

EXCAVATION OF CATCLAW CAVE,
LOWER COLORADO RIVER

by

Barton Allen Wright

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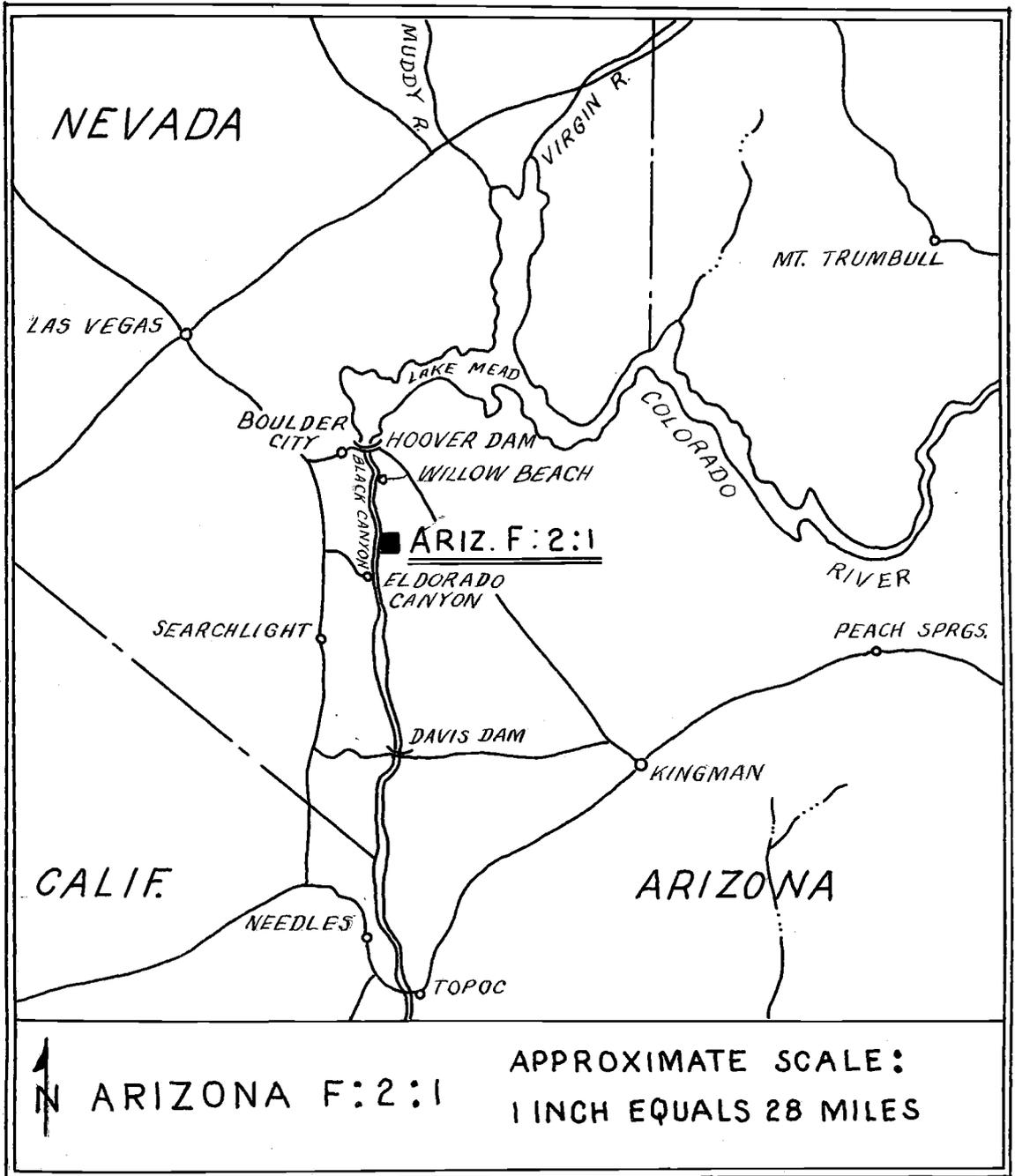


Figure 1. Location map of Ariz. F:2:1--Catclaw Cave.

CHAPTER I
INTRODUCTION

PROBLEM:

The archaeological excavation of Catclaw Cave (Ariz. F:2:1) was conducted during the summer of 1949 with two purposes in mind: The primary purpose of the work was to secure additional material representative of the Patayan Culture¹ with emphasis on perishable items. As the Gerbat Branch of the Patayan remained relatively undefined it was felt that any additional work would be a contribution to a better understanding of this little known area, especially if knowledge of the perishable material could be obtained. The second and more pressing reason for excavation was the approaching inundation of the cave by the rising waters behind Davis Dam.

LOCATION:

Catclaw Cave is located in Mohave County, Arizona in the Black Canyon of the Colorado River, fifteen miles downstream from Hoover Dam and one mile upstream from United States Geodetic Survey Cable No. 17 (Fig. 1). The cave lies two hundred yards east of the river on the south side of a small unnamed tributary. The area can be reached only by boat along the river or by foot following Jumbo Wash from

1. Colton, 1939a, p. 29.

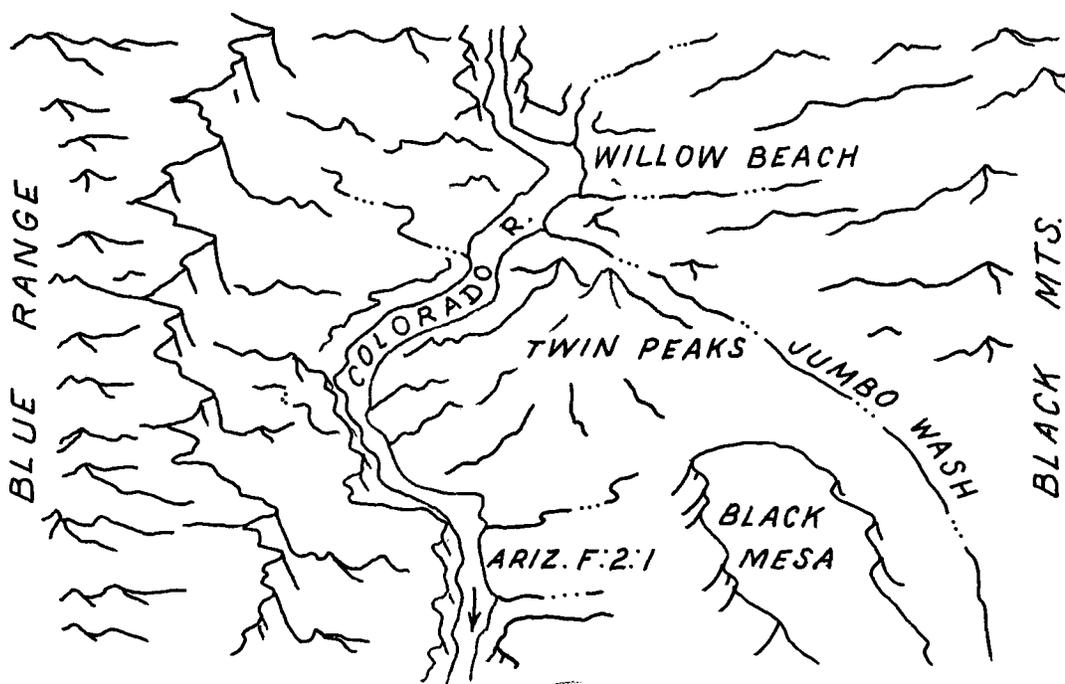


Figure 2. The Black Canyon of the Colorado River.

Willow Beach to the pass between Black Mesa and Twin Peaks and thence down to the canyon bottom, a distance of fifteen miles (Fig. 2).

PERMITS:

The excavation was conducted as a project of the Department of Anthropology, University of Arizona. With the assistance of Dr. E. W. Haury of the Department of Anthropology, arrangements were made with the National Park Service to work under their survey permit to the San Diego Museum of Man. The project was equipped by the Anthropology Department of the University of Arizona, the National Park Service, and private individuals. The financial burden of the excavation was born by the four students who

conducted the actual excavation: Barton Wright, Rex Gerald, Bryant Bannister, and Margaret Wright; with assistance from the operating fund of the University of Arizona Archaeological Field School within which the Catclaw Cave project was set up.

CLIMATE:

The Black Canyon of the Colorado is located in a desert environment characterized by extremes in temperature and with an annual rainfall of less than five inches.¹ Rainfall occurs in the form of light showers in the winter and local thunderstorms in the summer. Snowfall occurs infrequently on the peaks of the Black Mountains and is unknown in the inner gorge. Summer temperatures usually reach one hundred and twenty degrees in August and September, dropping to seventy degrees during the winter months.²

GEOLOGY:

The geology of the Black Canyon of the Colorado River is one of extreme complexity and will be treated briefly for the purposes of this report.

The Black Canyon follows a general north-south course and is paralleled by the Black Mountains to the east which rise to an elevation of 5500 feet, and by the Blue Range to the west which is slightly lower in elevation. The canyon consists of an outer valley varying in width from five to seven miles, and an inner gorge. The inner gorge is a sheer-sided canyon cut through a recent block of volcanic tuff

1. Schroeder, in preparation, p. 15.
2. Harrington, Hayden, and Shellback, 1930, p. 20.

breccia.¹ The walls of the inner gorge are dissected by deeply entrenched intermittent washes. At various elevations remnants of an older river channel and deposits of a Pleistocene lake are found. Fissure flows of malapai occur at higher elevations. The river maintained a fall of nearly five feet to the mile prior to Davis Dam and varied from a water flow of two thousand second feet to three hundred and fifty thousand second feet of water during flood times.²

FAUNA:

The fauna of Black Canyon is limited to small mammals with two exceptions, the burro of modern introduction which has gone wild, and Nelson's Big Horn sheep. Smaller predatory animals found are the coyote, bobcat, kitfox, and ring-tailed cat. Skunk, beaver, muskrat, rabbits, and numerous smaller rodents exist in quantity. The turkey vulture, raven, horned owl, hawk, roadrunner, and quail are present in the canyon. Water birds are represented by most species using the California flyway. A few species of diving birds make their home in the canyon throughout the year. A large variety of reptiles are present including lizards, snakes, and terrapins. Fish in the river are represented by several species, the largest being the minnow or Colorado River Salmon which reaches a weight of nearly a hundred pounds.

FLORA:

Vegetation in Black Canyon is extremely sparse with the

1. La Rue, 1925, p. 98.

2. Loc. sit.

exception of the immediate river shores. The slopes of the canyon are covered with a scant growth of creosote bush, sage, Mormon tea, cholla, and pad cactus. The dry washes maintain a slightly more abundant growth and support a scattering of mesquite, catclaw, and broomweed. This vegetation clusters in the lee of protecting banks and at canyon junctures. The river shores and seep areas support a dense growth of willow, blanco bush, salt cedar, and an occasional cottonwood. Some growth of cane grass, cattail, and bull-rush occurs on the sandbars in the river.

SURVEY:

A series of surveys have been conducted along the Colorado River. In 1949 the Museum of Man of San Diego, California, surveyed the Colorado River from Boulder Dam to Needles. The result of this survey are not available for reference at the present time. Dr. G. C. Baldwin conducted similar surveys in the Black Canyon for the National Park Service for some years prior to 1949. In 1950 A. H. Schroeder conducted an extensive survey from Davis Dam to the Gulf of California.¹

The most extensive type of site is that which appears on the sand bars in the vicinity of every large tributary wash. The sandbars are semi-permanent in nature and are composed of fine silts and sands deposited by comparatively quiet waters. Erosion, more operative since the building of Boulder Dam, is stripping away the river deposits exposing

1. Schroeder, 1952.

occupational levels marked by charcoal, sherds, bone, and lithic material.

Rockshelters are to be found in most rock outcroppings which present suitable shelter in the vicinity of the tributary washes. Even the smallest erosional pockets that have easy access have been used. Mortar holes, sherds, bone, and lithic items are usually associated with the rock shelters.

House rings occur sporadically along the river shore in areas above flood level. The sites are marked by shallow depressions from which the rocks have been removed and piled about the periphery of the depression. Diameters vary from six to ten feet. There is no evidence of hearths, and pottery and lithic artifacts are extremely rare.

Storage pockets are similar to the rock shelters with the exception of location. These pockets appear to have been selected for their inaccessibility and are generally at some elevation above the surrounding terrain in neighboring cliffs. These pockets were apparently used as caches for food or other possessions.

Workshops occur most commonly in the deposits of the elevated river channel or in the vicinity of rock outcrops which are suitable for flaked artifacts. Other such areas are located at the junctures of washes and are often accompanied by mortar holes.

Pictographs are present in the canyon in various localities having suitable rock surfaces.

EXCAVATED SITES:

Only one site of similar culture has been excavated in the immediate area. Excavations for the National Park Service were conducted at Willow Beach, four miles upstream from Ariz. F:2:1, by M. R. Harrington in 1936, and by Dr. G. C. Baldwin in 1947.¹ Additional excavation and a synthesis of the previous material was carried out in 1950² by A. H. Schroeder of the National Park Service.

SUMMARY:

The ecological aspect of the Black Canyon of the Colorado River is of vital importance in the interpretation of archaeological finds in the area. The extreme range of temperature, the lack of sufficient rainfall for farming, and the rugged character of the canyon, force inhabitants to depend upon the river for water and for arable land. It is at the river's edge that maximum faunal and floral life occur. The adversity of conditions is reflected in the lack of large fauna with the exception of the prospector's burro that has gone wild, and the native Bighorn Mountain Sheep. All fauna is dependent upon the river or has adapted to extreme desert conditions. The same is true of the flora. Any human population is likewise completely dependent upon the river.

