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AN INTRODUCTION TO YANA ARCHAEOLOGY

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INTRODUCTION

The present report is part of a continuing program of the University of California Archaeological Survey to investigate the archaeology of all parts of California and relate the local sequences to that of the Delta region, where the succession of cultures is relatively well worked out. The area around Red Bluff, Tehama County, has been subject to intensive work in this respect. There have been three expeditions in the Redbank Reservoir area (Treganza, 1954), two expeditions to Kingsley Cave in the Mill Creek area (Baumhoff, 1955), and one expedition to Payne Cave on Antelope Creek, the last forming the subject of the present paper. The work in this area has been extremely successful from the standpoint of cooperation with governmental agencies. Treganza's work at Redbank was financed by the U. S. National Park Service and my own work in the mountains east of Red Bluff has been marked by the cordial cooperation of both the U. S. National Forest Service and the State of California Department of Fish and Game.*

Geography

The area under consideration here is the western slope of the Cascade Mountains from the drainage of the Pit River south, to and including the drainage of Deer Creek (Map 1). This stretch of land is roughly rectangular in shape with dimensions of about 50 by 30 miles. It is homogeneous throughout in physiography and biota. On the eastern side of the Great Valley the foothills begin to rise at a distance of 5 to 10 miles from the Sacramento River, marking the western edge of our area. At low elevations the hills appear to be merely plateaus with flat expanses full of boulders, like so many fields of stones. At higher elevations the landscape is more sharply dissected by stream action until at 2000 feet elevation there may be canyons 1000 feet or more deep.

The main streams of the region run in a westerly direction toward the Great Valley and debouch into the Sacramento River. There is a heavy winter rainfall, with snowfall above 3000 feet, and the streams carry a heavy flow of water the year round.

The fact that this area lies in the Cascade range rather than the Sierra Nevada implies that the underlying rock is basaltic rather than granitic. The basalt sheath covering the region is due to volcanic action in the Cenozoic era and later, the most recent being the Mt. Lassen eruptions which occurred from 1914 to 1917. The volcanic origin of the formation is everywhere evidenced by the great numbers of boulders on or just below the surface of the ground, where they have been left as the softer material eroded away from around them.

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* The assistance of W. J. Brokenshire and Herbert L. Hagen is gratefully acknowledged.

The soils of the region are brown or reddish brown loam and are ordinarily quite shallow, with frequent rock outcroppings. Plant cover is sparse at the lower elevations; above 1000 feet patches of dense chaparral occur, interspersed with some oak and scrub pine in areas of bare ground. Higher in the mountains, above 2500 feet, there is pine and fir forest cover.

History

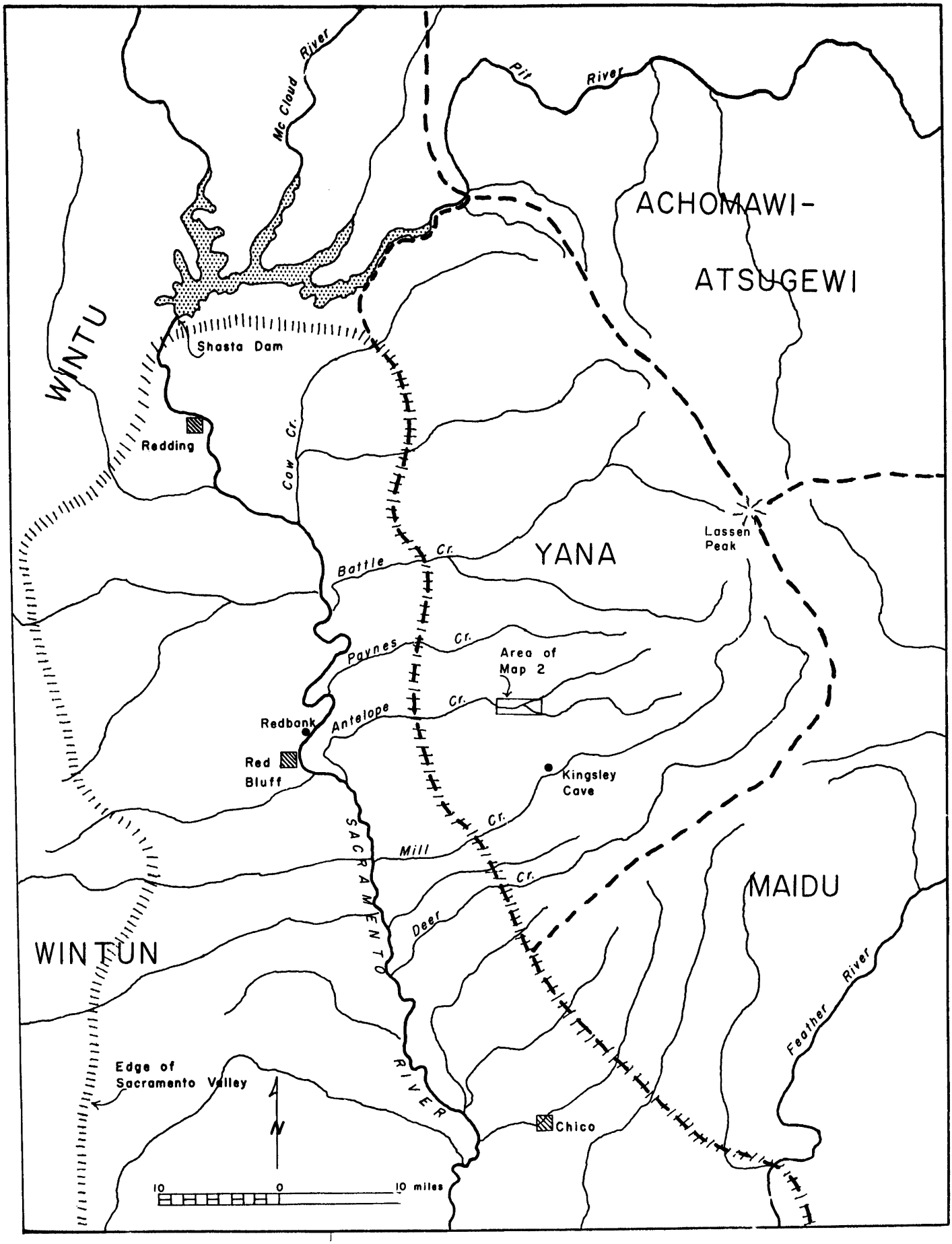
In the Yana area the period of white contact began in the 1840's. In 1844 Peter Lassen settled on the Sacramento River near the mouth of Deer Creek. He was granted five square leagues of land by the Mexican Government and remained there, at least intermittently, until 1855. In 1845 William Ide, at the urging of Lassen, moved from Sutter's Fort to Deer Creek and later settled on the present site of the city of Red Bluff, where his adobe house still stands.

In 1848 Peter Lassen led an immigrant party over the Sierras on what was later known as the Lassen Trail. This trail comes down into the Sacramento Valley on the ridge between Mill Creek and Deer Creek, near the boundary line dividing the Yana from the Maidu Indians (Map 3). During 1849 Lassen led several more wagon trains over this route but it was an extremely difficult trip and the Pit River (Achomawi-Atsugewi) and Yana Indians evidently followed the trains closely and stole livestock whenever possible. By 1850 the hardships of the journey were well known, and not many trips were made over the trail thereafter. For a graphic account of this route see Bruff's journal (Read and Gaines, 1949, pp. 115-223).

Meanwhile the American settlers were establishing ranches in the valley areas bordering the Yana. Bancroft (1888, pp. 16-17) lists about a dozen settlers in the area in 1848. There is no record of trouble with the Indians until 1857 when Anderson records a raid along the Lassen trail (Waterman, 1918, p. 42). From that time on the tension increased until in 1865 the whites took the offensive and wiped out nearly all the "Mill Creeks."

The whites thought the Indians had all been killed but this was not the case. Several survivors remained in hiding, dying one by one until only a single member of the group was left--Ishi, the last of the Yahi, or Southern Yana, who appeared at Oroville in 1911 and subsequently lived (until 1916) at the Museum of Anthropology of the Affiliated Colleges in San Francisco.

In the Antelope Creek area the first settler seems to have been Job F. Dye--Bancroft says he was there in 1848. His settlement was doubtless near the mouth of Antelope Creek and not directly concerned with the hill Indians. Not until 1875 is there record of white activity on upper Antelope Creek, although cattle had no doubt run there for



Map I. Yana Territory

many years. In 1875 the Sierra Flume and Lumber Company built a flume along the ridge separating Antelope Creek and Paynes Creek. The ridge is several miles from Payne Cave but the large number of men involved in construction must have frightened off any wild Indians who might have been hiding there. In any case it was not long after this that Jim Payne settled on Antelope Creek within shouting distance of the cave and there were surely no Indians living at the cave after that.

Payne is supposed to have built the first sawmill in the Red Bluff area, near the mouth of Mill Creek (Bancroft, 1888, p. 497). Payne's career on Antelope Creek was quite remarkable. I quote from a letter of W. J. Brokenshire, District Ranger of Lassen National Forest:

"The mine and old orchard in Antelope at the end of the jeep trail were on a homestead owned by Jim Payne, and filed on about 1884.

