont (?).
42Gr249	3-52	Sec 31, T26S, R25E; mountain zone.	Snub-nose scraper, flat, medium size (Fig. 39, c) found on top of Mt. Tomasaki. Altitude over 12,000 feet.
42Gr250	4-52	Sec 2, T26S, R23E; piñon-juniper zone.	Campsite. Stone tools. Culture represented: not identifiable.
42Gr251	5-52	Sec 34, T25S, R23E; piñon-juniper zone.	Campsite. Stone tools. Culture probably represented: late prepottery and/or Fremont (?).
42Gr252	6-52	Sec 32, T25S, R24E; piñon-juniper zone.	Doubly pointed knife (Fig. 32), not associated with other tools, found here.
42Sa193	8-52	Sec 6, T27S, R24E; piñon-juniper zone, upper edge.	Campsite. Abundant stone tools. Cultures probably represented: prepottery, possibly

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
			as early as Amargosa II; Fremont; Fremont (?).
42Sa194	24-52	Sec 1, T27S, R24E; mountain zone.	Campsite. Yellow utility ware like Awatobi ware, and few stone tools. Culture probably represented: prehistoric Hopi.
42Gr253-256	25 to 28-52	Secs 24, 35, 37, T25S, R24E; mountain zone.	Campsites. Abundant stone tools. Cultures probably represented: late prepottery and/or Fremont (?).
42Sa195	40-52	Sec 17, T27S, R23E; canyon zone.	Dwelling site. One room, probably circular, about 15 feet in diameter. Plain gray and black-on-white pottery; loaf shaped mano. Culture probably represented: Fremont.
42Gr257	41-52	Sec 15, T26S, R24E; mountain zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr258	45-52	Sec 6, T25S, R23E; canyon zone.	Dwelling site. Utah type and trough metates; gaming pieces; "miniature" projectile points. Culture probably represented: late Fremont.
42Gr259	46-52	Sec 6, T25S, R23E; canyon zone.	Campsite. Three beds of charcoal, probably hearths, 10 feet below surface of prepottery alluvium (correlates with Tsegi). Radiocarbon date being obtained.
42Gr260	47-52	Sec 6, T25S, R23E; canyon zone.	Campsite. Stone tools. Culture represented: unidentifiable.
42Gr261	48-52	Sec 1, T25S, R22E; canyon zone.	Petroglyph site. Petroglyphs more Anasazi in type than is found elsewhere in area.
42Gr262	49-52	Sec 20, T25S, R24E; canyon zone.	Two rock hearths and 2 beds of charcoal. Lowest hearth is 6 feet below top of prepottery alluvium (Tsegi equivalent); other hearths also are in prepottery alluvium but nearer surface.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Gr263	50-52	Sec 29, T25S, R24E; piñon-juniper zone.	Campsites. Abundant stone tools. Culture probably represented: late prepottery and/or Fremont (?).
42Gr264	51-52	Sec 30, T25S, R24E; piñon-juniper zone.	Campsites. Abundant stone tools. Cultures probably represented: late prepottery and/or Fremont (?).
42Gr265	52-52	Sec 6, T25S, R25E (proj); piñon-juniper zone.	Campsite; stone tools. Culture represented: late prepottery.
42Gr266-269	53 to 56-52	Sec 6, T25S, R25E; canyon zone.	Several hearths containing grinding stones, burned bone and chips are found in prepottery alluvium at various depths at site 53-52. At site 54-52, on the surface of the alluvium, black-on-white pottery and typical Fremont "miniature" projectile points are found. Site 55-52 is a campsite with stone tools. Culture probably represented: late prepottery and/or Fremont (?). Site 56-52 is a dwelling site with two house foundations which have fallen in circular heap 10 feet in diameter, associated with black-on-white pottery and loaf shaped mano. Culture probably represented: Fremont.
42Gr270	57-52	Sec 31, T24S, R25E; canyon zone.	Campsites. Abundant stonework, many firepits. Culture probably represented: prepottery and/or Fremont (?).
42Gr271	58-52	Sec 36, T24S, R24E; canyon zone.	Dwelling site on ridge top. Three mounds about 25 feet in diameter, rising 5 feet above top of ridge. Slight basin and deep basin metates, pottery, an asphaltic material, small projectile points. Culture represented: early Fremont.

Table 3 (cont.)

U. of U. Survey No.	Site No.	Location and altitudinal zone	Site description; culture represented
42Gr272	61-52	Sec 35, T25S, R24E; upper piñon-juniper zone.	Campsite. Stone tools. Culture probably represented: Fremont.

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