The constriction of Black Canyon permitted the flood waters of the Colorado River, prior to Boulder Dam, to reach

1. Baldwin, 1948.

2. Schroeder, in preparation.

heights of forty-five feet above normal flow. This flooding made possible the farming of small patches of river shore, sand bars, and arroyo debouchers, but endangered any habitational site that was not placed at considerable elevation above the river. Surveys of the area indicate extensive occupation of virtually all available land.¹

The single excavated site in Black Canyon prior to the excavation of Catclaw Cave, is that of Willow Beach, a stratified open site, the excavation of which was completed in 1950 by A. H. Schroeder. The results of this excavation indicated that use of the site had occurred over an estimated span of four or five thousand years. The site produced five pre-ceramic levels and three ceramic levels. From the data secured from these levels it appears that the area was first inhabited by a gradation between Amargosa and Fremont variants of the Basketmaker II culture. Schroeder feels, on the basis of his surveys, and to some extent on surveys by amateurs of the area, that this culture is more purely represented in the Virgin Branch of the Western Anasazi in the Virgin and Muddy River basins. This lowest level has been designated the Price Butte Phase at Willow Beach. During the succeeding Nelson and Eldorado phases, increasing influence from southern California may be detected. During the pre-750's in the Roaring Rapids Phase at Willow Beach, the Tusayan Gray Wares of the Virgin Branch

1. Based on surveys made for the National Park Service by Dr. Gordon Baldwin in 1947, with the author assisting, and by A. H. Schroeder in 1950.

are dominant. However, the representative pottery of the Cerbat Branch of the Patayan (Cerbat Brown) appears as the largest individual pottery type. This new influence is believed by some to belong to the ancestral Walapai from the area which lies to the south and east of Black Canyon in the country now occupied by the Walapai. In the following phase, Willow Beach (ca. 900-1150 A.D.), Pyramid Gray pottery appears as a local manifestation along the Colorado River and assumes dominance over the Tusayan Gray Wares. It has been assumed that at this time there must have been an indigenous group occupying the Black Canyon. This phase is closely allied with traits appearing in the Mohave Desert. At 1150 A.D. there is an abrupt conclusion of all preceding types, which are supplanted by Paiute Brown, the typical pottery of the Paiute, and is the last occupation of the site.

Within historic times the area was found by Kroeber to be uninhabited except for periodic visitations by the Walapai to the east and the Chemehuevi (a southern Paiute group) to the west. Kroeber also indicates that there is some belief among the Mohave that this was their land which the Chemehuevi were allowed to enter and use.

Thus the region under consideration is one where many have visited but few remained.

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1. Schroeder, in preparation.
 2. Kroeber, 1925, p. 736.



PLATE 1.

a. (left) General view of Catclaw Cave looking south.

b. (below) Catclaw Cave showing test trench at left.

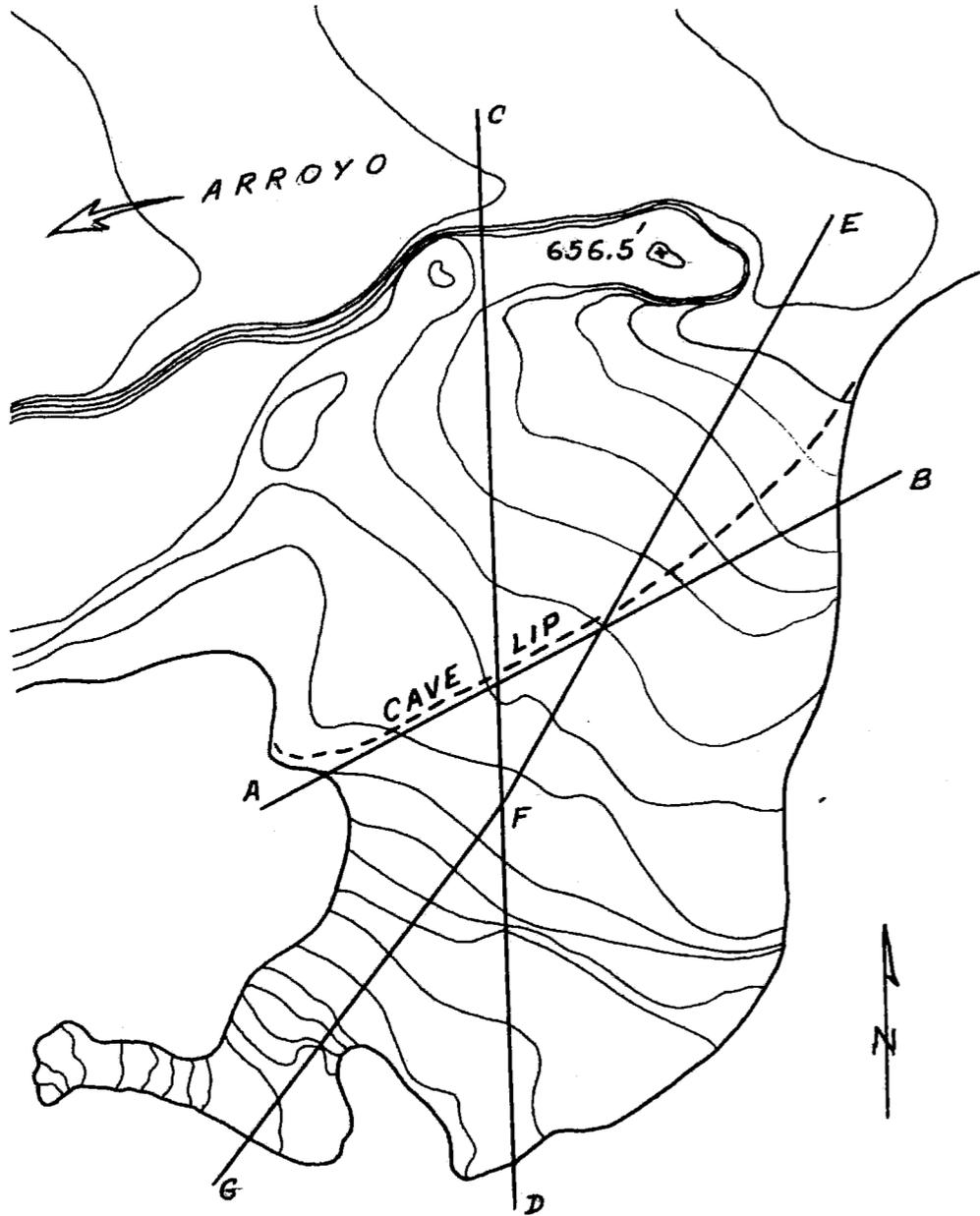


CHAPTER II

CATCLAW CAVE

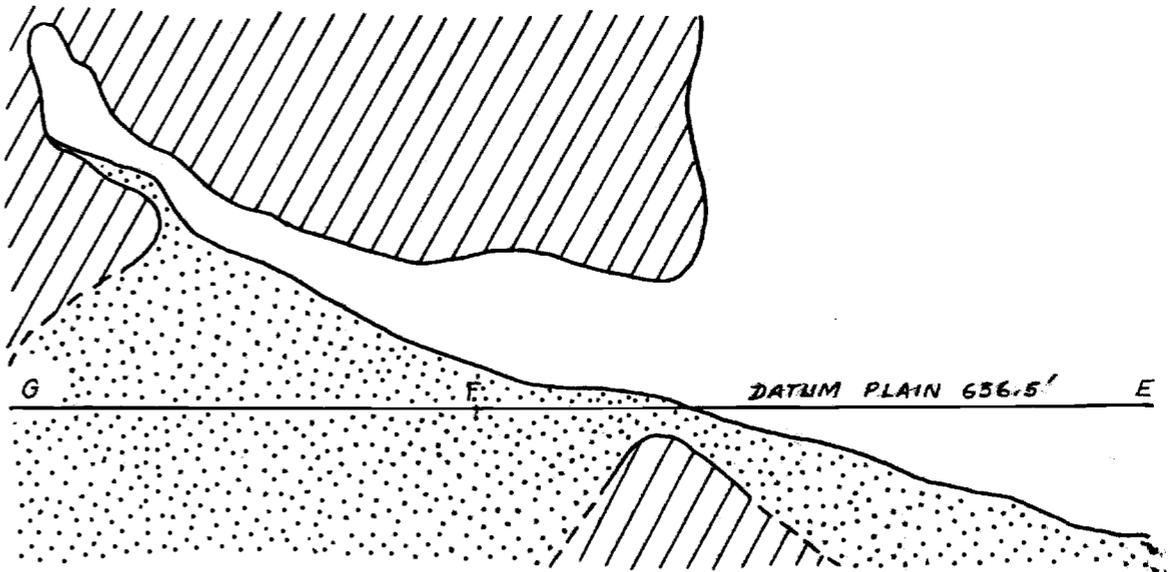
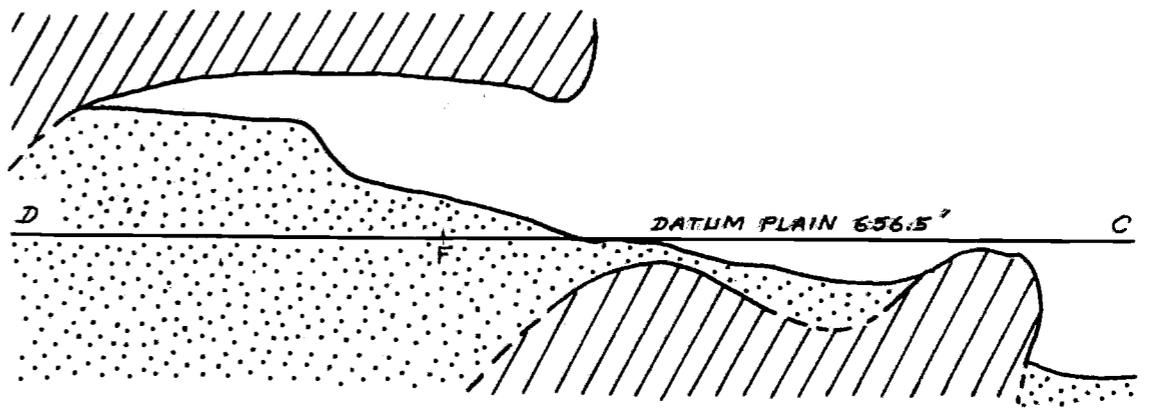
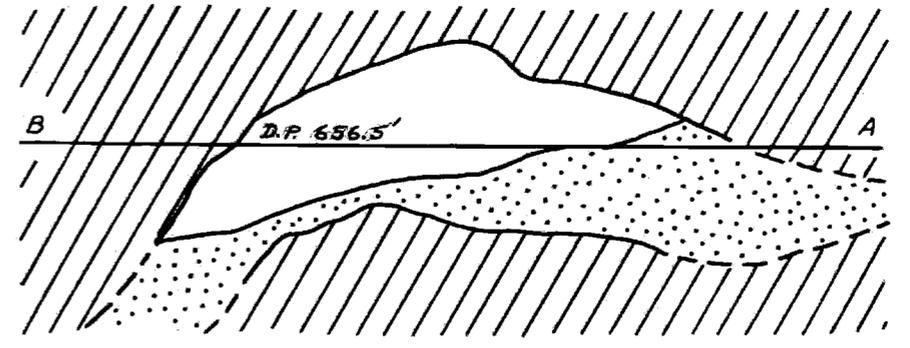
ASPECTS OF THE CAVE:

Catclaw Cave is located on the south bank of a small tributary two hundred yards from the east bank of the Colorado River. The formation of the cave is the result of this intermittent tributary cutting through a dike of volcanic tuff breccia (Pl. 1a, p. 11). This cutting has left vertical faces of breccia on opposite sides of the arroyo. The force of the stream is directed at the base of the southern cliff by the broad flank of the northern exposure. This erosion has resulted in a long shallow cave measuring 12.30 meters in width, 3.4 meters in height from the cave fill, and 12.40 meters in depth (Fig. 3, p. 13). The floor of the cave lies at a greater elevation than the present arroyo and is composed of interbedded silts, sands, and gravels with consolidated rock fall from the cave roof, lying between the irregular masses of the cave floor. Secondary erosion, resulting from ground water entering along a fault plane, has produced a chimney at the rear of the cave. Evidence of water flow through this chimney is traceable in the small channels cut into the cave deposits. At the present time the chimney has been blocked by a rockfall. The extreme rear of the cave is composed of a high bench of



CONTOUR INTERVAL: 25 CMS.
SCALE: 1 INCH = 5 METERS

Figure 3. Plan and Profiles of Catclaw Cave.



partially consolidated sand and gravel deposits, the forward edge of which has been cut away either by flooding or by human agencies.

CAVE DEPOSITS:

The deposits within the cave show definite changes throughout the depth of fill excavated. Prior to excavation the cave floor was covered by a deposit of fine wind-blown silt (Level 1) extending from the bed of the arroyo to the consolidated bench to the rear of the cave and partially into the chimney at the rear of the cave (Fig. 4, p. 15). All archaeological material from the cave was recovered in this single loose stratum. The central section of the loose silt layer showed evidences of leaching which had resulted in the deposition of a thin lens of crystalline salts, presumably gypsum. No discernable stratigraphy was apparent in this level, other than the localized crystalline lens. Beneath Level 1 lay a series of deposits of alternating clays, silts, sands, and fine gravels (Level 2--Fig. 4, p. 15). The surface of these deposits had been cut in various areas, probably to level the surface or to prepare for pit hearths and caches. The composition of these deposits indicate alternate flooding by river and wash to deposit river clays interbedded with wash detritus. This series showed an uninterrupted depth of over 6.5 meters. Utilization of the cave by human beings began after the deposition of Level 2 and continued through the deposition of Level 1 which may have been laid down entirely by wind action.