"Payne was a large well-built individual with a record of being a tough fighter and wrestler, and best rifle shot and trapper in the region. He worked for the Sierra Lumber Company, whose operations were in the timber near Lyonsville. He was a hunter for the company, keeping the logging camps supplied with deer meat, during logging operations in the summer, receiving a day's wages for every deer killed. He also peddled some fruit and vegetables to the camps from his ranch in Antelope Creek.

"During the winter he worked the ranch and trapped coyotes and other fur. He had a record of being able to outsmart any coyote, and was often called upon by the large valley sheep men to trap a particularly bad predator, when other trappers failed.

"Payne was a devout spiritualist, and with little urging would often go into a trance, and as a medium bring back the spirits of the dead. Many local people even believed he had supernatural powers, and would request his help for the relief of pain or illness.

"Payne's spiritualistic belief finally resulted in his fatal illness. One particular spirit that visited Payne during his seances, was a small Indian maiden. This particular Indian one night came to Payne advising him that if he followed her she would show him where gold could be found. Payne wandered after her in the darkness, and at the spot where directed, Payne drove a stake. The fact that the spot was in the center of a swampy meadow did not deter him from his mining venture. He now spent most of his time working alone sinking the shaft. The shaft penetrated mostly lava rock which required hand drilling and blasting. The flow of water in the shaft was a major problem; however Payne secured a hand pump, and would have to spend most of the day pumping water, and the balance of the day feverishly sinking the shaft and hoisting the slag. The work in the mine resulted in his being wet all the time, due to the continual drip into the shaft. Payne later mortgaged a portion of his ranch to continue mining operations. He secured a gasoline pump, which gave him more time for excavation. He reached a depth of 84 feet, mostly in solid lava.

"While still engaged in working the mine, Payne took down with pneumonia from the dampness and in 1917 died, at the age of about 70. The mortgage resulted in the land going to Coyle C. Turner, owner of the Turner Ranch near Lyonsville."

It seems clear that the Indians could not have been living in Payne Cave after 1884 and probably not after 1875. On the other hand, the quantity of historic materials recovered from the site would indicate that they were living there well into the historic period and it seems likely therefore that the cave was occupied during the period of hiding--from about 1850 to 1875. This would account for the paucity and poor quality of many of the specimens recovered from the cave--the Indians would have been on short rations during that period and would have lacked time and materials for manufacturing the finer goods they were accustomed to.

Yana Culture

Language

The Yana belong to the family of Hokan speakers, a linguistic stock whose members are found sporadically from California to Central America. Swadesh (1954, p. 362) has summarized some of the time depth determinations for the Hokan stock which have been obtained by the method of glottochronology; Kroeber (1955) has evaluated the results in terms of linguistic history. He shows that the Hokan speakers for which we have chronological determinations fall into two groups. One of these he calls the Pacific Hokan, stretching from Northern California to Honduras, and including Chimariko, Yana, Yuma, Chontal, and Jicaque. The second group consists of two languages which are linguistically more divergent-- the Comecrudo on the Gulf of Mexico, and the Washo on the Nevada-California border. Table 1 gives the length of time, in centuries, since the groups have separated from the Yana.

Table 1

Chimariko	Yuma	Chontal	Jicaque	Comecrudo	Washo
38	37	39	44	46	50

The surprising thing in these time depths, and in Kroeber's groupings, is the linguistic distance separating Washo and Yana, two groups which are separated geographically by only 60 miles. In Kroeber's opinion the geographical proximity is a "secondary and recent affair, and ... they have been separated not only for a long period but probably by a considerable geographical interval much of that time." Kroeber's opinion is supported, at least in part, by archaeological evidence from the Washo

area. Heizer and Elsasser (1953) found two distinct culture complexes in Washo territory. One of these, the Kings Beach complex, they identify with the historic Washo. The other, the Martis Complex, is quite distinct and it is therefore reasonable to assume that it was displaced by an actual migration rather than stylistic fluctuation. If this is so, then we have the Washo entering their present territory, probably from the east, about a thousand years ago and taking their place close to distant kin.

If we then accept Kroeber's hypothesis that the Chimariko, Yana, Yuma, Jicaque, and Chontal are representatives of a single linguistic group we may ask when the migration occurred and whether it has been away from or toward California. Kroeber says that Pacific Hokan at one time "suffered an explosion and broke up into ten or a dozen languages." Most of these languages remain in California and it is therefore likely that the breakup occurred in California. Otherwise we would have to assume that the California Hokan languages each drifted into the state separately, surely an unlikely occurrence. In California the Hokan languages, excluding Washo, are in four main groups--the Shastan-Yana group in the north, the Pomo on the central coast, the Salinan-Chumash on the south coast, and the Yuman peoples in the southern desert. This distribution suggests that they were once part of one or two solid blocks and were fragmented by the intrusion of the other main linguistic groups.

In the northwestern part of the state the Athabascans wedge in between the Pomo and the Shastan group. In the south the Shoshonean speakers divide the Yuman peoples from the Chumash. Finally the central part of the state is occupied by Penutian speakers on whose borders are found a number of Hokan tribes.

The interpretation suggested by this distribution is an initial occupation of most of California by Hokan speakers. Subsequently the Penutians entered the Central Valley and pushed the Hokans toward the margins. Still later the other linguistic families pushed through the Hokan margin, the Athabascans from the north and the Shoshoneans from the east. The time of entrance for the Athabascans is about 1000 years ago, according to Hoijer's detailed glottochronology (Hoijer, 1956). The time of the Shoshonean movement (or movements?) has not yet been estimated.

The time depth given by glottochronology suggests that the Pacific Hokan languages broke up about 3500 to 4000 years ago, perhaps at the time of the hypothetical Penutian immigration. If this is correct it might tie in with the end of the Early Horizon in Central California. One of the most recent sites of the Early Horizon has been dated by the radiocarbon method at 4052 + 160 years ago (Heizer, 1951, p. 25) and would thus support the hypothesis nicely.

If the above reconstruction is correct the Yana have been in their present area for at least 3000 to 4000 years and we would therefore not expect to find any sharp breaks in the archaeological sequence unless we

had material that is very old indeed. We have not been disappointed in this expectation--it has, in fact, been very difficult to get any sequence at all.

Social and Economic Organization

From the standpoint of social organization the Yana stand on about the same level as the Northern Maidu. Archaeologically we would be chiefly interested in two aspects of Yana social organization--the family system to indicate the sort of house type we would expect and the local organization to enable us to interpret the clusters and configurations of village sites. Unfortunately we know very little about either of these facets of Yana culture because the ethnography on the group has been extremely skimpy. The main sources on Yana ethnography are a variety of publications based on information largely from Ishi (Waterman, 1918; Pope, 1918) and a collection of ethnographic notes gathered by Sapir and edited by Spier (Sapir and Spier, 1943). The Ishi material does not cover social organization and even if it did it would not be a reliable indication of the pre-contact situation because Ishi lived out his life in the period of hiding. The Sapir material was gathered in the course of linguistic investigations and is therefore rather fragmentary, especially on social organization. It is therefore necessary to infer Yana social organization from the ethnographic materials of neighboring groups, testing the information wherever possible with Yana data.

For local social organization we go to Kroeber's description of the Patwin (1932, p. 258): "It is thus evident that in much of Central California there prevailed a type of political organization into what may be called 'tribelets', groups of small size, definitely owning a restricted territory, nameless except for their tract or its best known spot, speaking usually a dialect identical with that of several of their neighbors, but wholly autonomous. This more definite concept must replace the vaguer one of 'village' or 'village community'."

We have no good evidence on the existence of these tribelets among the Yana. The culture element list of Gifford and Klimek (1936, p. 85) says that there were "subdialectically separate communities" among the Northern Yana but not among the Central Yana. But the latter have "autonomous villages" and this may refer to tribelets with a single principal village but a considerable territory and perhaps a few subsidiary villages.

If the Yana were in fact organized according to Kroeber's definition then the area on Antelope Creek (Map 2) was very likely the center of a tribelet. The main village would probably have been the one at the forks of Antelope Creek (sites Teh-204, 205, and possibly 206) since these were the largest sites and most favorably located. The other sites along Antelope Creek would have been subsidiary villages or specialized sites, perhaps for fishing.

The fundamental family unit among the Yana seems to have been the nuclear or polygynous family. Polygyny was permitted and, if the Yana resemble their Maidu neighbors, the custom was common (Dixon, 1905, p. 240). In polygynous families of the Yana all the wives lived together.

Two main kinds of houses were used to shelter the families--the earth lodge house and the bark house. According to the descriptions of the earth lodge houses from nearby groups (Dixon, 1905, pp. 168-176) they were large structures and were used to house several nuclear families. Among the Patwin all the occupants of one of these large houses were members of the same patrilineage (McKern, 1922) and these structures may also have functioned as dance houses or meeting places and would thus mark the head village of the tribelet. They should be noted archaeologically when possible so that tribelet territories can be worked out.

The other kind of house used by the Yana was the conical bark slab hut. Dixon (1905, Pl. XLV) illustrates one of these structures and says that they were much used by the Northwestern Maidu in the foothills. They were no doubt also common in the foothills of Yana territory.