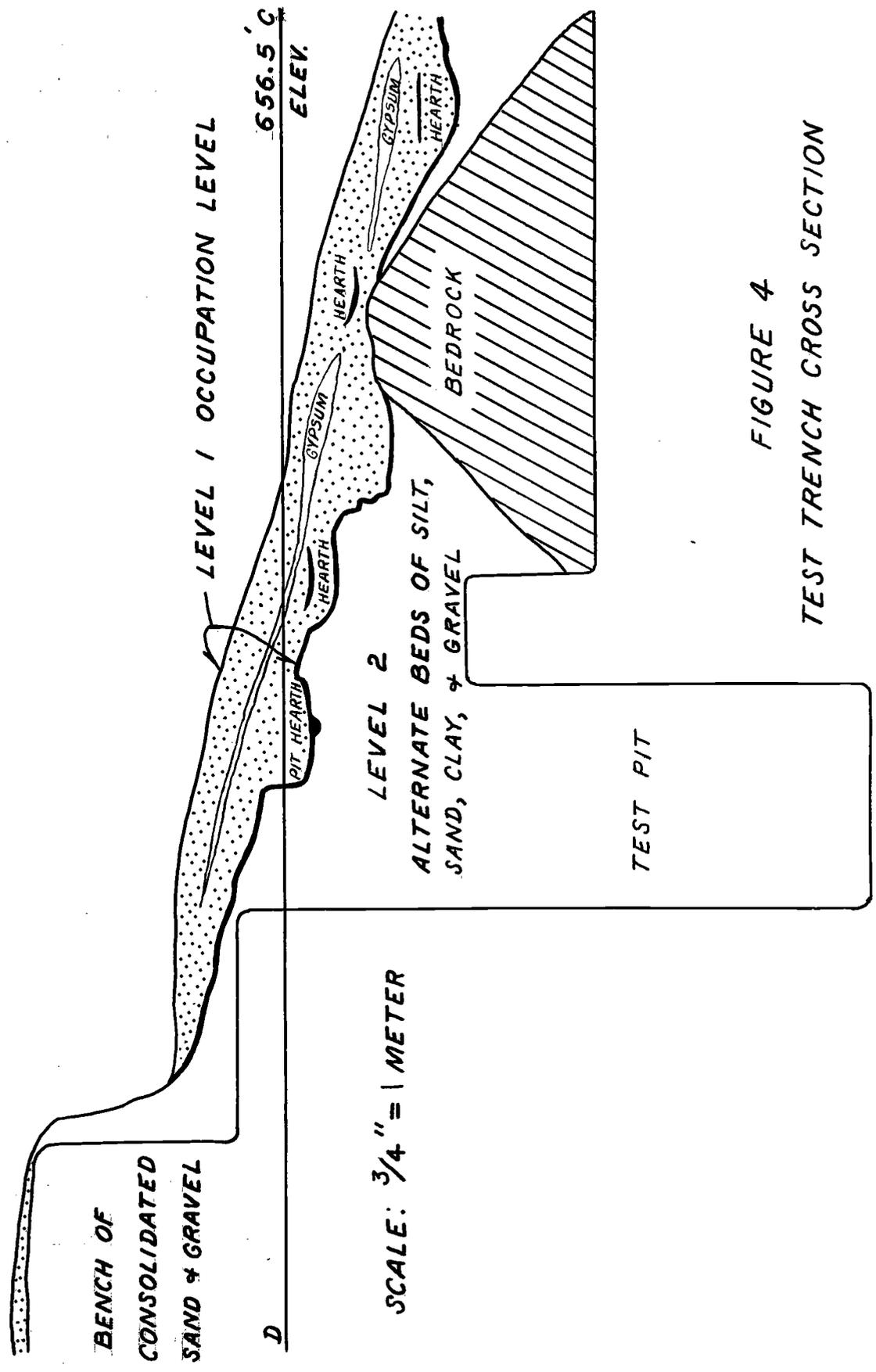


FIGURE 4
TEST TRENCH CROSS SECTION

METHODS:

The initial step in excavation, following the mapping of the cave, was a test trench one meter in width along the east wall of the cave (Pl. 1b, p. 11). This trench was removed in one-meter sections down to the level of the wash, proceeding inward to a large fallen boulder (see Fig. 5, p. 17 for a diagram of the excavation). These squares were removed in arbitrary levels and screened to determine any existing stratigraphy. No discernable differences in material occurred within Level 1 and no evidence of human occupation occurred in Level 2. The trench was continued to the consolidated bench at the rear of the cave. Two meters forward of the consolidated bench a test pit was put down through Level 2 to a depth of 6.5 meters without disclosing further occupation. With the completion of the test pit a broadside was established on the talus slope and carried down to the sterile deposits of Level 2 throughout the cave. Following the completion of the broadside, a series of small trenches were run in under the sloping walls. These trenches were either sterile or conformed to the results of the test trench.

To aid in identification of the material the cave was arbitrarily divided into the following horizontal divisions: Talus slope, Platform, Terrace, Talus cone, Bench, Chamber, and Chimney (Fig. 5, p. 17).

FEATURES:

Features within the cave were limited to a small lodge,

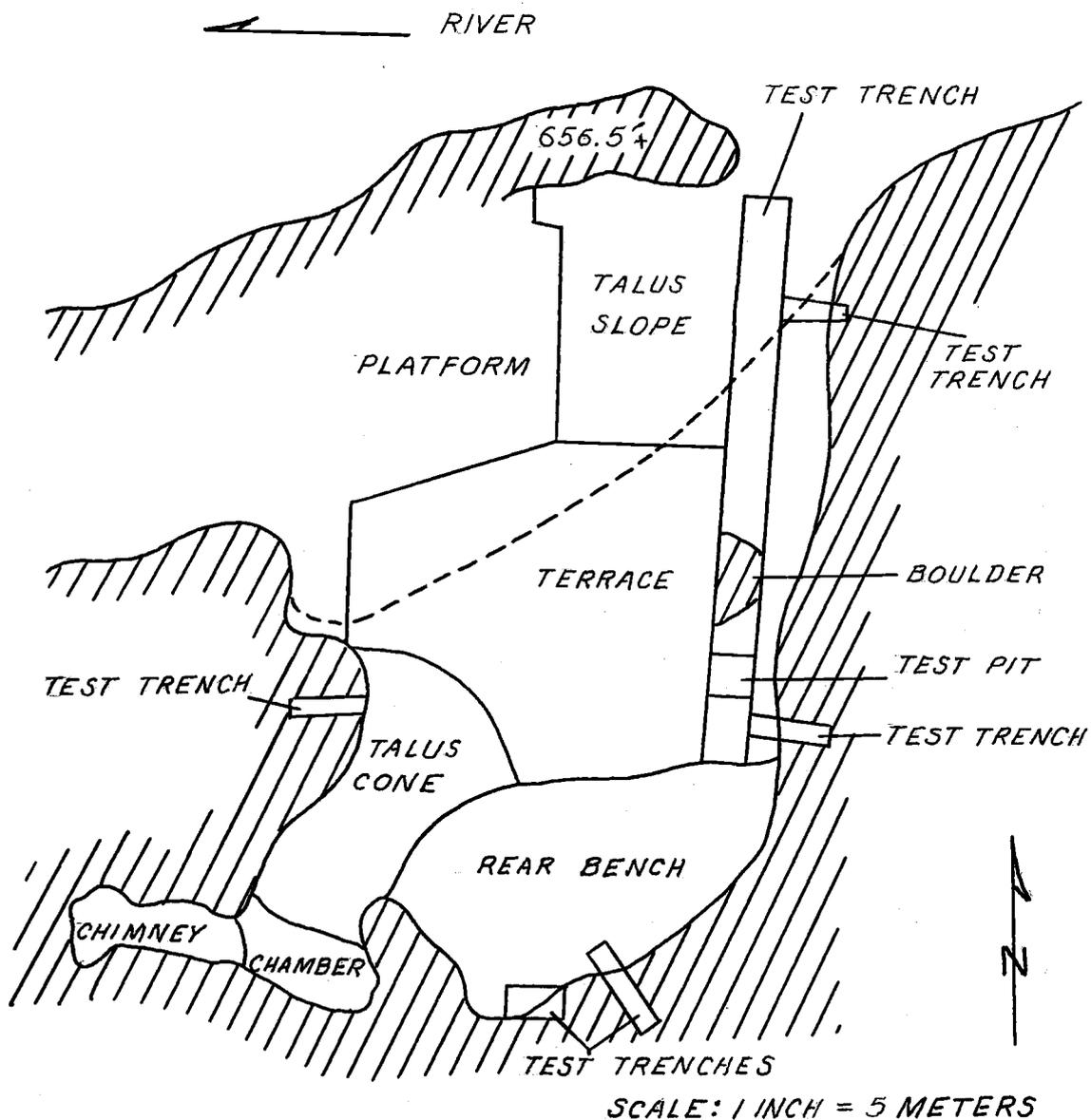


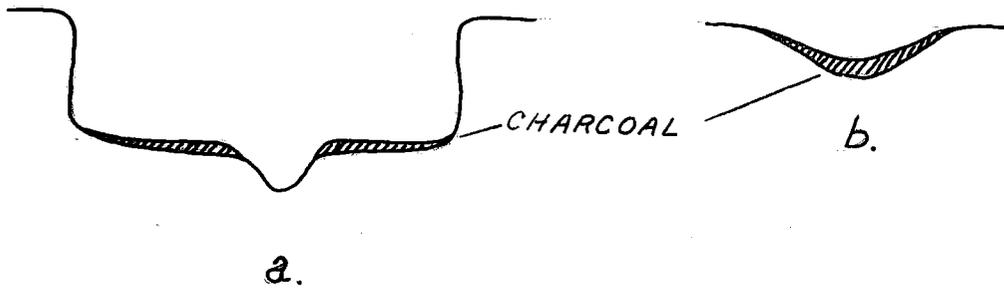
Figure 5. Horizontal divisions of Catclaw Cave.

a number of hearths, and several types of pits and miscellaneous holes. These features occur in the hard surface of Level 2 (Fig. 4, p. 15).

The lodge is a slightly concave depression, semi-rectangular in shape with rounded sides. The depression measures .85 cm. by 1.00 cm. with the longer side oriented parallel to the bench at the rear of the cave and cut partially into it (Fig. 7, p. 21). There are postholes at each corner and all are extremely shallow with an average depth of .10 cm. and a diameter of .08 cm. The northeast and southeast postholes were rock-lined. Two depressions appeared in the floor area. The first was a circular depression near the southwest posthole, and measured .20 cm. in diameter and .06 cm. in depth. The second depression was in the southeast quarter and was oval in shape with the long axis oriented northwest. Dimensions were .50 cm. by .20 cm. with a depth of .14 cm. This second depression contained two fish bones and a fragment of willow bark string. The northern edge of the floor still retained a fragment of rough, thin, mud plaster. A partially burned yucca pod and a sherd of Pyramid Gray lay on this plastered area near the northeast posthole. Between this posthole and the larger depression was a small flake scraper.

HEARTHES:

Fire areas within the cave fall into three categories: namely, pit hearths, basin hearths, and recent campers' fires.



SCALE: 2 INCHES = 1 METER

Figure 6. a. pit hearth; b. basin hearth.

Pit hearths occur only in the surface of Level 2. Five hearths of this type (Fig. 6a) were found within the cave, three of which were quite similar in dimensions. Each hearth was set within a circular pit having an average diameter of 1.00 cm. and a depth of .32 cm. The bottom of the pit was flat with an ash lens occupying a little more than half of the bottom surface. Beneath the few centimeters of ash, the sand was burned brick red in color. Those parts of the pit not covered by ash showed no discoloration from burning. In the approximate center of each ash lens was a small hole with an average depth of .06 cm. and a diameter of .16 cm. Ash and charcoal did not occur within these holes. The fourth hearth was similar to those described above with the following exceptions: The sides of the pit had been under-cut a few centimeters, the central hole was

not present, and the ash lens covered the entire base of the pit. The fifth hearth was a hemispherical pit 1.00 cm. in diameter and .37 cm. in depth and was completely filled with ash and charcoal. In addition, the walls of the pit were burned red and small patches of clay having the appearance of plaster appeared between the ash and burned sand.

Basin hearths occurred at various depths within Level 1 (Fig. 6b, p. 19). These hearths consisted of moderately concave basins with average dimensions of .45 cm. by .39 cm. The depth of ash and burned sand was seldom over .07 cm. No evidence of central holes or pits was found in association with the basin hearths. In one instance a hearth showed evidence of having been dug in the loose sand of Level 1. A rock-fall of small debris covered the area but disappeared above the hearth and for a short distance around it. In other areas, however, the hearths lay beneath the leached zone in level 1 but no discontinuity existed in the crystalline mass. In two instances burned rock was noted around the peripheries of the basins.

Four indefinite ash lenses were disclosed on or near the surface and in every instance contained cigarette stubs, roots, and planed wood.

PITS:

A single pit within the cave contained angular rock fragments from the tributary wash mixed with coarse river cobbles and grass (Fig. 7, p. 21). The pit dimensions were .86 cm. by .77 cm., with a depth of .39 cm. However, the

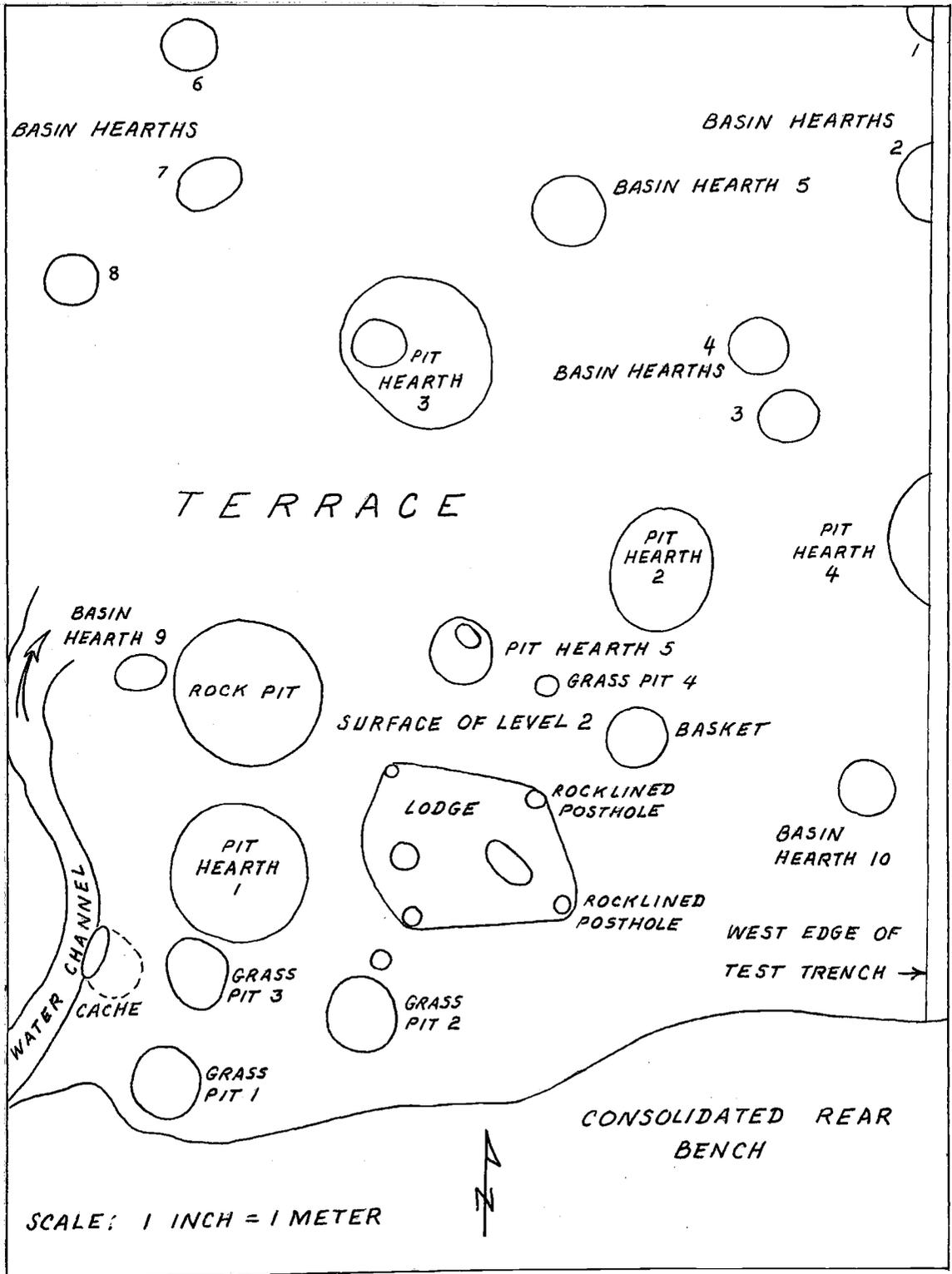


Figure 7. Illustration of Features.

debris within the pit had been piled an additional .40 cm. above the actual rim which had been cut into Level 2. No evidence of burning was present with the exception of one heat-fractured pebble. Two artifacts were present in the debris, a fragment of a basin metate and a large core of quartzite.

Four grass-lined pits were uncovered in the surface of the second level at the foot of the bench in the rear of the cave. These pits were quite small, averaging .25 cm. in depth and roughly the same in diameter (Fig. 7, p. 21). The holes were filled with a mat of grass and vines. One pit contained a cache of soft red ochre wrapped in a wad of shredded willow bark. Matted grass was found within the disturbed section of the cave, but vandalism had destroyed the pits if any may have existed.

Numerous smaller pits occurred in the surface of Level 2 but were without discernable pattern, features, or artifacts.

SUMMARY:

Few of the features within the cave were distinctive enough for comparative data. The most unusual feature was the small lodge, of undetermined use, though its small size and presence in the cave probably indicate a semi-ceremonial use such as a menstrual lodge. The pit hearths found in the cave are not present in the Willow Beach site though basin hearths do occur. Further discussion of features within the cave will be resumed in the concluding chapter.

CHAPTER III
STONE ARTIFACTS

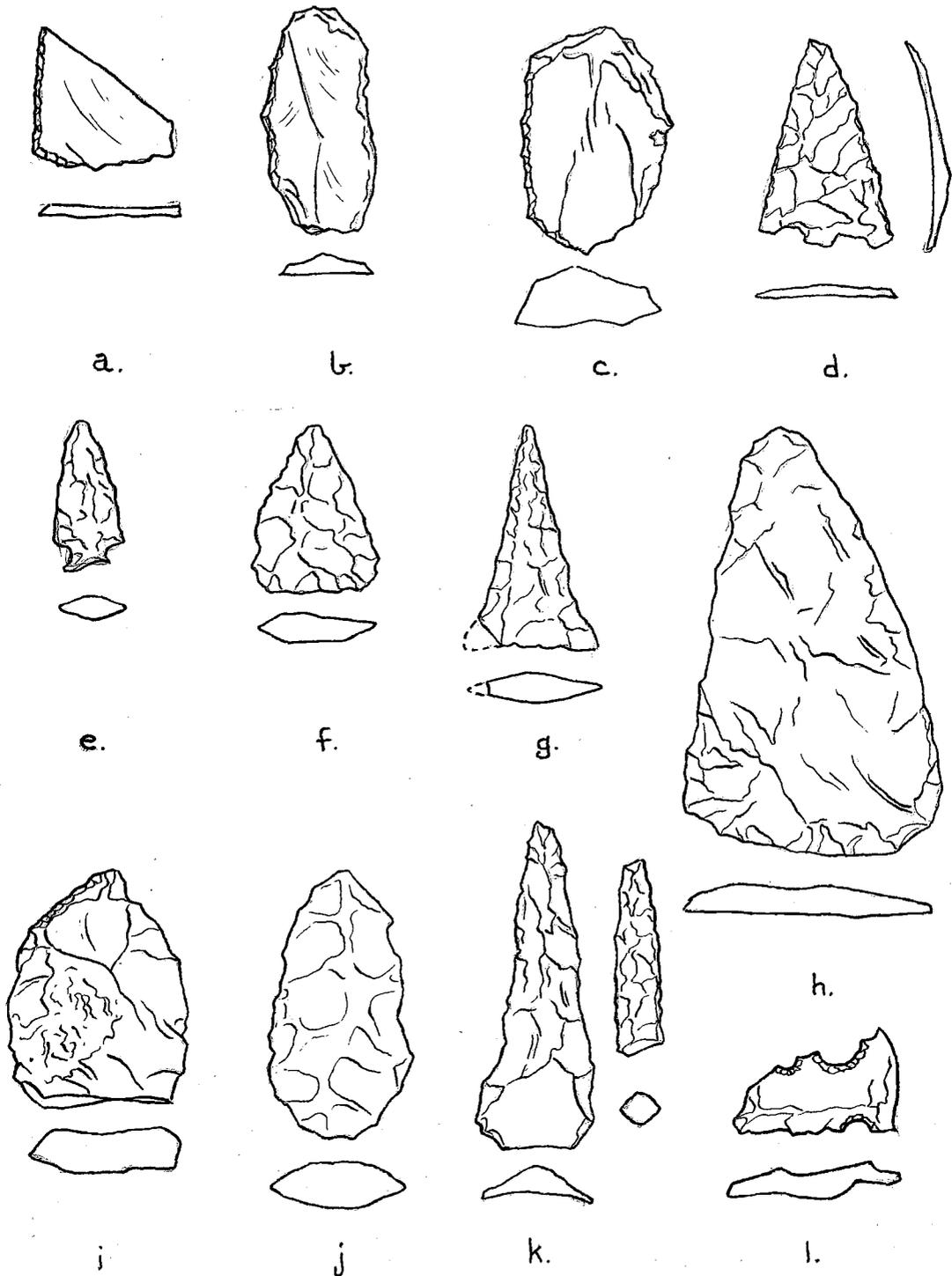
The lithic assemblage that normally exists in the open sites along the Colorado River and as reported by Schroeder from Willow Beach¹ was very inadequately represented in Catclaw Cave. Metates, manos, and choppers were fragmentary and their presence appeared fortuitous. Scrapers and knives formed the most abundant categories of stone tools.

SCRAPERS:

Single-edged side scraper (Fig. 8a, p. 24); Roughly triangular-shaped thin flake. Chipping is along a single side of the flake. Composed of chalcedony, jasper, or agate. Range in size: length, 3.5 - 2.3 cms.; width, 2.5 - 1.7 cms.; thickness, .6 - .1 cm. This type compares roughly with that shown in Fig. 30 of Schroeder's Willow Beach manuscript.²

Double-edged side scraper (Fig. 8b, p. 24); Thin irregular flakes of jasper, quartzite, or chert with chipping on two or more edges. Two sub-groups are distinguishable, the first having two or more

1. Schroeder, in preparation.
2. Ibid., p. 67.



SPECIMENS ARE NATURAL SIZE

Figure 8. Chipped stone tools. Scrapers, a-c; points, d-g; knives, h-j; drill, k; spokeshave, l.

edges chipped in the same direction from a single surface. The chipping of the other occurs on two edges but on alternate surfaces of the flake.

Range in size: length, 4.5 - 2.3 cms.; width, 2.7 - 1.7 cms.; thickness, .6 - .1 cm. Schroeder¹ refers to this category as spall scrapers.

Keeled scraper (Fig. 8c, p. 24); Chalcedony cores with a single edge or side worked. The exterior surface of the core remains as a rough central hump on one surface while the reverse side is flat. Chips are removed away from the flat surface. Range in size: length, 4.9 - 3.4 cms.; width, 3.6 - 1.6 cms.; thickness, 1.6 - .7 cms. This type corresponds with Schroeder's rough scraper.²

PROJECTILE POINTS:

Stemmed flake point (Fig. 8d, p. 24); Thin triangular flakes of jasper and opalite, basally notched with stems and tangs of nearly equal length. Range in size: length, 3.2 - 2.4 cms.; width, 2.0 - 1.6 cms.; thickness, .3 - .2 cm.

Stemmed point (Fig. 8e, p. 24); Represented by a single specimen. Small broad-stemmed, side-notched, chert point with a section of the stem missing and the tip showing blunting. The cross section is lenticular. Length, 2.1 cms.; width, .9 cm.; thickness, .3 cm.

1. Schroeder, op. cit., p. 67.
2. loc. cit., Fig. 29.

Broad triangular point (Fig. 8f, p. 24); Unstemmed quartzite point. The shape is that of an equilateral triangle with a length of 2.6 cms.; width, 1.7 cms.; and thickness, .3 cm.

Constricted triangular point (Fig. 8g, p. 24); Unstemmed quartzite points with flared bases and constricted sides. The bases are flat and in some instances serrations appear near the base. Range in size: length, 3.7 - 3.4 cms.; width, 1.6 - 1.5 cms.; thickness, .8 - .3 cm. This type is very similar to Type Ia as reported by Schroeder.¹

Fragmentary points; Several of the fragmentary points seemed to belong to the above type but were not included because exact identification was not possible. In addition, there appeared a number of heavier, more coarsely flaked points of which no complete specimen was found.

KNIVES:

Triangular knives (Fig. 8h, p. 24); Relatively large blades of chalcedony, jasper, or chert. The base is generally slightly convex. One edge is straight and the other convex. One specimen possessed a rounded protuberance in the central portion of the base which may be an accident of chipping or a rudimentary stem. A quantity of broken bases of this

1. Schroeder, op. cit., p. 72, Fig. 34.

type were also recovered. Range in size: length, 6.4 - 5.2 cms.; width, 3.7 - 2.8 cms.; thickness, .8 - .5 cm. All complete specimens of this type were recovered from the surface of the consolidated bench at the rear of the cave. These knives appear to be identical to Schroeder's Type I from layers J and O at Willow Beach where they occurred in pre-ceramic context.¹

Flake knives (Fig. 8i, p. 24); Irregularly shaped flakes of jasper, chert, or quartzite. These flakes are secondarily chipped along a single edge on both faces to produce a knife-like edge. The remainder of the flake is unshaped. Range in size: length, 5.0 - 3.2 cms.; width, 4.0 - 2.5 cms.; thickness, 1.7 - .6 cms.

Oval knife (Fig. 8j, p. 24); Represented by a single specimen composed of chalcedony with a slight re-touching of the edge. The central section was fairly thick. Length, 4.0 cms.; width, 2.1 cms.; thickness, .8 cm.