Another variety of ethnographic information on economics is of particular interest to the archaeologist. We want particularly to know the main basis of subsistence of the people and also their seasonal migration patterns. There is a clear statement on Yana subsistence given by Sapir and Spier (1943, pp. 249-252). They say the main foods were acorns, fish, and deer, in that order of importance. In addition, a variety of roots, nuts, berries, and small game were eaten. The acorns were ripe in September and the women spent most of their time on this crop during the harvest season. Enough acorns were gathered and stored to last through the winter. The oak occurs most abundantly at low elevations and therefore we may conclude that the data refer to people living at about the altitude of Payne Cave during the fall of the year. Sapir says that during this time the men went to Mill Creek or the Sacramento River to catch the salmon of the fall run (Sapir and Spier, 1943, p. 249). This may have been so in some places, but Antelope Creek formerly carried a large salmon run itself; the men living at or in the vicinity of Payne Cave need not have gone away to catch fish.

After the fall salmon and the acorn harvest had been stored the people stayed at low elevations for the winter months. They probably caught what game they could but must have depended largely on stored food. The big event of the spring was the beginning of green growth and the spring salmon run. The bones of the spring salmon were said to have been eaten and never left about (Sapir and Spier, 1943, p. 252). This would partially account for the lack of fish bone at Payne Cave and Kingsley Cave. It does not explain, however, why the bones of the fall salmon were not found at these sites.

The only question remaining on economics is whether the people traveled to the higher mountains in the summer time to hunt deer and avoid the heat.

The only evidence on this point from the Yana themselves indicates that the Yahi traveled up to Mt. Lassen for the summer, even during the period of hiding (Waterman, 1918, p. 55). The neighboring tribes in the Sacramento Valley were certainly accustomed to an annual migration of this kind (Du Bois, 1935, p. 281), and the evidence indicates that the Atsugewi to the northeast (Garth, 1953, p. 133) and the Maidu to the south (Dixon, 1905, p. 201) were also transhumant. Since this is so we probably are justified in concluding that the Yana also went up into the mountains in the summer and occupied their larger villages, as at Antelope Creek, during the fall, winter and spring.

EXCAVATION OF PAYNE CAVE

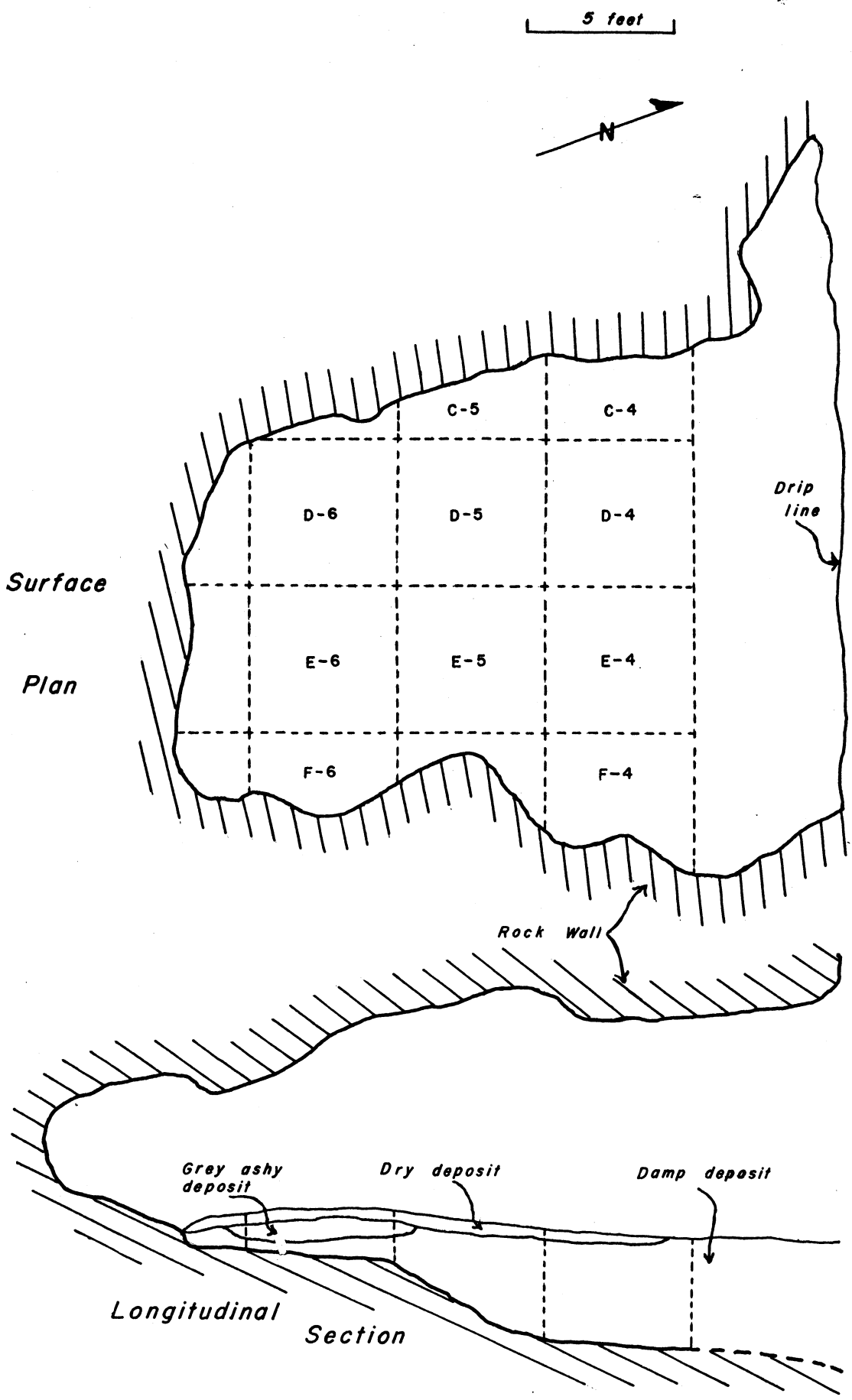
Payne Cave was originally discovered, as far as is known, by W. J. Brokenshire, Ranger of the Lassen National Forest. Mr. Brokenshire happened on the cave accidentally and picked up a few specimens there, including a piece of coiled basketry. Upon learning of the interest of the University of California Archaeological Survey in the area, Mr. Brokenshire passed on his information about the cave. In June, 1955 Mr. Brokenshire led the writer and J. A. Bennyhoff, then archaeologist of the University of California Archaeological Survey, to the cave and also donated his specimens to the University of California. In June, 1956 a party representing the Archaeological Survey consisting of the writer, J. A. Bennyhoff, A. B. Elsasser and G. Krantz spent six days excavating the cave.

Description of Site and Method of Excavation

Payne Cave is located in an outcropping of rock some 300 feet above Antelope Creek on the southern rim of the canyon. The mouth of the cave is not visible, even from a distance of 100 feet, because of the heavy growth of brush surrounding the entrance. A large part of the brush is the buckeye tree; the white flowers of this tree stand out against the drab background in the spring time.

Most of the site is in shade throughout the day. Although there is no true twilight or dark zone at the inner end, the site should be considered a cave rather than a mere shelter. It is completely roofed for a distance of 20 feet back into the rock and has an average width of about 12 feet (Fig. 1). Because of the complete enclosure we had anticipated a midden dry from top to bottom, but, in fact, the dry midden ran only 6 to 9 inches deep, covering several feet of wet midden. Apparently water seeps in through the porous floor of the cave and dampens all the midden except that near the very surface.

To facilitate excavation and aid in recording, the site was first laid out in five foot squares with strings marking the sides of the



PAYNE CAVE

Figure 1

squares. Each series of squares was said to constitute a single trench and the squares were designated in such a way that the numbered trenches ran perpendicular and the lettered trenches parallel to the long axis of the cave (see Fig. 1). The area designated Trench 3 was placed in such a way that its northern limit nearly coincided with the drip line at the mouth of the cave. Trench 3 was not actually excavated since the surface material was not dry and it was thought advisable to devote all available time to the area where dry material was evident on the surface.

The excavation was begun by simple troweling in 6 inch levels, recording location of artifacts by precise depth and horizontal position, while unmodified mammal bone, wood, etc., were kept in level bags--a separate bag for each 6 inch level of each square. It was soon seen, however, that it would be inefficient to follow this method in the dry midden, and we thereafter screened all dry midden, keeping everything separate found in each three inch level. The screen used had 8 meshes to the inch. The wet midden was troweled throughout as noted above.

As already stated, the matrix of the site was composed first of a layer of dry midden 6 to 8 inches deep made up of artifacts as well as of grass, sticks, acorn hulls and other waste material which may have been partly animal leavings but which was certainly in large part refuse of human occupation. Beneath the dry midden was a dark brown midden similar to that found in open sites in the Sacramento Valley--a loose, ashy, and slightly greasy soil. Depending on the contour of the floor this deposit ran as deep as 4 feet but in most places was only 2 to 3 feet and in some places was as shallow as 4 inches.

As the bottom of the wet deposit was reached there was an increasing accumulation of large rocks. These had apparently been in the cave before human occupation began, perhaps having fallen from the roof of the cave, with the midden subsequently being deposited on top of them. On the floor itself the stones were piled almost in a layer, although without regularity.

We may also note one other peculiarity of the midden. This is a concentration of gray ashy material occurring principally in pit E-6 but also in bordering pits. A similar condition was also noted in Kingsley Cave (Baumhoff, 1955, p. 42) where the gray ashy material was associated with a group of mortars and metates. No such association was present in Payne Cave. The material is evidently not due to fire because the areas in question are too large and too deep, and furthermore there was no concentration of charcoal in either instance. One is therefore forced to the conclusion that the gray material is not ash but a product of moisture conditions peculiar to caves of this region. Water seepage tends to leach out the central parts of caves and rock shelters and leave only this gray material.

Artifacts Recovered

Stone Artifacts

Projectile Points: Projectile points constitute the most abundant class of artifacts in the Payne Cave collection. They have been treated in considerable detail here because in this area they are the most useful artifact for purposes of chronology--they occur in abundance in almost all sites and they show considerable change through time. Even a brief survey of the surface of a site will usually yield several specimens, and sites can thereby be placed in time and settlement patterns worked out.

For purposes of description the projectile points from Payne Cave have been classified into 7 types. Some of these may ultimately be combined as single historical types but until we are sure of these types it is best to slice as finely as possible. Besides the 65 classified points there were 46 point fragments which could not be classified. Of these fragments 40 were obsidian and 6 basalt.

1. Desert side-notched (Fig. 2d, e, Kingsley Cave type 5). This name has been suggested as one in the new series of binomial designations for point types in California. It is called Desert because its area of principal occurrence is in the Great Basin, and it is intimately associated with the Desert culture (Jennings and Norbeck, 1955), and perhaps had its origin there (cf. Jennings, 1953). The "side-notched" part of the name is self-explanatory. This is the point type that has sometimes been called Shoshone point but that name has not been adopted here because it has implications that are, at best, misleading--although some of the Shoshone Indians undoubtedly used points like this they were by no means the sole users. The relationship of this point type with similar artifacts occurring much further east is not known (cf. Suhm and Krieger, 1954, Pls. 129, 133).

The Desert side-notched specimens from Payne Cave are uniformly small and some of them are rather finely made. The notches are narrow and enter the blade near the base of the point at a slight angle so that the notches are nearly parallel to the base, which is slightly concave. Only 3 of the present specimens conform strictly to the pattern of these points in the southern Sierra Nevada (Bennyhoff, 1956, Fig. 3j, k, l, m). This variety is illustrated in Fig. 2d. The remaining 9 specimens are more nearly like the Desert side-notched points which occur in the northern Sacramento Valley around Red Bluff and Redding (Smith and Weymouth, 1952, Fig. 1f). Fig. 2e illustrates this variety. It will be noted that the specimen shown has serrated edges. Three others of this group are similarly serrated.

Of 12 points in the Desert side-notched group, 1 is of glass, 1 of basalt, 1 of chert, and 9 of obsidian.

2. Expanding stem point (Fig. 2j. There are no corresponding Kingsley Cave specimens). This type is perhaps a variant of the Desert side-notched type but it makes a decidedly distinct impression on the classifier. It gives the appearance of a point with an expanding stem while the Desert side-notched point appears to have been made as a simple triangular point with the notches added as a finishing touch. If this is true then the types would have been conceptually distinct from the point of view of the artisan and should be kept separate. The separation can only be proved by finding that the two classes are historically discrete. In any case this type is best kept separate until its affinities are better known.

There are 5 specimens in this class, 3 of obsidian, 1 of basalt, and 1 of amber-colored glass. Three of the specimens have quite definite serrations while the other two do not.

3. Tapering stem points (Fig. 2a-h, Kingsley Cave type 3). These points form the most abundant class of points found at Payne Cave. They are small, often well-made points, roughly triangular in form and have a small tapering stem. On most of the specimens the shoulders slope downward to a point so that the pieces have a tanged appearance. The stems are small and may be square at the tip although they are more often round. Of 37 specimens 30 are obsidian and 7 basalt.

This projectile point type has some interesting aspects relative to the Kingsley Cave specimens. In the Kingsley Cave collection one class of points, type 2, was designated "large, square-stemmed points." In setting up this type I had first tried to segregate it into two separate categories (illustrated in Baumhoff, 1955, Pls. 2a, b, c on the one hand and Pls. 2g, h, i on the other) but ultimately decided to combine them all into a single class because no matter what criterion of distinction was chosen there were always as many borderline specimens as there were specimens thrown definitely into either class. There will be a few borderline cases in any classification but if the bulk of the specimens fall into the "undecided" category then our classification is clearly not in accord with the facts. The result was that all the specimens were combined in a single category despite a definite feeling that it might be too inclusive.

Upon going over the Payne Cave collection, I ran into a similar dilemma--should the points of type 3 be separated on the basis of square stems as against round stems or should they not be so separated? Again it was found that if stem shape were used as a basis for distinction the bulk of the specimens would fall into an intermediate position and again it was decided to combine them into a single type.

It was not until the two collections were compared that I noticed that numbers of the type 3 points from Payne Cave were indistinguishable from some of the type 2 points of Kingsley Cave. For instance, compare

Fig. 2g of this report with Pl. 2b, c of the Kingsley Cave report. The similarity suggested that the specimens from these groups (Payne 3 and Kingsley 2) represent a single series of points and accordingly I propose the scheme outlined in Fig. 3.

As discussed below, it is believed that Kingsley Cave is in part earlier than Payne Cave. If this is true we may hypothesize the following change in point type: the earliest points in the series are the heavy points with large square stems as illustrated here in Fig. 2i (Payne Cave type 4). Dating from the beginning of the occupation of Kingsley Cave this point type tended to become smaller and more delicate. Ultimately, although the heavier points were still being made in considerable numbers, there developed a marked size range within the general type. The square stem, however, was retained in all cases. Later in the occupation of Kingsley Cave and during the occupation of Payne Cave these points became still smaller, the stems became rounded, and the shoulders became tang-like. At this time the heavier variety was manufactured almost not at all, and when it was made it was seen as conceptually distinct by the artisan. Only two points of the heavier type were found at Payne Cave (type 4). They could not possibly be confounded with the lighter ones there. The change at both sites may be visualized by the diagram in Fig. 3.

The danger here, of course, is in confusing one's own impressions with those of the makers. The hypothesis presented, however, has the virtue of being susceptible to test in a stratified site.

4. Heavy, square stemmed points (Fig. 2i, part of Kingsley Cave type 2). These are the points that were discussed above as being precursors of type 3. There are two such specimens in the Payne Cave collection--one of black obsidian and one of red obsidian.

5. Triangular, straight base points (possibly the same as Kingsley Cave type 4). These are small points but rather crudely made, and like Kingsley Cave type 4, they may be rejects from the manufacture of other types. They differ from the Kingsley Cave type 4 specimens in having a straighter base.

There are seven specimens in this class from Payne Cave of which 4 are chert, 2 obsidian, and 1 basalt.

6. Bifurcated Stem (Kingsley Cave type 6). There is only one point in this category from Payne Cave but it is a well defined type elsewhere and therefore deserves notice. It is small and well-made, looking rather like the tapering stem point (type 3 above) except that the stem expands and therefore appears to be bifurcated. This point is very similar to one shown by Treganza (1954, Pl. 2o) from Red Bluff. It is made of obsidian.

7. Roundish side-notched point (no comparable Kingsley Cave specimens). This point is nearly round in outline and has small side notches. It is distinguished here because it is the same as one of Treganza's types (Ibid., Pl. 2i). It is made of obsidian.

Table 2

Projectile Points

	Length (mm) max.	min.	avg.	Width (mm) max.	min.	avg.	Weight (grms) max.	min.	avg.	O[1] C[2] B[3]	Total No.
1. Desert side notched Fig. 2d, e	24	13	17.4	16	11	12.2	1.0	.2	.46	9 1 1	12*
2. Expanding stems Fig. 2j	23	15	19.2	14	11	12.2	.6	.4	.48	3 - 1	5*
3. Tapering stem Fig. 2a-h	34	16	22.9	21	11	15.4	1.9	.4	.90	21 - 8	29
4. Heavy, square stem Fig. 2i	30	25	27.5	22	21	22.5	2.7	2.1	2.40	2 - -	2
5. Triangular, straight base	24	17	19.8	19	10	13.4	1.0	.4	.69	2 4 1	7
6. Bifurcated stem	29	29	29	20	20	20	2.2	2.2	2.2	1 - -	1
7. Roundish, side notched	21	21	21	14	14	14	1.3	1.3	1.3	1 - -	1
Total										39 5 11	57*

1 Obsidian
2 Chert
3 Basalt
* There is one glass specimen (probably bottle glass) in each of types 1 and 2 and therefore the totals are increased.

Drills: Five specimens were recovered from Payne Cave which appear to have served as drills. Two of these are made of basalt and have the usual thin stem and flat or tabular head common to these implements (see Bennyhoff, 1956, Fig. 8a). Two other specimens, made of obsidian, consist merely of the stem part. The remaining piece seems to be made of some granitic stone. It is a thin piece about 5 cm. long and is triangular in cross section. The tip end, part of which has been broken off, has been chipped on all sides.

Knives: A class of artifacts was recovered from Payne Cave which may be called knives, for want of a better term. These specimens all have bifacial chipping on at least two edges. In the elongate examples one of the ends is generally shaped to a point, while the other end remains unshaped. The non-elongate specimens are shaped all over.