DRILLS (Fig. 8k, p. 24):

The drills were formed of long thick triangular flakes of quartzite with the bases unworked. In cross section these drills are roughly lenticular. One specimen exhibited a circular cross section and was much more

1. Schroeder, op. cit., pp. 63-65.

finely chipped than the others. Range in size: length, 4.5 cms., width, .6 cm.

SPOKESHAVES (Fig. 81, p. 24):

Irregular flakes of felsite or chert with one or more notches averaging .8 cm. in diameter chipped into one edge. The average length is 3.2 cms., width, .6 cm.

CHOPPERS:

The few choppers found in Catclaw Cave were without exception unifacial, similar to one illustrated by Rogers.¹ They were made from large oval cobbles, generally of quartzite, from which three or more large flakes were removed by percussion. The result was not Rogers' pointed chopper² which he found localized around Black Canyon, but a tool with a smooth handhold and a short, slightly convex cutting edge.

PULPING PLANES:

This tool is a continuation of the process of making a chopper. The flaking, instead of being confined to the top of the cobble, was carried completely around the circumference, leaving a flat natural surface on one side, a humped protuberance on the other, and a sharp cutting edge. Rogers calls this tool a scraper-plane.³

METATES:

Slab metate or mulling stone; This tool was represented at Catclaw Cave by fragments only, but is common

1. Rogers, 1939, Pl. 4, Fig. e.
 2. Ibid., Fig. a.
 3. Ibid., Pl. 5, Fig. c.

in the open sites of the area. This metate consists of a thin slab of basalt, generally 45.0 cms. in length, 20.0 - 25.0 cms. in width, and from 5.0 - 10.0 cms. in thickness. The edges sometimes show smoothing. The working surface shows slight evidence of working and a trough is never apparent. This type is used at the present time by the Walapai for a base plate upon which yucca pods are mashed.¹

Basin metate; Represented by a single specimen from Catclaw Cave. One end had been broken off but the basin was nearly complete. The basalt boulder from which the metate had been worn showed no evidence of shaping other than natural wear from transport in the river. Over-all length of the broken specimen: 35.0 cms.; width, 26.0 cms.; thickness, 12.0 cms. The basin is 25.0 cms. in length, 12.0 cms. in width, and 5.0 cms. in depth.

MANOS:

All manos recovered were small circular single-handed types. Both unifacial and bifacial forms were present. A similar mano occurs in layer F at Willow Beach.²

HAMMERSTONES:

Nearly all the river cobbles in the cave showed some

1. Oral communication with Henry F. Dobyns.
2. Schroeder, in preparation, p. 77, Fig. 38.

evidence of battering from use as hammerstones. Quartzite boulders appear to have been the preferred material as they far outnumber all others. In addition to the irregular cobbles, there seems to be a second category of hammerstones. This type consists of quartzite cobbles that have been halved and quartered; the resulting fragment has a smooth handgrip and four sharp cutting edges. All specimens of this type showed battering along the edges in a virtually even strip along the edges. This hammerstone is actually the mano that accompanies the slab metate of the area, as used by the Walapai today for mashing yucca pods.¹

MISCELLANEOUS STONE:

Three specimens were recovered which may be polishing stones, or merely highly polished river pebbles. Two other river cobbles showed evidence of slight wear on one or more surfaces and were heavily stained with red ochre and manganese, and were undoubtedly used for grinding paint.

MINERALS:

Turquoise; Two specimens were recovered. The first consists of half of a flat circular bead, perforated from one surface. Diameter of the bead is .9 cm. The other specimen is a small unworked fragment.

1. Oral communication with Henry F. Dobyns.

Hematite; Hematite stains appeared on most of the objects in the cave. One hematite cache was recovered from a pit in the cave where it had been stored in a grass bundle. This grass wrapping contained 15-20 lumps of extremely fine grained red ochre striated with yellow. A few of the lumps showed evidence of use.

SUMMARY:

The lack of sufficient diagnostic lithic artifacts in Catclaw Cave presents an almost insurmountable barrier to effective correlation with adjacent areas.

Of the three types of scrapers found in Catclaw Cave, the single edge scraper (Schroeder's flake scraper) occurs in all phases at Willow Beach¹ and in the Playa Industry of the Mohave Desert.² The other types are represented only in the pre-ceramic levels of Willow Beach.³ There may be some similarity between the double-edged side scraper from Catclaw Cave and Rogers' Fig. b in Plate 6, assigned to the Playa Industry.⁴

The flake point cannot be identified in the adjacent areas although the shape is similar to Pl. 18, Fig. a of Amargosa II,⁵ while the stemmed point most closely resembles

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1. Schroeder, in preparation.
 2. Rogers, 1939, p. 30.
 3. Schroeder, op. cit.
 4. Rogers, op. cit., Pl. 6, Fig. b.
 5. Ibid., Pl. 18, Fig. a.

Pl. 18, Fig. b of the same period.¹ The single broad triangular point has been tentatively identified as modern Mohave.

The triangular knives present in the Price Butte Phase at Willow Beach are identical with those recovered from the cave.² Oval knives are present in the Playa Industry but it is difficult to ascertain on the basis of the single specimen from the cave whether it is the same type or whether the resemblance is superficial.³

Choppers of the type found in the cave are present in the Eldorado Phase at Willow Beach⁴ and in the Pinto-Gypsum complex of the Mohave area, as are pulping planes.⁵

Slab metates, as construed from the fragments within the cave and in the immediate area, may be found among the Walapai and Mohave of modern times and also in Amargosa II times.⁶ The remaining lithic items are either too fragmentary or too undifferentiated for comparison.

Thus it would seem that the lithic assemblage for the cave covers a time span ranging from ca. 2000 B.C. to modern times.

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1. Rogers, op. cit., Pl. 18, Fig. b.
 2. Schroeder, in preparation.
 3. Rogers, op. cit., p. 31.
 4. Schroeder, op. cit.
 5. Rogers, op. cit., Pl. 11, Figs. a & b.
 6. Ibid., p. 65.

CHAPTER IV

BONE AND SHELL

There were more unbroken artifacts of bone from the cave than of any other material. These artifacts were generally in excellent condition. In some cases the tools still retained dried flesh.

Shell is virtually non-existent in the cave although it is of frequent occurrence in the open sites in Black Canyon.

FLESHERS (Pl. 2a, Figs. m & n, p. 34):

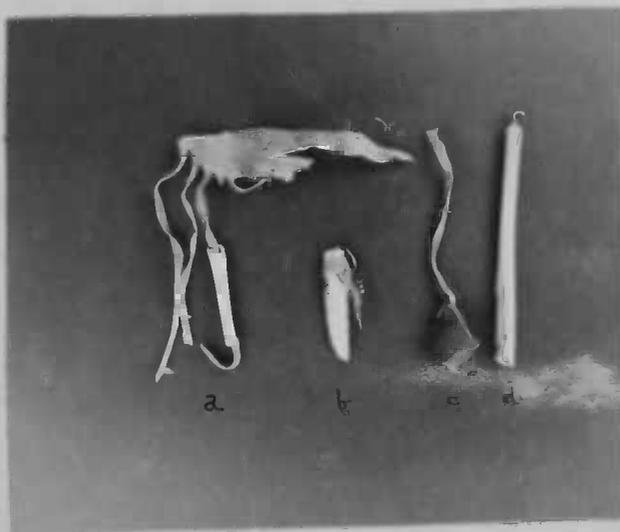
Two scapulae were recovered that showed polishing along the proximal and distal ridges and in the concavity adjoining the socket. The ridges show evidence of breakage but continued use has polished the broken edges. This part of the tool undoubtedly functioned as a flesher. The polish in the concave curve near the socket is possibly due to working of cordage or some similar material as the curve is too small to admit anything of larger size. Both of the specimens retained dried tendinous material within the socket. Average length of the tools is 15.4 cms.

BONE AWLS:

Eyeless needles (Pl. 2a, Figs. a & b, p. 34); These eyeless needles or awls have been worked from



a. Bone tools. Eyeless needles, a & b; bone tube, c; bone die, d; bone spatula, e; bone disc, f; basketry awls, g-k; fleshers, m & n.



b. Bone tinklers, d, & a, still fastened to fragment of fringed belt; bone snare pin, b; hoof tinkler, c.

splinters removed from the shaft of a long bone. The splinters have been smoothed over the entire surface. The points are highly polished, probably through use. One specimen showed traces of red paint on the base. The paint appeared to be accidental staining rather than a direct attempt at decoration. Average length of the specimens is 7.0 cms.

Basketry awls (Pl. 2a, Figs. g, h, i, j, k, p. 34);

These awls have been constructed by splitting the joint end of a cannon bone. Evidence of the joint is still visible despite over-all smoothing. From the joint, which forms the base, the bone is worked down in a long smooth taper to a point 1.0 - 2.0 cms. from the tip. In this region the taper curves inward and the remainder of the awl is worked into a very thin spine-like tip. Some of the specimens retained particles of resin at the base, presumably from hafting. Average length is 9.0 cms.

Broad tipped awl (Pl. 2a, Fig. l, p. 34); This type is also constructed from the shaft of a long bone in the manner of the eyeless needles. In variance with the former, the specimens are quite broad with a heavy wedge-shaped point. The awls are smoothed over the entire surface. Average length is 7.0 cms.; width, 1.0 cm.

Fragmentary awls; Several fragments were found that did not retain sufficient form for identification.

ANTLER FLAKER:

Represented by a single chisel-pointed fragment of antler presumed to be a flaker.

BONE TINKLERS (Pl. 2b, Figs. a & d, p. 34):

The items in this category are parts of some article of dress. They consist of bird bones that have been polished and threaded with either buckskin or willow bark string which has then been knotted to prevent loss.

One of the specimens was still attached to a section of fringed buckskin. The strip of buckskin had been dyed red and cut along the margin into fringes, only one of which retains a tinkler.

HOOF TINKLERS (Pl. 2b, Fig. c, p. 34):

Undoubtedly these items were used in a similar way to those made of bone. Either mountain sheep or deer dewclaws were used. Holes were drilled in the hoof on either the interior or exterior at the extreme edge and then threaded with buckskin.

BONE SNARE PIN (Pl. 2b, Fig. b, p. 34):

The pin appears to have been a broken awl point re-used as a snare pin. The bone is highly polished except on the two broken edges. Willow bark string had been wrapped tightly around the bone to hold a single buckskin thong to the bone peg. The wrappings extend across the broken edges. Length is 4.0 cms.; width, 1.0 cm.

BONE DIE (Pl. 2a, Fig. d, p. 34):

Represented by a single item, the specimen is a rectangular fragment of long bone with rounded ends, one flat and one convex side. All surfaces have been highly polished. The flat side is incised in a series of triangles formed by making two parallel cuts which meet at a point on the edge with an additional set which intersects at an angle. These triangles extend one-third of the way across the flat surface along either edge. The reverse side is convex and had been painted black along one-half the length of the specimen. Length, 3.1 cms., width, 1.0 cm.; thickness, .3 cm.

BONE TUBE (Pl. 2a, Fig. c, p. 34):

This item was incomplete and no determination of usage could be made. It consisted of a highly polished bird bone that had been thinned to a thickness of .05 cm.; length, 7.5 cms.; and width or diameter, 1.5 cms. The bone had been cut longitudinally in half. Both ends had been broken.

BONE SPATULA (Pl. 2a, Fig. e, p. 34):

This fragmentary specimen may be either a portion of an awl handle, or the beginning of a bone die. The fragment is flattened on one side and is convex on the other with one rounded and one broken end, and an over-all polish. Length, 4.7 cms.; width, 1.6 cms.; thickness, .6 cm.

BONE DISC (Pl. 2a, Fig. f, p. 34):

An apparent effort had been made to make a bone disc although the final result is more triangular. One surface is convex and faceted. The reverse side retains the convexity of the bone while the whole object shows polishing. Length, 2.2 cms.; width, 1.6 cms.; thickness, .1 cm.

MISCELLANEOUS BONE:

Many bone fragments showed evidence of polishing, grooving, or drilling. Two were splotted with paint, one with red and the other with green, neither with a definite pattern.

SHELL:

Olivella beads; Three small olivella beads were the only evidence of shell within the cave. The tips had been ground from the shell and the entire shell probably used as a bead.

SUMMARY:

The splinter awls, basketry awls, and spatula found in Catclaw Cave form a pattern that occurs in the Cohonino Branch of the Patayan. Katherine Bartlett reports them from Medicine Cave during Pueblo II times.¹ This particular site has been assigned a time range lasting from 100 to 1025 A.D.² as determined from tree-ring studies. Despite this length

1. Bartlett, 1934, p. 41.
2. Colton, 1939b, p. 28.

of occupation it has been placed in the Medicine Valley Focus (850-1100 A.D.).¹

McGregor also reports the occurrence of these three items from sites NA 5137 and NA 5166 near Flagstaff, Arizona.² Site NA 5166 is not a typical Cohonino house but a small circular pit house.³ Tree-ring dates from this house ranged from 638 to 765 A.D.⁴ In site NA 5137 the architecture consisted of the shade type house⁵ and has a suggested date of 1070 A.D.⁶

The single bone die recovered from Catclaw Cave bears a strong resemblance to one recovered by Kidder and Guernsey from a Basketmaker ruin.⁷

Scapulae fleshers have been reported from Lovelock Cave by M. R. Harrington.⁸

The remaining items are either not distinctive or are so undifferentiated that they may be found in virtually all adjoining cultures.