We may divide these objects into two classes by size; there appears to be a sharp break in frequency between the larger and smaller ones. There are 16 of the smaller knives, 9 of which are obsidian and 7 basalt. They vary in weight from 1.5 to 8 grams, averaging about 5 grams. There are also 16 of the larger knives and of these 11 are basalt and 5 are green chert. The weight of the larger groups runs from 25 to 100 grams with an average of about 50.

Scrapers: Six objects were recovered from the site which might be called scraper-planes, i.e., they are artifacts having a single flat plane, with flaking almost or entirely perpendicular to the plane around some or all of the edges (cf. Treganza and Malamud, 1950, Pls. 17-19). These are relatively heavy pieces, running from 50 to over 100 grams in weight. Two of these objects are of green chert and 4 are basalt.

Another category of scrapers includes all simple flakes which have either secondary or use-chipping along the edges but are not otherwise shaped. These show various sizes and forms, but apparently cannot be sub-divided into separate categories on the basis of either of these factors. Of 46 such objects recovered, 35 are of basalt, 7 of obsidian, 3 of green chert, and 1 is of slate.

Mortars and Metates: Only 2 mortars and 2 metates were recovered from Payne Cave. This contrasts sharply with Kingsley Cave where there were 63 mortars and 53 metates. This is partly a reflection of the briefer occupation of Payne Cave, no doubt, but may also be explained by the nature of the two sites. Kingsley Cave is an open shelter of considerable size while Payne Cave is small and closed. The people occupying Kingsley Cave doubtless spent a large part of their day at the site while the people of Payne Cave must have spent the major portion of each day in the open, at least in fine weather. If this was the case, then many of the Payne Cave grinding implements must be outside, perhaps at

some distance from the cave. No implements, however, were found outside which could definitely be associated with the cave.

Both mortars found in the cave are of the hopper variety and were made from boulders of the native basalt. One mortar is 9 inches wide and must have been 14 inches long at one time, but is now broken. It is 3 inches thick and its depression is 2 inches in diameter by 1/2 inch deep. The other mortar is circular in outline with a diameter of 11 inches and is 4 inches thick. It has grinding depressions on both faces, one 6 inches in diameter by 1/2 inch deep, the other 5 inches in diameter by 1/2 inch deep.

The metates were also made from boulders of native basalt. One of them is 22 inches long and 5 inches thick and has an ovoid grinding area measuring 14 inches on its long axis. The other metate is a fragment of a boulder with an oval outline, probably 20 inches long originally, now broken in half. The piece is 2.5 inches thick and is ground over nearly all of one face.

Pestles and Manos: Four pestles were recovered from Payne Cave only one of which, actually a fragment (grinding tip), was well shaped. This specimen was made from the native chert that one finds as stream cobbles in the region. The other three specimens were simply convenient stones which were used as pestles. They were made of basalt.

Five manos were recovered in the excavating, 3 of which had apparently been shaped by pecking around the edges while the other 2 are merely globoid stones which had a single face ground from use as mullers. The shaped manos are of the "loaf" shape--flattish on two sides and ovoid in long and cross sections. The dimensions of these are 9 by 12, 10 by 12, and 9 by 10 cm. All the manos are of basalt.

Hammerstones: Six specimens were noted from the excavations. These are rocks, fist size or larger, which were battered around the edges. They are all made of basalt.

Stone Pendant: This piece, illustrated in Fig. 2k, is apparently made of a basaltic material. It is 6 mm. thick and, if we assume bilateral symmetry, was 18 mm. wide at the hole before it was broken. The hole was biconically drilled and has a maximum diameter of 8 mm.

Shell Beads

Only three items of shell were recovered from Payne Cave. Two are clam shell disc beads, each of which is 13 mm. in diameter and thus much smaller than the enormous clam shell disc beads that occur at Red Bluff

(Treganza, 1954, Pl. 4m). The other shell artifact from Payne Cave is an Olivella shell which may have been used as a bead. One end of this shell had been broken off so that it could have been strung, but the shell shows no grinding.

Bone Artifacts

Awls or Perforators: There are 15 sharpened bone implements in the Payne Cave collection which were probably used as awls or punches. Nine of these awls are simply fragments of bone, probably deer, thinned, and sharpened on one end (Fig. 2u). The 6 remaining pieces are complete deer splints (vestigial metapodials) which have a polish on the pointed end. It is sometimes difficult to be sure that these splints were actually used as artifacts but in one case use by man is positively indicated by the presence of a wrapping of cartilage on the proximal end (Fig. 2q).

Bone Pendant: One fragment of deer rib was recovered which evidently served as a pendant. It is a medial fragment of rib, 5 cm. long and 1.5 cm. wide, which has been perforated at one end (Fig. 2n).

Scapula Saw: This object is simply a deer scapula with the epiphyseal end broken off and with uneven serration on one of the edges. It may have been used as a saw or scraper as has been hypothesized for similar objects found farther south (Heizer [ed.], 1953, pp. 268-269).

Miscellaneous Bone Objects: Two bone objects of similar character but unknown function were found at Payne Cave. These are small bone pieces which may be described as tubular in shape but slightly flattened out (Fig. 2s). They were probably made from deer bone and are 44 and 51 mm. long and 11 and 9 mm. wide.

Wooden Objects

Only a few undeniable artifacts of wood were recovered from Payne Cave. All these objects are shown in Fig. 2 and Fig. 3. Fig. 3 A1, 2 is a fragment of a self bow, 21 cm. long, 2 cm. wide, and 7 mm. thick. The nipple at the end formed by the nock is 6 mm. wide, and the nock seems to have been made with a metal knife. The broken end has been burned off. This bow is similar to the ones made by Ishi, the Yahi Indian, but is not as heavy (cf. Pope, 1918, pp. 106-107).

Fig. 2o shows what is probably a gaming stick. It is made of an unsplit twig of a bush and has had alternate strips of bark peeled to give it its characteristic marking. It is 63 mm. long and 6 mm. in diameter. Fig. 2n is a small twig 7 mm. in diameter and 31 mm. long which

has been cut off at either end and in addition has had two grooves made in it near one end, evidently to accommodate wrapping of some kind. Fig. 2m is an even smaller twig 5 mm. in diameter with a large groove near one end. Its function is not known. Finally Fig. 2p is a fragment of a fair sized stick, cut at both ends. It is 13 mm. in diameter and 57 mm. long.

In addition to these fairly definitely manufactured objects there are about a dozen other pieces of wood which showed some signs of working. Two of them may have been fragments of arrows; some may have been used for counting sticks in the hand game, and others are too fragmentary to allow a guess.

Basketry

Six pieces of basketry were recovered from Payne Cave. They will be described individually:

Coiled Basket Fragment (UCMA 1/141640): This is a rectangular fragment of coiled basketry 19 cm. long and 12 cm. wide with a 3-rod-triangular foundation, i.e., the coil is made of three separate twigs, two of which lie side by side while the third lies on top of these two and is the element under which the stitch passes to secure the next coil above. Each of the rods is 2-3 mm. in diameter. There are about 20 coils per 10 cm.

The sewing of this piece is done in irregular split stitch. Apparently the thread is thrust through with the intent of having it interlock with the stitch below, but the work is careless and therefore about half the time, and in random sequence, the thread penetrates the stitch below instead of interlocking with it. The sewing material is of split ribbon 2-3 mm. wide, and there are 40-45 stitches per 10 cm.

This piece has evidently served as a patch or perhaps a reinforcement for another basket. Holes have been punched along the long edges of the piece, 6 on one side and 8 on the other. These holes were punched with a thin object 4-5 mm. wide and about 1.5 mm. thick. The deer splint awls mentioned in the section on bone artifacts would have done nicely for this. The present writer inserted one of the awls into the vacant holes and it fitted exactly. In some of the holes there remain vestiges of the material which held the patch in place. This consists of a heavy piece of split ribbon 2 mm. thick and 6 mm. wide.

Coiled Basket Fragment (UCMA 1/141636): This small fragment of coiled basket 1.5 by 2.5 cm. was made by the same technique as described for UCMA 1/141640 above. A quantity of leather thong attached to the fragment is evidently part of a handle (see below) or tump-line attachment.

Coiled Basket Fragment (UCMA 1/156757): This is a smaller piece of the same technique as the one mentioned above and with a similar thong attached.

Coiled Basket Fragment (UCMA 1/156759): This is a fragment of coiled basketry with dimensions of 3 by 8 cm. It has a 3-rod-triangular foundation with each of the rods being a small stick about 2 mm. in diameter. The foundation runs about 20 coils per 10 cm. The sewing is of split ribbon of some undetermined wood with an average width of 2 mm. The sewing is accomplished by a simple interlocking stitch, with an occasional split stitch showing the inaccuracy of the weaver. The stitches run about 40 per 10 cm.

Coiled Basket Fragment (UCMA 1/156758): This is a single coil of basketry about 2 cm. long. As far as can be determined it was made by the same technique as No. 1/156759 above.

It would appear that two baskets are represented by these five fragments, the first three being part of one basket and the last two part of another. In comparing these specimens to those described by Spier (Sapir and Spier, 1943, pp. 264-265) we note some similarities and some dissimilarities. The two techniques are similar in being crude and having irregularities in the stitching but they differ in foundation--the pieces described by Spier have a 2-rod foundation where the present specimens have 3-rod-triangular foundation. Spier also notes that in one specimen the handle was lashed to the basket with buckskin loops. This probably explains the leather thong on Nos. 1/156758 and 156759 of the present collection.