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1. Colton, op. cit., p. 28.
 2. McGregor, 1951, p. 113-116.
 3. Ibid., p. 56.
 4. Ibid., p. 121.
 5. Ibid., p. 67.
 6. Ibid., p. 121.
 7. Kidder and Guernsey, 1919, Pl. 86g, p. 190.
 8. Loud and Harrington, 1929, Pl. 13j.

CHAPTER V
CLAY OBJECTS

FIGURINES:

Figurines were represented by six specimens at Catclaw Cave. The first type is represented by two specimens of tabular, untempered clay (Fig. 9, c & d, p. 41). Their shape is that of an elongated wedge with the head at the widest end. The eyes are represented by two parallel incisions at either edge close to the top of the head, and are separated by an applique of pinched clay for the nose. One specimen is that of a female figure broken just below the appliqued breasts. The figurine had been burned black presumably by accident rather than as a definite attempt at firing. The other specimen lacked a nose although its position is distinguishable by a smoothed area between the eyes. The eye impressions were painted black and several irregular red splotches adorned the face beneath the nose. The back side of the figurine was painted with four transverse parallel stripes. This figurine showed no evidence of firing. The length of the specimens was impossible to ascertain; the width, however, is from 3.5 to 4.0 cms., and the thickness is from .5 to .7 cm.

The second type, represented by a single specimen,

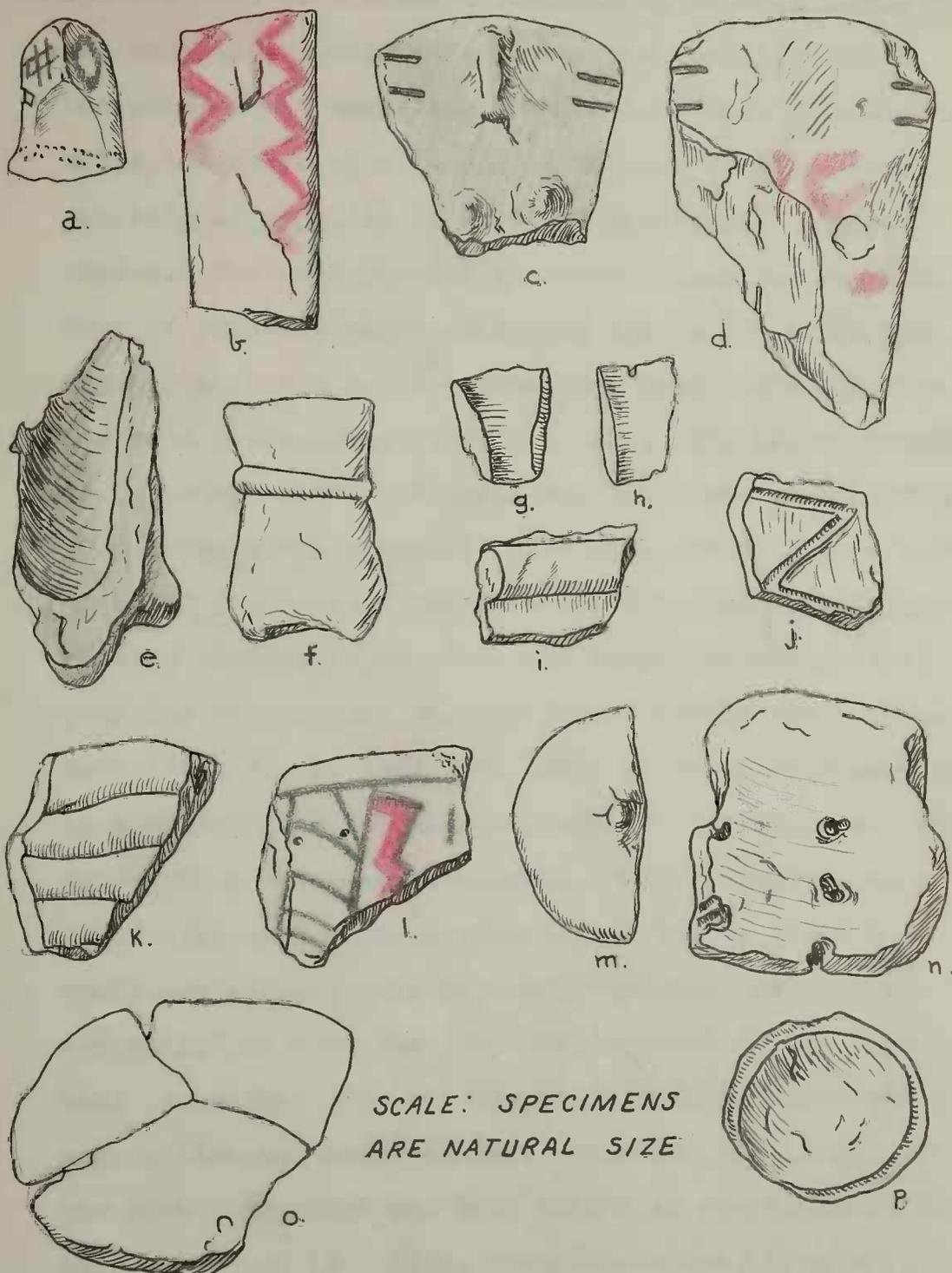


Figure 9. Clay objects. Figurines: Basketmaker, a; wedge type, c & d; fragments, b, e, f. Pipe: g & h. Pseudo-pottery: i-p.

shows strong similarities to one reported by Morris.¹ The specimen is a rounded fragment of unfired clay with one end pinched out to form a curved beak-like nose. One side of the nose is marked with a black bull's-eye, while the other side is decorated with a hatchure of two sets of parallel black lines crossing at right angles. The neck portion is decorated by two parallel rows of punctate marks extending across the front and around the sides but absent at the back. The figurine has been broken just below the neck. The broken length is 2.5 cms.; width 1.7 cms.; and thickness .9 cm. (Fig. 9a)

Three other fragments have been identified as portions of figurines. The first is a hollow clay fragment showing accidental burning, and shaped as though the clay had been molded about a finger during its manufacture (Fig. 9e, p. 41). Two small projections resembling legs extend from the unbroken end of the fragment. The second is a spatulate fragment, oval in section, of unfired clay with rounded edges (Fig. 9b, p. 41). A small projection, possibly representative of a nose, was pulled up from the flat portion of the slab at one end. At either side of this projection a single red zigzag line has been painted, extending the length of the slab. The slab has been broken at either end. The third specimen is a flat, hourglass-shaped fragment of clay with a narrow band of applique running transversely

1. Morris, 1951, Fig. 25c, p. 36.

across one surface at the constricted center (Fig. 9f, p. 41). No evidence of painting was visible on this specimen although it was unfired like the second.

UNFIRED MINIATURE POTTERY:

Twenty-four sherds of unfired miniature pottery were recovered from the cave. The fragments indicate that the vessels were constructed of annular coils (Fig. 9, p. 41). The paste in some instances contains fragments of shredded bark which may represent accidental inclusions rather than a definite attempt to temper the clay. The surface finish is varied but in general is lumpy with definite finger impressions, or finger smears where smoothing was attempted. Other fragments appear to have dried until plasticity was almost lost before the clay was worked into vessel form, resulting in heavy cracking of the vessel wall and poor cohesion between the coils. A few of the specimens show partially obliterated coils on the exterior surface and unobliterated coils on the interior (Fig. 9k, p. 41). In one instance, an additional separate coil has been added to the interior (Fig. 9i, p. 41). Several of the specimens have a coating of river sand partially cemented to the vessel walls as though the vessel had been placed in the sand to dry. The sand is not included within the paste. Vessel rims are pinched upwards resulting in an irregular, rather wavy edge. Decoration occurs as either incising or painting. Incising occurs on

bowl interiors and jar exteriors in geometric patterns (Fig. 9j, p. 41). Painting appears as an over-all wash on both interiors and exteriors, as broad stripes or geometric designs. The latter are limited to the exterior. The pigments used are an orange-red ochre and a dull black, possibly a manganese oxide.¹ Vessel forms are indeterminable due to the small size of the fragments. The neck diameters, where determinable, range from 11.2 cms. to 3.6 cms. Wall thickness ranges from .8 cm. to .3 cm.

A single straight-sided neck fragment deserves additional description (Fig. 9n, p. 41). The specimen shows two rows of perforations beginning 2.0 cms. below the rim. One row contains three holes; the other, two, with the holes placed 1.0 cm. apart. These holes, .4 cm. in diameter, appear to have been made by pushing a small reed or twig through the wall while it was still plastic. A similar occurrence was noted in the recoveries from Du Pont Cave.²

Two fragmentary specimens were tentatively identified as vessel handles. The first is a single coil broken at both ends and may be either a broken coil or more likely, because of the sharpness of curvature, the handle of a miniature vessel. The other is in all

1. Outcrops of Pyrolusite occur throughout the area and show extensive use by the Indians for painting and hand printing on cliffs near the outcrops.

2. Nusbaum, 1922, p. 140.

respects similar to a jar neck fragment from a miniature vessel with the exception that two adjoining edges have been smoothed (Fig. 91, p. 41). The specimen is decorated by incising and painting on the exterior. The design is geometric in form and is placed parallel to two of the rounded edges. The incisions of the design have been painted black and a portion of the enclosed area bordered with red paint. This type of decoration is mentioned by Nusbaum as follows: "The most interesting feature of this bowl is the crude attempt at the decoration of its inner surface. There is a roughly drawn, horizontal zigzag in black paint set $3/4$ of an inch below the rim and another near the bottom. Two scalloped incised lines run downward from the rim, and there are also incised lines of shallow punctate marks."¹ The designs of the above two specimens differ somewhat in composition of elements but are basically of the same nature.

Two small pieces of funnel-shaped clay were recovered and may represent part of a pipe bowl although there is no evidence of firing or use (Fig. 9, g & h, p. 41); in addition the size is a limiting factor for such a use. The specimens are 1.8 cms. in length. The largest opening has a diameter of approximately 2.0 cms., the smaller opening a diameter of .8 cm. Wall

1. Nusbaum, 1922, p. 141, & Fig. 34.

thickness is .3 cm.

Fragments of an unfired clay disc were recovered and repaired (Fig. 9o, p. 41). The disc is an elongated oval with a sharp taper in cross section. One edge is .8 cm. thick while the opposite edge is .2 cm. in thickness. The disc shows careful smoothing as though having been worked into shape from a larger sherd of unfired pottery. Length of specimen, 5.7 cms., width, 4.4 cms.

A single broken specimen appears to have been a miniature pot lid (Fig. 9m, p. 41). This fragment has a flat lower surface and a slightly convex upper surface with a small central projection which may represent a handle. Diameter is 3.5 cms., thickness, .5 cm.

TABULAR CLAY ITEMS:

Two unidentified objects were thin slabs of clay, roughly rectangular in form, with one convex surface and one concave surface. One slab had two parallel sets of holes punched through the slab. One set of three holes showed the impression of a reed thrust through the slab and withdrawn while the clay was still damp. The other is unpierced. Neither artifact was painted.

MISCELLANEOUS CLAY ITEMS:

A series of by-products from working with clay were represented by coil ends, lumps of squeezed clay, and raw clay placed on grass pads. In some instances the

clay lumps showed evidence of having been smeared with red ochre in haphazard splotches as though the smearing were accidental rather than purposeful. Fifteen fragments of clay were tabular with some of the pieces showing carefully rounded edges.

SUMMARY:

The figurines from Catclaw Cave, while fragmentary, may be separated into two fairly distinct types. The first type is the flat wedge-bodied figurines with appliqued features, for which no comparable material has been found. The second group, modeled in the round, appears to belong to the Basketmaker III period. As mentioned previously, there is much similarity between the Catclaw Cave specimens and some of those collected by Morris in the Prayer Rock locality in Arizona, designated as Style IV.¹ A complete specimen of this type was taken from Catclaw Cave and could not be located for illustration in this report.² These figurines are also similar to specimens seen by the author in collections from the Virgin River area in southern Nevada, which have been designated Basketmaker III.

1. Morris, 1951, p. 35; Figs. 25 & 26, pp. 36-37.

2. This description of the find was given by the two prospectors who discovered the specimen: "We found a net-like bag with all sorts of knots where the strings met. It had in it a horn spoon which looked like mountain sheep horn, and several pieces of red paint rock. There was also a little clay figure with a face like a hawk and holes poked around its neck. Then there were some rat teeth wrapped up, and a quartz crystal."

Other pseudo-pottery has been reported from Du Pont Cave, Utah, where three fragmentary vessels were recovered.¹ They vary from those recovered in Catclaw Cave in thickness of base. The Du Pont specimens are as much as 2.0 cms. in thickness at the base while those of Catclaw Cave are never in excess of .8 cm. The Du Pont shapes are conical but those of Catclaw Cave are undeterminable. Rim treatment, design, and paste with the exception of those containing bark at Catclaw Cave, are very similar. The method of construction is not noted other than the evidence of finger prints on the surface and the rather lumpy surface. The specimens obtained at Catclaw Cave show a greater variety of treatment in method of decoration but are undoubtedly attributable to a similar group.

In this group of artifacts some aspects are especially noteworthy. One is the presence of red paint on so many of the artifacts, but particularly the clay items, possibly due to penetration of the pigment into the clay to become more permanent than on other items. Secondly, the relative proportions of unfired clay objects to other artifacts is considerably greater than expected, even considering the sheltered condition of the cave. For example, Du Pont Cave yielded five specimens of pseudo-pottery² whereas Catclaw Cave produced twenty-four recognizable specimens of pseudo-pottery, not including numerous unfired clay fragments.

1. Nusbaum, 1922, pp. 138-144.

2. Loc. sit.

CHAPTER VI
PERISHABLE MATERIALS

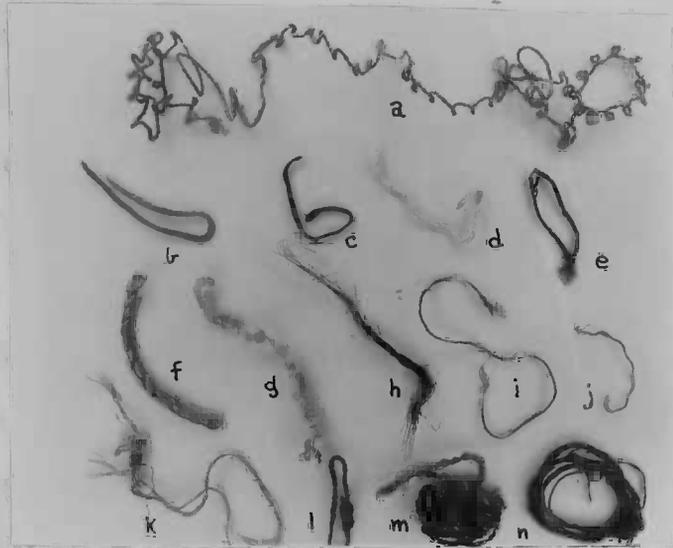
STRING:

Broken string of varying diameters and lengths occurred in quantity throughout the cave. Four types were found and are listed in the order of most frequent occurrence:

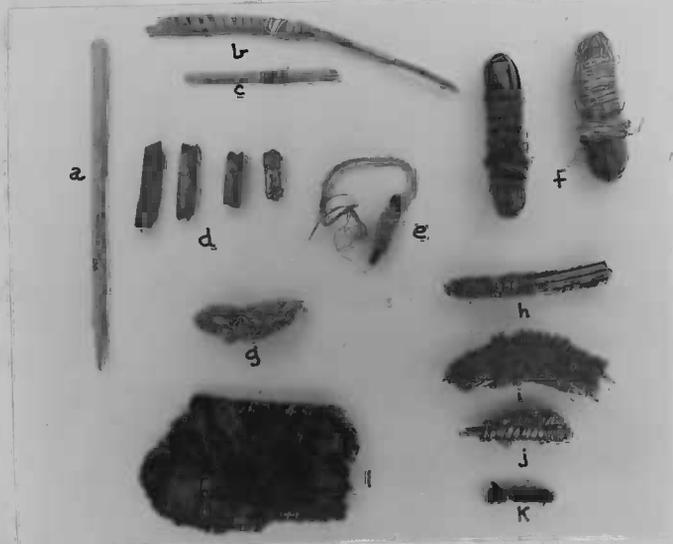
Willow Bark (Pl. 3a, Figs. b, f, i, k, l, m, & n);

This string is of finely shredded willow bark and in some instances retains portions of the inner bark adhering to the fibers. Two elements of these fibers are combined in a clockwise twist. Only short fragments of this type were recovered and none showed evidence of color other than that of the natural fiber. Diameters range from .6 cm. to .1 cm.

Yucca Fiber (Pl. 3a, Figs. a, j, & m); Two elements of yucca fiber were twisted together in a counter-clockwise direction in almost all instances. All specimens were of natural color. One strand 20.0 cms. in length and .5 cm. in diameter had been twisted into loops which were alternated with straight sections along the entire length, and possibly represents a fragment of the weft element from a net. Diameters of this type range



a. String. Yucca, a, j, & m; willow, b, f, i, k-m; cotton--black, c, white, c, red, e; skin, g; hair, h.



b. Perishable items. Painted stick, a; wrapped twigs, b & c; burned cane, d; string and twig, e; bark bundles, f; wad of pitch, g; basketry, h-l.

from .5 cm. to .05 cm.

Cotton (Pl. 3a, Figs. c, d, & e); Represented by a very few specimens. These consisted of two elements combined in a clockwise twist. Most of the fragments showed the use of paint, either red, black, or white, smeared on as a paste rather than a dye. Natural color of the fiber ranges from a light tan to white. The darker color may possibly be due to staining. Diameters range from .5 cm. to .2 cm.

Hair and Skin String (Pl. 3a, Figs. h & g); Only one small section of human hair string 10.0 cms. in length was recovered. It was composed of two elements in a right-hand twist to form a strand .4 cms. thick.

A strand of skin string is composed of small strips, apparently rabbit fur, two elements of which have been twisted counter-clockwise or in a left-hand twist to form an irregular strand from .6 cm. to .3 cm. thick and 10.5 cms. in length.

BASKETRY:

With a single exception all basketry within the cave was fragmentary. This exception was a coiled basket 24.0 cms. in depth and 54.0 cms. in diameter. The coils were composed of grass and cane leaves in bundles 1.5 cms. in diameter and stitched with wide strips of bark at 2.0 cm. intervals. The method and materials

used in construction bear a strong resemblance to those used by the Pima and Papago for storage baskets.¹ Contents of the basket were a basketry awl, a fragment of buckskin, a twisted strip of willow bark (possibly a handle), and a single small sherd of Pyramid Gray. The basket had rotted to such an extent that only small portions were preservable. Of the remainder of basket fragments, four had a foundation of four split rods and an uninterlocking stitch. This may have originally been a two-rod foundation that split after it had been discarded. One of these fragments (Pl. 3b, Fig. 1) had been waterproofed with pitch. Three other fragments (Pl. 3b, Figs. h, i, & j, p. 50) from a single basket, showed a foundation of five split rods and an interlocking split stitch.

SANDALS:

Two fragments of figure-eight sandals were recovered. Only the loops of yucca and willow bark fiber that had formed the sole of the sandal remained. The ties and framework which formerly held the sandal together were missing. A similar type appears at Etna Cave, Nevada.²

BARK BUNDLES (Pl. 3b, Fig. f, p. 50)

Two small bundles of bark, believed to be basket withes, were found. Each consisted of a small section of a twig with a long strip of bark adhering to it and

1. Morris and Burgh, 1941, p. 10.
2. Wheeler, 1942, p. 14, Fig. 17.

wrapped lengthwise about it. This was bound transversely with shredded willow bark.

ARROW SHAFT:

A single broken shaft of cane 26.0 cms. in length and .5 cm. in diameter, was broken at one end with a foreshaft of hardwood inserted into the other. The cane had been split to receive the foreshaft and was then bound with sinew. The foreshaft had been cut a short distance from the end of the cane.

HIDE:

Fringed belt (Pl. 2b, Fig. a, p. 34); This item consisted of a small fragment of tanned hide that had been cut in a fringe along one edge. The individual elements of the fringe ranged from 10.4 cms. to 3.0 cms. in length. One of the elements had been inserted through a small bird bone and knotted. Faint traces of red ochre remained on the band near the fringed edge.

Sewn skin; Two fragments of hide showed evidence of sewing. The first fragment contained a large rip which had been mended with sinew in a simple over-and-under stitch. The second fragment consisted of a central wedge-shaped portion with the broad end scalloped and the narrow end torn. At either side remnants of additional hide were sewn to the central section by whipping with yucca fiber, leaving a heavy seam. It may be that the second

fragment represents a portion of a moccasin.

Miscellaneous; These items consist of rabbit fur and skin twisted into string, a small strip of tanned hide inserted through a deer hoof, an additional hide strip bound to a piece of split bone with willow bark. In addition several small wads of rabbit fur and one of mountain sheep wool were also recovered.

MISCELLANEOUS WOOD FRAGMENTS:

A quantity of twigs, yucca leaves, bark, cane, and gourd rinds were found in the cave. These items showed various degrees of work by abrading, cutting, chewing, painting, or twisting together. The more recognizable of these items were: a single cane cigarette and other bits of cane similarly burned but unperforated (Pl. 3b, Fig. d, p. 50); a cane fragment that may have been part of an arrow shaft with a broad black band painted on it (Pl. 3b, Fig. c, p. 50); two corncobs with small sticks thrust through the core lengthwise; two small twigs tied together at their centers; and a small wad of pitch wrapped in willow bark (Pl. 3b, Fig. g, p. 50).

SUMMARY:

The perishable material from Catclaw Cave proved a disappointment as it was hoped that the cave would furnish a good collection of perishables from the river area. This, however, was not the case as the perishable artifacts from

the cave were few and in small fragments. String was abundant but in short lengths. The presence of cotton string of three colors is probably representative of the Virgin Branch of the Anasazi, whom Schroeder states carried on trade relations with the indigenous group at Willow Beach.¹ The other string is doubtlessly of local manufacture as the material for its construction is abundant along the river. The coiled basket, the only complete specimen found, is rather similar to those of southern California, as well as some made by the Pima and Papago. Bits of sewn skin and the fringed fragment of skin with rattle attached were present among the modern Indians along the Colorado River.

1. Schroeder, in preparation, p. 203.

CHAPTER VII

POTTERY

The majority of potsherds came from two areas in the cave. The first area was the talus slope at the cave entrance, and the second area was along the east wall and near the foot of the consolidated bench at the rear of the cave. This second area contained the greatest number of sherds recovered in the cave. No complete vessels were recovered.

The pottery types represented are listed below:

<u>Pottery type</u>	<u>Number</u>	<u>Percentage</u>
¹ Pyramid Gray	892	82.9
² Cerbat Brown	57	5.2
³ Parker Buff	49	4.5
⁴ Aquarius B/Gr	29	2.6
⁵ Boulder Gray	14	1.3
⁶ Aquarius Brown	87
⁷ North Creek Gray	65
⁸ Sandy Brown	65

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1. Colton, 1939a, p. 15.
 2. Ibid., p. 8.
 3. Schroeder, 1952, p. 19.
 4. Colton, op. cit., p. 16.
 5. Colton, 1952, p. 69.
 6. Colton, 1939a, p. 10.
 7. Colton, 1952, p. 19.
 8. Colton, 1939a, p. 11.

Parker Stucco ¹	54
Deadmans Gray ²	43
Deadmans B/W ³	43
Boulder B/Gr ⁴	21
Deadmans B/Gr ⁵	1	Trace
Unidentified B/W	1	Trace
Total Sherds	<u>1078</u>	

The sherds recovered from Catclaw Cave are virtually identical in number and percentage with those recovered by Schroeder at Willow Beach.⁶ As no stratigraphy was secured in Catclaw Cave, frequent reference has been made to the finds at Willow Beach in an effort to place the cave in time.

In the earliest ceramic level at Willow Beach (Layer C), Schroeder finds that the gray wares: Lino Black-on-Gray, Boulder Gray, Utah Gray Ware, and Logandale Gray Ware, from the Virgin Branch of the Western Anasazi, are dominant. The Cerbat Branch of the Patayan is represented by Cerbat Brown, the largest individual pottery type in this phase. Thus in Roaring Rapids Phase there is no evidence of locally manufactured pottery, unless Cerbat Brown may be considered indigenous to the area.⁷ These types are assigned a time

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1. Schroeder, 1952, p. 21.
 2. Colton and Hargrave, 1937, p. 252.
 3. Ibid., p. 208.
 4. Colton, 1952, p. 71.
 5. Colton and Hargrave, op. cit., p. 253.
 6. Schroeder, op. cit.
 7. Ibid., p. 195.

range of 600-900 A.D. or Basketmaker III. Pueblo I does not appear in Willow Beach but may possibly be represented by the windblown sterile sand that occurs between Layer C¹ and B.

In the following layer (Layer B) at Willow Beach, the Gray Wares of the preceding level diminish as well as those from the Cerbat and Prescott Branches. Pottery types from the Deadmans Series appear as intrusives. In addition, a locally developed type, Pyramid Gray, appears and constitutes the majority of all recovered pottery.² On the basis of intrusives, Layer B (Willow Beach Phase) has been given a time range of 900-1100 A.D., through Pueblo II and III.³

SUMMARY:

An examination of the pottery types found at Catclaw Cave shows that 84% of the pottery recovered is Pyramid Gray. Intrusives from the Cerbat and Prescott Branches of the Patayan are second in number. The Virgin Branch of the Western Anasazi is represented by a very small percentage which includes three types from the Deadmans Series. No evidence of Paiute Brown Ware, the most recent pottery type recovered at Willow Beach,⁴ was found in Catclaw Cave. Thus it would seem that ceramically Catclaw Cave is most closely aligned with Layer B (Willow Beach Phase) at Willow Beach with an assigned time of 900-1100 A.D.

1. Schroeder, op. cit., p. 198.

2. Ibid., p. 200.

3. Loc. sit.

4. Ibid., p. 206.

CHAPTER VIII
FAUNA AND FLORA

FAUNA:

The faunal remains are representative of those existing at the present time in Black Canyon with two exceptions. One exception was a fossil jaw recovered from a rat's nest on the high bench at the rear of the cave. It has been identified as the lower jaw of a sheep, Ovis sp.?, large.¹ Dr. Claude W. Hibbard, who identified the specimen, believes that it was far larger than any fossil or recent sheep so far known in North America. It is even larger than the biggest Ovis poli of Asia.