Twined Basket Fragment (UCMA 1/156756, Fig. 3 A5): Besides the coiled basketry one piece of twined basketry was also recovered from Payne Cave. The specimen is a fragment about 2.5 by 5 cm. with a pitch of weft that is up-to-right. Wefts are made of the fibrous "wild grapevine" material that was used in most of the cordage. Each strand of weft is 2-3 mm. wide and less than 1 mm. thick. There are about 50 courses per 10 cm. The warps are round sticks of about 2 mm. diameter, and there are about 30 of them per 10 cm.

Matting (1/141635, Fig. 3 A4)

One specimen was recovered from Payne Cave which may be classified as matting or possibly as cloth. It is made either of Apocynum or possibly of an imported fibre, such as jute. It is an unfinished woven piece about six inches square with one to two inches of weft and warp hanging loose around its margins. The part which is woven is merely a

matting in plain weave--over one and under one. The warps and wefts are identical, each element being made up of two pieces of cordage placed side-by-side. Each piece of cordage is a single strand with a Z-twist, a diameter of 1-2 mm. and with a helix angle of about 20 degrees (cf. section on cordage).

Cordage

I have used the terminology introduced by Osborne and Osborne (1954) in describing the cordage. For two-ply twist I have used (Table 3) the symbol S-Z to indicate that the strands have an S twist and the yarn has a Z twist; the symbol Z-S represents the converse. One specimen (not represented in Table 3) consists of two strands, each of which is made up of two strands. This is designated as Z-S-Z, simply extending the alternating system one step. Diameter of strand indicates the diameter of the individual strands, and diameter of yarn indicates the diameter of the whole cord. Helix angle is the angle made by the twist of the strands with the long axis of the cordage.

All the cordage listed in Table 3 is 2-ply yarn and is made of a material that appears to be wild grapevine (Vitus californica; note also the use of this fiber by the Yana in Sapir and Spier, 1943, p. 258). Whatever the species identification, all the specimens listed on the table are of the same material--the fibers have the coarse texture and yellowish color also characteristic of cedar bark.

Besides the specimens listed on the table there are a number of others which I will describe separately. There are three pieces of single-ply cordage, all made of the same material as the Table 3 specimens and all having a helix angle of 30°. They are all Z twist and the three have diameters of 1 mm., 1 mm., and 2 mm.

Another of the pieces is 2-ply cordage like those listed on the table but this differs in being made of Apocynum or some other plant of very fine fibre rather than wild grapevine, like the other specimens discussed. The piece has a Z-S twist, a strand diameter of 1.0 mm., a yarn diameter of 2.0 mm., and a helix angle of 50°.

The final piece to be described differs from the majority of the specimens not in material, but in that it is cable-laid rope rather than simple cordage. It consists of two strands, each of which has a diameter of 3 mm. and is also made up of two strands. The piece has a Z-S-Z twist and a 30° helix angle. It was not made of two separate strands but was a single piece of cordage (3 mm. diameter) which was doubled and twined around itself so that the final rope has a diameter of 4.2 mm.

Table 3

Cordage

No.	Twist	Diam. of strand	Diam. of yarn	Helix angle	No. pieces	Remarks
1	S-Z	1.0	1.5	20°	1	
2	S-Z	1.0	1.5	30°	1	
3	S-Z	1.0	2.0	30°	4	
4	S-Z	0.7	1.0	50°	1	Extremely fine.
5	S-Z	1.0	2.0	50°	1	This piece is doubled back and coiled around itself as if securing a fag end.
6	S-Z	1.5	2.3	50°	1	
7	S-Z	2.0	3.0	50°	3	Knot in one fragment.
8	Z-S	1.0	2.0	20°	1	
9	Z-S	0.5	1.0	30°	1	Two knots, one an overhand knot.
10	Z-S	1.4	2.0	30°	2	
11	Z-S	2.0	3.0	30°	6	This specimen consists of six separate pieces tied together in a bunch.
12	Z-S	2.8	4.4	30°	1	
13	Z-S	0.7	1.0	50°	1	Extremely fine.
14	Z-S	1.0	1.5	50°	1	A knot, perhaps a half hitch, ties the two ends together.

Braid

Two of the specimens from Payne Cave are braid or a species of braid. One of them (Fig. 3 A3; UCMA 1/156741) is a two-strand piece woven over a buckskin core. The two strands were interwoven such that they crossed first on one side and then on the other so that the piece gives the appearance of braid even though it might not be so classified technically. Each of the strands is a split willow ribbon or some similar basketry material 2 mm. wide and 0.3 mm. thick. It may have served as the handle of a basket (cf. Sapir and Spier, 1943, p. 265).

The other piece of braid is simply a pine "leaf" bundle with its three separate needles braided in a three strand braid in much the same way that pine needles are braided by children in our own culture (UCMA 1/156746).

Buckskin

Fifteen pieces of deer hide were recovered from the midden of Payne Cave. None of these pieces seems to have been purposefully shaped. It is probable that they were mere butchering waste rather than artifacts.

Pitch

A half dozen lumps of pitch were gathered during the excavations. They range in size from a small speck to a piece as large as 2 cubic centimeters. Pitch was used for hafting arrow points by this group--one of the points in the collection still had some pitch adhering to it. Pitch may also have been used to make baskets water tight although there is no archaeological evidence for this. Ethnographically pitch was so used only rarely in the Northern Sierra region (Voegelin, 1942, p. 78).

Pine-nut Beads

Three beads, made from the seed of the digger pine (Pinus sabiniana) were recovered from Payne Cave. One of these has an end ground off and a hole punched or ground in the center. The other two examples have either end of the seed broken off so that they could have been strung as beads. It is possible that the appearance of the latter two specimens is due to accident and they were not used as beads at all. (Cf. distribution of pine-nut beads in Heizer and Krieger, 1956, p. 84.)

Objects of Caucasian Manufacture

A good many objects of American or European manufacture were recovered from Payne Cave. These objects will not be described in detail because they are, for the most part, derived from such a late period that

they are of no interest in themselves. Furthermore I am not competent to perform the necessary technical analysis, and therefore present a mere catalog of the objects.

Glass: Many glass fragments were recovered from the cave but they all seem to have come from only 4 distinct objects:

(1) Twenty-four fragments of clear glass about 1 mm. thick. Many of these fragments have a slight curvature. The lot may have been from the chimney of a kerosene lamp.

(2) Forty-six olive green colored fragments 2 to 4 mm. thick. They seem to have come from a bottle but no specifically identifiable fragments are present.

(3) A single olive green colored fragment about 1.5 mm. thick. The fragment is flat and the glass has many bubble inclusions.

(4) Six fragments of greenish clear glass from a bottle. The bottom is 4 mm. thick and the walls are about 1.5 mm. thick.

Cloth: Twenty-six fragments of cloth are included in the Payne Cave collection. Perhaps 6 or 8 distinct pieces of cloth are represented by these fragments, ranging from imitation leather and burlap to rug material.

Porcelain: There are two porcelain buttons among the objects from Payne Cave. Each of them has four holes in the center and they have diameters of 9 mm. and 16 mm.

Metal: The following objects of metal were recovered from Payne Cave:

Five matched iron buttons, probably from the same garment. Each button has 4 holes in the center and measures 17 mm. in diameter. Four of the five are badly rusted but on the remaining one it is possible to detect the original black paint.

A single cloth-covered iron button measuring 16 mm. in diameter. The button was evidently secured by sewing the cloth cover directly onto the garment.

A small ring-shaped piece of iron, 14 mm. in diameter. It has a piece of cotter-key attached.

Four of the old type of square iron nails.

An 18 cm. length of wire.

The handles of two iron table knives, with bone or wooden handle-plates removed.

A modern brass cartridge case of about 22 caliber (the inside diameter of the shell is 5 mm.). It has an "H" stamped on the butt end, and was fired on the rim.

A fragment of sheet tin.

Besides these objects, three fire-arm parts were recovered from the cave. One part was the lock-plate and hammer of a percussion pistol. The lock-plate is the piece on the outside of the stock "upon which the mechanism of the igniting device is mounted" (Metschl, 1928). The outside of the lock-plate is inscribed "Ashmore," evidently the name of the manufacturer. One of the weapons in the Nunnemacher Collection (Metschl, 1928, p. 475) has the words "Ashmore, Warranted" on its lock-plate, and the lock-plate of that piece is virtually identical with the one from Payne Cave. Ashmore was evidently an English manufacturer and the pistol was probably a British sea-service pistol. George (1938, Pl. XVII, 5) shows an 1842 model of the British sea-service percussion pistol which has a lock-plate the same as the Ashmore models. George (Ibid., p. 122) says that percussion arms were not adopted into British military service in quantity until 1839. Therefore the Payne Cave piece could not have been deposited until the 1840's. It is very likely that it was stolen or otherwise obtained by the Indians from personnel of a wagon train on Lassen Trail.

Besides the lock-plate and hammer, two other fire-arm parts were recovered from the cave. One of them seems to be a trigger and the other is a rectangular piece of metal which I am unable to identify.