The second exception was a bison horn core that was not identified as to species.² The presence of a bison horn core in Level I and so far from existing or known bison range may indicate the existence of trade as far east as New Mexico, as Frank G. Roe states that "There seems, in short, to be no real evidence of any character for the presence of the historic buffalo in (modern) California at any time."³ He indicates in addition that evidence for buffalo in Arizona

1. Curator of Vertebrates, Museum of Paleontology, University of Michigan.

2. Identified by Dr. William H. Burt, Museum of Zoology, Mammal Division, University of Michigan.

3. Roe, 1951, p. 282.

is "frail and unsatisfactory" and is based mainly on the interpretation of place names and mention in one Spanish chronicle of securing buffalo skins from seven days north of the Gila River.¹ However, the finding of bison bones at Babacomari Village does appear to extend the bison range somewhat.²

The modern faunal remains are listed below:

³
Mammals;

Beaver (Castor)
 Bighorn Sheep (Ovis)
 Bison (Bison)
 Bobcat (Lynx rufus)
 Coyote (Canis latrans)
 Cottontail (Sylvilagus) and (Sylvilagus audoboni)
 Ground Squirrel (Citellus)
 Jackrabbit (Lepus californicus)
 Kangaroo Rat (Dipodomys)
 Wood Rat (Neotoma)

⁴
Birds;

Quail (Laplorlix)
 Screech Owl (Aseo)
 Red-tailed or Ferruginous Roughleg Hawk (Buteo)

1. Roe, op. cit., p. 275.
 2. Di Peso, 1951, p. 240.
 3. Identified by Dr. William H. Burt, Museum of Zoology, Mammal Division, University of Michigan.
 4. Identified by Dr. Robert Storer, Museum of Zoology, Bird Division, University of Michigan.

Fish;

The fish remains from Catclaw Cave were identified¹ by Robert R. Miller. In his report, "Fish Remains from Archaeological Sites in the Lower Colorado River Basin, Arizona", he has the following to say concerning the bones from Catclaw Cave:

The numerous fish remains, including over 375 bones and fragments, are well-preserved and there are sufficient critical bones to render confident identification of species. Two families of fishes are represented: the suckers, Catostomidae, and the minnows, Cyprinidae....At least three species were secured from the cave, one of which has never been reported from the Colorado River below Grand Canyon. A fourth species may be represented in the unidentified fragments since it was formerly abundant in this area, is still caught occasionally, and has been used for food.²

Although typically scorned by their white successors, at least three of these fishes provided a ready source of food for the aborigines and probably formed an important part of the diet of the non-agrarian tribes during part of the year.³

Family Catostomidae
Xyrauchen texanus (Abbott)
Humpback sucker

The humpback sucker, so named because of the high keel on the back, attains a length of about three feet and commonly weighs from 10 to 14 pounds and occasionally 16 pounds. (Hubbs and Miller, 1953, p. 226). As Rostlund (1952, pp. 31-32) pointed out, the value of suckers as food fishes has probably been under-estimated. Their use by aborigines is attested

1. Associate Curator of Fishes, Division of Fishes, University of Michigan.

2. Miller, in press, p. 2.

3. Ibid., p. 1.

by identified bones in archaeological sites (references in Rostlund) and by the abundant remains of the humpback sucker at Catclaw Cave. Historically, the Mohave Indians took this species in numbers from the Colorado River near Fort Mohave, near the California-Nevada line (Ellis, 1914, p. 31).¹

The occurrence of several charred bones eliminates any doubt that the fish was eaten by the aborigines. Reliable testimony secured by me along the river in 1950 indicates that both present-day Indians and whites eat the fish whenever it is available. The fragments suggest that at least seven and probably many more, individuals are represented....The largest fish, as indicated by the neural complex, probably was between two and three feet long and may have weighed ten to twelve pounds.²

Family Cyprinidae
Ptycocheilus lucius Girard
 Colorado River Squawfish

This species, known locally as Colorado salmon or simply salmon, is one of the largest minnows in the world. According to Ellis (1914, p. 55), it attains a length of five feet and a weight of nearly 100 pounds.... Testimony gathered by me during an ichthyological survey of the lower Colorado River in 1950 supports these claims and indicates that the maximum length approximated six feet. An unpublished report (on file at the Division of Fishes, U. S. National Museum) by the late F. M. Chamberlain, who carried out a survey of Arizona fishes for the U. S. Bureau of Fisheries from January 15 to April 27, 1904, emphasizes that this species was prized by the Indians and was also sought by others. Grinnell (1914, p. 62) also indicated that the Indians ate this species. Its method of capture by the aborigines was various. They secured it by: (1) using a sort of dipnet in the receding waters after sudden rises of the river (Chamberlain), (2) shooting the salmon with bow and arrow (Rostlund,

1. Miller, op. cit., p. 3.

2. Ibid., p. 4.

1952, p. 32), or more recently (3) by spearing the fish with pitchforks (Dill, 1944, p. 155). It may be taken with hooks at all seasons on almost any bait, as it is a voracious feeder....¹

Remains of this fish from Catclaw Cave are abundant and represent at least six individuals....Several of the cave bones of this species,...in particular the hyomandibular, articular and maxillary are conspicuously larger than those of the fish represented by the (comparative USNM No. 27408 skull) skull. From these, I estimate that the maximum size of the salmon represented was at least five and one-half feet.²

Gila cypha Miller
Humpback Chub

The humpback chub, a bizarre minnow highly streamlined for life in torrential waters, evidently is the third species that was eaten by the Indians at Catclaw Cave....This extraordinary fish, described from a specimen taken in Grand Canyon (Miller, 1946), has been discovered recently in the portions of the main river above Grand Canyon, and there is no obvious reason why it should not have once occurred below that region, wherever the flow of the Colorado was consistently swift. Before dam building, sections of the river for a distance of at least 20 miles below Boulder Canyon (Hoover Dam) had sufficient gradient and flow to maintain a powerful current....³

Measurements of the total length (in mm.) of each arch, 24.0 and 26.3, interpreted in the light of unpublished as well as published comparative data (Miller, 1946, p. 411) for specimens of G. cypha and G. robusta, of known length, indicate that the total length of the fish represented by these arches was between 17 and 18 inches.⁴

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1. Miller, op. cit., p. 5.
 2. Ibid., p. 6.
 3. Ibid., p. 7.
 4. Ibid., p. 8.

Also present but unidentified were two species of turtles, one lizard, and perhaps an amphibian.

FLORA:

Corn:

Corn specimens secured in Catclaw Cave were identified by Dr. Mangelsdorf¹ who made the following statement concerning them:

"The cobs...can all be matched in the collection...from the Montezuma Castle National Monument. The age of his cobs are estimated at about 1200 A.D. The great majority of cobs are tripsacoid or highly tripsacoid indicating contamination with teosinte, but some of them represent almost pure maize, probably the maize which was grown in the vicinity before the contaminated maize was introduced. In any case, the teosinte contamination has caused a very marked stiffening of the glumes and both a shortening and a lengthening of the cobs, and has been responsible for the evolution of maize in the southwest."

They were identified as follows:

Spec. No.	Length cm.	Diam. cm.	No. Rows	Glumes	Other Characteristics
164	Fragment	16.2	10	Stiff	Tripsacoid
171A	"	Fragment	-	Bony	Highly Tripsacoid
171B	"	"	-	Stiff	Tripsacoid
222	"	16.8	12	Stiff	Tripsacoid
223	"	16.8	10	Stiff	Tripsacoid
224	86.5	18.1	14	Soft	Almost pure maize
225	164.0	19.4	12	Stiff	Highly Tripsacoid

1. Botanical Museum, Harvard University.

The other floral specimens are still in the process of being identified at the Ethnobotanical Laboratory, Museum of Anthropology, University of Michigan, and so cannot be included in this report at the present.

CHAPTER IX

CONCLUSIONS

Interpretation of the material from Catclaw Cave was made doubly difficult by the lack of stratigraphy and by disturbance of the material in the fine wind-blown silt by animals occupying the cave. However, typologically some of the artifacts seem to fall into two groupings:

The pottery assemblage, as mentioned in the chapter on pottery, is identical with that found in Layer B (Willow Beach Phase) at the stratified site of Willow Beach by Schroeder.¹ There can be no doubt in assigning Catclaw Cave to the Willow Beach Phase on the basis of pottery alone.

The second grouping, one type of figurine, pseudo-pottery, and the bone die, all have similar counterparts among Basketmaker artifacts.

In considering the first grouping, Schroeder states that this pottery assemblage is accompanied at Willow Beach by the following items: points having side or base notches, scoop metates, roasting pits, shell, steatite, and asphaltum.² None of the above items were present in the cave with the exception of three shell beads. The roasting pit, representative of influence from the Mohave Desert, may be limited

1. Schroeder, in preparation, p. 200.

2. Ibid., 203.

to open sites, though the pit hearths within the cave are of equal size. Metates from the cave as represented by fragmentary specimens were either basin or slab metates. The largest group of points are retouched flakes having the barest indication of basal notches. Steatite and asphaltum were completely lacking. The most outstanding fact concerning the lithic assemblage is that individual artifacts may be assigned to time horizons from Amargosa II to the present, but there is no clustering of lithic artifacts assignable to any specific horizon. In part this is due, undoubtedly, to the overall sparsity of specimens and in part to the undifferentiated aspect of many of the artifacts.

The second grouping of artifacts, those bearing Basketmaker resemblances, are believed to be representative of an earlier phase than that represented by the pottery complex.

The Catclaw Cave figurines have been identified as the type illustrated by Earl Morris as belonging to Basketmaker III times.¹ The sites from which Earl Morris' figurines were recovered have been dated by Haury and Douglass from 473-684 A.D. Morris generalizes from these dates that this type of Basketmaker III figurine may be said to occur from 475-675 A.D.² The Catclaw Cave specimens are in general more smoothly made and do have painted features, which Morris states do not occur on Basketmaker specimens³ but this may

1. Morris, 1951, Figs. 25c & 26g, pp. 36-37.

2. Ibid., p. 33.

3. Ibid., p. 40.

be a western variation of the Four-corners type.

The fragments of bark-tempered pseudo-pottery have been classified as Basketmaker, presumably Basketmaker II, on the basis of similarity with specimens from Du Pont Cave.¹ The quantity and variety of forms present in the pseudo-pottery seem to indicate that it was a well-developed craft and one that would not be likely to occur with well-fired, quartz-tempered pottery.

The bone die from Catclaw Cave bears a close resemblance² to one found in a Basketmaker site by Kidder and Guernsey. The use of bone dice is a widespread practice in the southwest and other specimens are roughly similar; for example, the Ventana specimen, while approximating the appearance of³ the Catclaw Cave specimen, is larger and presumably later. It is more probable that the Catclaw Cave specimen is Basketmaker and representative of the appearance of that culture at the Cave.

In addition to the preceding groups, a third group is composed of artifacts which probably represent the perishable material accompanying the Willow Beach Phase that has not as yet been reported on. These artifacts have counterparts in the Cohonino Branch of the Patayan or among the historic Indians of the Colorado River.

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1. Nusbaum, 1922, p. 140.
 2. Kidder and Guernsey, 1919, Pl. 86g, p. 190.
 3. Haury, 1950, p. 381 and Fig. 89d, p. 382.

The basketry awls from Catclaw Cave which have the modified spine-like point also occur in Ventana Cave in southern Arizona,¹ and in the San Joaquin Valley of California,² but the appearance of these awls with splinter awls and spatula seem to be limited to northwestern Arizona where they occur in the Cohonino Branch of the Patayan in Medicine Valley³ and in the Havasupai drainage⁴ during Pueblo II times, and in Catclaw Cave.

The fragment of fringed hide with bone tinkler attached as well as the fragments of bone and hoof threaded with hide or string are similar to those used by both Havasupai and Mohave in historic times where the women reputedly wore an apron of fringed hide with hooves of deer or mountain sheep or leg bones of rabbits attached to the fringes.⁵ It is possible that this trait also occurred in prehistoric times along the Colorado River.

The single complete basket preserved in the cave shows⁶ affinities with the Pima manufacture of storage baskets and with the Indians of southern California who also used a coiled basket.⁷ This southern California type was composed of grass coils bound by sumac and is similar to the Catclaw Cave specimen.

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1. Haury, 1950, Fig. 87a, p. 378.
 2. Schenk and Dawson, 1929, Pl. 77j, m, o, & q.
 3. Bartlett, 1934, p. 41.
 4. McGregor, 1951, pp. 113-116.
 5. Spier, 1928, pp. 188 & 198.
 6. Morris and Burgh, 1941, p. 10.
 7. Kroeber, 1925, pp. 819-820.

While the following artifacts are fairly widespread in distribution it is felt that they presumably were represented also in the perishable culture of the Willow Beach Phase as evidence may be found for them in adjacent areas. These artifacts are corncob bunts, cane cigarettes, cane arrows with hardwood foreshafts, baskets covered with pitch, and fur robes.

A brief summary of the history of the Cave is one of intermittent occupation over a considerable span of time. The cave was probably used as animal habitation at an early date. There is a possibility that the cave was used by Amargosa peoples around 2,000 B.C. There is more evidence to suggest use of the cave by Basketmaker peoples from the Virgin Branch of the Western Anasazi working southward from the Virgin River some time prior to 750 A.D. Their use of the cave appears to have been for other than living quarters, because of the lack of utility items and the presence of numerous painted non-utility artifacts. Later an indigenous group responsible for the manufacture of Pyramid Gray appears to have resided in the cave, and either traded with or was visited by members of the Cerbat Branch of the Patayan to the east. This phase has been designated the Willow Beach Phase¹ dated from 900-1100 A.D. by Schroeder at Willow Beach. Following this, there is no evidence of occupation until modern times.

1. Schroeder, in preparation, p. 200.

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