Burials and Other Features

Three burials were recorded during the excavation of Payne Cave. No grave goods were found associated with any of them. Burial 1 was the skeleton of a child about three years old and of undetermined sex. The burial was a primary interment, as were all burials at the site, in a tightly flexed position on the left side. The orientation of the skelton from the pelvis to the head was NW to SE.

Burial 2 was the skeleton of a child the sex and the precise age of which could not be determined because only the leg bones and a fragment of the pelvis were present. The other bones had been removed, either by human disturbance or by rodents. The body was flexed and orientation may have been toward the west although this could not be determined with certainty.

Table 4

Stratigraphic Occurrence of Artifacts*

Stratigraphic level (inches)	0-6	6-12	12-18	18-24	24-30	30-36	Total
Projectile points	33	17	4	1	1	-	56
Type 1	8	3	1	-	-	-	12
Type 2	4	1	-	-	-	-	5
Type 3	17	10	1	1	-	-	29
Type 4	-	-	1	-	1	-	2
Type 5	4	3	-	-	-	-	7
Type 6	-	-	1	-	-	-	1
Type 7	1	-	-	-	-	-	1
Drills	4	1	-	-	-	-	5
Knives	20	8	2	-	1	1	32
Small type	10	5	-	-	1	-	16
Large type	10	3	2	-	-	1	16
Scrapers	24	15	8	3	2	-	52
Scraper planes	4	2	-	-	-	-	6
Flake scrapers	20	13	8	3	2	-	46
Grinding tools	2	4	3	1	3	-	13
Manos	2	1	1	1	-	-	5
Pestles	-	2	1	-	1	-	4
Metates	-	-	1	-	1	-	2
Mortars	-	1	-	-	1	-	2
Hammerstones	2	1	1	1	-	1	6
Stone pendant	-	1	-	-	-	-	1
Shell beads	2	1	-	-	-	-	3
Clam shell disc	1	1	-	-	-	-	2
Olivella	1	-	-	-	-	-	1
Bone awls	8	2	2	1	2	-	15
Splinter awls	3	1	2	1	2	-	9
Metapodial awls	5	1	-	-	-	-	6
Bone pendant	-	1	-	-	-	-	1
Scapula saw	-	-	-	1	-	-	1

Table 4 (continued)

Stratigraphic Occurrence of Artifacts*

Stratigraphic level (inches)	0-6	6-12	12-18	18-24	24-30	30-36	Total
Wooden objects	6	1	-	-	-	-	7
Bow	1	-	-	-	-	-	1
Arrows	1	1	-	-	-	-	2
Other	4	-	-	-	-	-	4
Basketry	6	-	-	-	-	-	6
Coiled	5	-	-	-	-	-	5
Twined	1	-	-	-	-	-	1
Matting	1	-	-	-	-	-	1
Cordage	30	2	-	-	-	-	32
2-strand Z	12	1	-	-	-	-	13
2-strand S	13	1	-	-	-	-	14
Single strand	3	-	-	-	-	-	3
Apocynum 2-strand	1	-	-	-	-	-	1
Cable	1	-	-	-	-	-	1
Buckskin	15	-	-	-	-	-	15
Pine-nut beads	3	-	-	-	-	-	3
Historical material	117	14	1	-	-	-	132
String	7	1	-	-	-	-	8
Cloth	23	2	-	-	-	-	25
Glass	65	11	1	-	-	-	77
Metal	20	-	-	-	-	-	20
Porcelain	2	-	-	-	-	-	2
Total	273	68	21	8	9	2	381

* The totals given here are sometimes less than those given in the preceding descriptive sections because pieces with no location data are included there but not here.

Burial 3 was the skeleton of a male about 30 years old. It was probably a primary interment but it had been slightly disturbed, probably by rodents, and the skull was missing. The body was in tight flexure on the left side and it was oriented with head toward the SE. The grave was covered, apparently purposefully, with two large stones. These stones covered most of the body, especially the hips and shoulders. It is probable that at the time of burial only the back and head of the body were extruding from beneath the two-stone cairn. Each of the rocks was slightly ground on one surface and they were placed with ground surface down.

Besides the burials, two other features of interest were noted during the excavation. Feature 1 consisted of a layer of 8 cobbles in contact with each other. Each rock is 2 to 5 inches in diameter. The purpose of this is not known. It did not seem to have been a fire hearth--there was no concentration of charcoal or ashes on it.

Feature 2 consisted of masses of grass and other vegetal material enclosed in a ring of stones and pine bark. The ring appeared to have been deliberately made as such. It was about 30 inches in diameter. There were no artifacts included in the vegetal material, but otherwise this feature was reminiscent of the caches that are found in caves in western Nevada (cf. Heizer and Krieger, 1956).

Summary and Dating

The Payne Cave site is a small occupation site used by the Yana Indians during the historic and proto-historic periods. The historic objects indicate that the site was used in the late 1840's and probably continued to be used until at least 1875 when the Sierra Lumber Company flume was built. During this period the chief virtue of the cave, from the standpoint of the Indians, was no doubt the fact that it is completely hidden from view.

The site also seems to have been used in prehistoric times. Table 5 gives a comparison of the depth frequencies of non-perishable aboriginal artifacts as against the depth frequencies of non-perishable historic artifacts.

Table 5

	Depth	
	0"-6"	6"-36"
Aboriginal objects	95	79
Historic objects	67	12

It will be seen that only a little more than half the aboriginal artifacts are from the top six inches of deposit while nearly all the historic objects are from that level. This stratigraphy indicates that the cave was used, at least for a short time, in the prehistoric period.

We cannot say with absolute certainty how far back in time the occupation extends but in view of the homogeneity of the artifact types, particularly of the projectile points, one may be assured that the time span is not very great. It probably covers a period of not more than two or three hundred years.

The function of the cave in prehistoric times is not known. The Yana had the reputation of being a very war-like people and it may be that the cave was used for hiding or defense even before the coming of the white man. This, however, seems unlikely since the Antelope Creek area is in the center of the Yana country and would therefore not be subject to attack by other groups. Furthermore the Yana were supposed to have been the aggressors in Indian fights. Attacks on the Yana by other Indians are not often mentioned (but see Garth, 1953, p. 180, for an Atsugewi raid on the Yana).

It seems probable that the cave, if it was not used for defense, served primarily as a temporary shelter, perhaps during cold weather, or for deer hunters, and was used only intermittently during prehistoric times.

PROPOSED SEQUENCE IN YANA ARCHAEOLOGY

Comparison of the Payne Cave collection with the Kingsley Cave collection shows that many of the artifact types from the latter site do not occur in Payne Cave. It has been amply demonstrated that Payne Cave was occupied in the historic period and it seems likely that it was not occupied much before that time. Kingsley Cave was also occupied during the historic period but it appears that most of its deposit derives from the prehistoric period. Since the Kingsley Cave deposit has considerable depth and a wide range of artifact types, it is reasonable to assume that its occupation represents a considerable length of time and a certain amount of cultural change. Stratigraphic analysis of the Kingsley Cave collection showed very little change in the relative frequencies of artifact types from deposit surface to base. The only items with conclusive stratigraphic difference were objects of Caucasian manufacture (Baumhoff, 1955, Table 2) which were concentrated near the surface. In my report on Kingsley Cave I concluded that the most reasonable explanation for the lack of stratigraphic differentiation was that the site had been disturbed by rodent activity and by the large number of human burials.

The Payne Cave collection provides an opportunity to examine the cultural change in the absence of stratigraphy. If the Payne Cave collection

represents a pure historic site then we may separate the Kingsley Cave specimens according to whether they are similar to or different from the Payne Cave specimens. Each of the artifact inventories obtained by this comparison will presumably represent a different period.

The only difficulty with this program is that we are not quite sure what the Payne Cave material represents. Two hypotheses concerning the meaning of the Payne Cave material are available. It may be that the Payne Cave collection is a fairly representative archaeological inventory of Yana material culture in the historic and proto-historic periods. On the other hand the Indians who occupied the area during the period of hiding (1860-1890) may have had a much impoverished material culture and the Payne Cave material may therefore be less than representative of the proto-historic period. The Indians who were in hiding were severely curtailed in their movements and this may have effected serious change in their craft patterns, as it certainly did in their trade patterns. If this latter hypothesis were true then the Payne Cave material would be only a shadow of the proto-historic material culture while the Kingsley Cave material would be a truer representation.

On the whole it appears that the second or "shadow" hypothesis is the less likely of the two. I think the Payne Cave collection is not a reduced inventory but is fairly representative of the proto-historic period. This conclusion is based on the apparent heterogeneity of the Kingsley Cave material. In particular, the projectile point types found occurring together at Kingsley Cave are types which are temporally distinct in other parts of California. It can therefore be concluded that there are at least two culture complexes represented in Kingsley Cave and that these can be segregated on the basis of the Payne Cave material.

In the following summary the content of the earlier complex will be given first and then the later or proto-historic complex will be listed. Some items (e.g. grinding tools) probably occur in both complexes and will be so designated where this is thought likely. I here propose the names Kingsley Complex for the earlier culture complex and Mill Creek for the proto-historic complex. The name Kingsley was chosen for the earlier complex because Kingsley Cave is the only site which is known to yield material of the complex. Mill Creek was chosen as the name of the later complex because Mill Creek itself is a well-known landmark in the Yana region.

The Kingsley Complex, as given here, will very likely be incomplete because some of its artifact types probably continue into the Mill Creek complex and cannot be segregated by the present method.

Kingsley Complex

Projectile Points

1. Large, side-notched points (Kingsley Cave type 1, Baumhoff, 1955, Pl. 2k, l, m). These are large, crude points with an average weight of 1.6

grams. They have straight sides with large parabolic notches placed well up from the base. This was one of the most abundant point types from Kingsley Cave and none were found from Payne Cave.

2. Large, square-stemmed points (Kingsley Cave type 2, Payne Cave type 4, see Fig. 2i). The suggested evolutionary sequence from this type to type 3 of the present report has already been discussed (p. 12). There are many points of this kind in the Kingsley Cave collection and only two of them in the Payne Cave collection.

Some of the other point types no doubt belong to both the Mill Creek and Kingsley Complexes (e.g. probably the triangular, straight base points, type 5 of the present report, belong in this category).

Scrapers

One of the groups of scrapers from the Kingsley site does not occur at the Payne site and should therefore be placed in the Kingsley Complex in accordance with present criteria. The scrapers unique to the Kingsley Complex are those called button scrapers in the Kingsley Cave report. These are small flakes, usually of obsidian, round in outline, and plano-convex in cross-section. They average 16 mm. in diameter and 6 mm. in thickness.

No other scrapers are specific to the Kingsley Cave collection but some other types must have been in use at all sites representing the Kingsley Complex. The simple side scrapers or flake scrapers which are found nearly everywhere in California were almost certainly present.

Knives

I have not been able to distinguish any artifacts of this category occurring only at Kingsley Cave. It is difficult to make a reasonable typology for these objects because of their crudeness. Doubtless some tool of the sort forms a part of both complexes.

Blades

Three blades were found at Kingsley Cave while none were recovered from Payne Cave. This constitutes such a small sample that one cannot say to which complex they belong.

Grinding Tools

Mortars and metates were both used by the historic Yana, hence neither can be assigned exclusively to Kingsley Complex. On the other hand both mortars and metates were found in great abundance and at all depths

at the Kingsley site so that it is probable that both kinds of grinding implements are a part of the Kingsley Complex.

Two of the pestles from Kingsley Cave were well shaped pieces, as distinct from the usual cobble pestle found in the area. Again the sample is too small to assign them to the Kingsley Complex.

Bone Awls

The same kinds of awls occur both at Kingsley Cave and Payne Cave. Splint awls (of vestigial metapodials) have a higher frequency at Payne Cave than at Kingsley Cave, perhaps indicating that these occur only with the Mill Creek Complex and not with the Kingsley Complex. Splinter awls are probably part of both complexes.

Bone and Antler Flakers

Bone and antler flakers occur in fair frequency at Kingsley Cave but none were recovered from Payne Cave, so that we are justified in attributing these objects to the Kingsley Complex.

Other bone objects occur too infrequently to permit assignment to one complex rather than another.

Shell

As stated above, the assumption has been made that the Payne Cave collection does not represent a cultural inventory reduced by the hazards of post-Contact life but is instead a good sample of the protohistoric culture. We must make an exception in the case of shell artifacts. Even though the manufacture of tools may not have degenerated in the post-Contact period, it is certain that trade relations were broken and therefore the supply of shell beads and ornaments must have been curtailed sharply. For this reason it is, with one exception, not feasible to distinguish the Mill Creek Complex shell artifacts from those of the Kingsley Complex. The exception is the oblong *Haliotis* ornament (Gifford, type 22a, Baumhoff, 1955, Pl. 1a) which occurred at the deeper levels in Kingsley Cave. This type, because of its stratigraphic position in Kingsley Cave, must be assigned to the Kingsley Complex.

Burial Complex

The burials from Kingsley Cave were in such condition that they cannot be segregated by any objective criterion. Intuitively one would suspect that the oldest of those excavated at Kingsley Cave were burials 2, 3, 9, 24, 26, 27 and 29 and therefore that these are the burials likely to

have been associated with the Kingsley Complex. These burials have some common elements which are possibly characteristic of the earlier complex. The common elements are: flexed position on either side, back, or face; rock covering for the grave (Baumhoff, 1955, Pl. 3c); a total lack of grave goods accompanying the burial.

Mill Creek Complex

Projectile Points

1. Desert side-notched points (type 1 of present report, Fig. 2d, e). This well-known type certainly extends into the historic period in the Yana area but we do not know how far back it goes in time.

2. Expanding stem point (type 2 of present report, Fig. 2j). This type is similar to the Desert side-notched type but is probably historically distinct.

3. Tapering stem points (type 3 of present report, Fig. 2a-h). The evolution of this type has been discussed above (p. 12).

The bifurcated stem points and the roundish, side-notched points may also be a part of this complex but if so they are only of minor importance. The center of their distribution seems to lie farther to the west.

Scrapers

There do not seem to be any scrapers peculiar to this culture complex. Simple flake scrapers were used and possibly also a form of the scraper-plane was present.

Knives

One can discern nothing particularly distinctive about the knives of the Mill Creek Complex. The statement made for the Kingsley Complex knives holds in this case too.

Blades

Too few specimens have been recovered in the area to encourage assignment of blades to complexes.

Grinding tools

Both the metate and the hopper mortar were used by the historic Yana and must therefore be assigned to the Mill Creek Complex. The mortars and

metates were both unshaped. They were simply flattish boulders of a convenient size which were used without preparation. The mortars were often used on both sides. The manos and pestles were also unshaped, for the most part. Here again they were simply stream cobbles of appropriate size and shape that were used without being pecked or ground in any way. Two of the pestle specimens from Kingsley Cave are well shaped, round in cross section, and tapering to a point at the proximal end. It is not known, however, to which culture complex these should be assigned.

Bone and Antler Flakers

None of these objects were found at Payne Cave, so presumably they do not form a part of the Mill Creek Complex. Since the site is largely historic it may be that the flaking tools used by its occupants were of metal, and that some of the metal objects recovered in the excavation were not recognized as such. In that case the proto-historic flakers of the Mill Creek Complex may have been made of bone or antler even though none were found at Payne Cave. Note the flaking outfit found on Antelope Creek in 1889 (Waterman, 1918, Pl. 14).

Shell Objects

Since very few shell objects were recovered from Payne Cave it has not proved possible to segregate the shell material found at Kingsley Cave. Since clam shell disc beads are invariably late in time, wherever they are found in California, they were undoubtedly part of the Mill Creek Complex. Whether they were also a part of the Kingsley Complex depends on the dating of the latter.

Burial Complex

Three burials were recovered from Payne Cave but they were in such poor condition that very few conclusions can be drawn from them. About the most one can say is that all three burials were flexed. The Mill Creek Complex burials from Kingsley Cave were very nearly chaotic and we cannot conclude anything from them either.

Affinities

I do not propose to trace the entire distribution of the artifact types found with the Kingsley and Mill Creek Complexes, but it is worth while to compare them to the assemblages of artifacts found in neighboring areas so as to define the basis of differentiation. In the area to the west of the Yana there have been two archaeological investigations on which we have reports. For the Red Bluff area there is the report of a large scale excavation (Treganza, 1954) and for the Shasta Dam area we have a report of a survey and excavations (Smith and Weymouth, 1952).

The projectile point assemblage of the Mill Creek Complex is in many respects the same as those found at Red Bluff and Shasta Lake. It appears that Desert side-notched is the same as NBa and NBb of those reports and that my small, tapering stem points are equivalent to the SA and SB types there. On this basis we get the frequencies from the various regions shown in Table 6.

Table 6

Late Projectile Point Frequencies

	Red Bluff	Shasta Lake	Payne Cave	Kingsley Cave
Desert side-notched (Type 1)	50	60	12	8
Small, tapering stems (Type 2)	85	379	29	60

It will be noted that only at Red Bluff does the frequency of the Desert side-notched type approach the frequency of the small, tapering stem points.

The shape of the Desert side-notched points of Red Bluff and Shasta Lake is different from the shape of those at Antelope Creek and Mill Creek. In the Northern Sacramento Valley there is a variant of the Desert side-notched point which is very long, thin, well-made, and with very deep diagonal notches (cf. Treganza, 1954, Pl. 2e, f). These points also have the appearance of having an "extended tip" (see Smith and Weymouth, 1952, p. 41). This extended tip quality is also found in other point types of the Northern Sacramento Valley, but is never found in specimens from the mountainous Yana region.

On the basis of projectile points alone one would have to conclude that the Yana area presented merely a regional variation of the Red Bluff--Shasta Lake culture. But there are a number of other differences which are of basic importance. The Red Bluff--Shasta Lake cultures have a good many distinctive traits which are not found in the Yana area: a large quantity of shell artifacts indicating heavy trade with the coast; pipes; arrow shaft straighteners; heavy obsidian blade industry at Red Bluff; and enormous clam shell disc beads at Red Bluff. Many of these items indicate that the Northern Sacramento Valley culture had a basic orientation toward the valley culture in the south or the coastal cultures in the west, neither of which is evidenced for the Yana area.

The other important difference is the large quantity of manos and metates found at the Yana sites while substantially none are found in the valley sites. This probably means that the Yana were firmly oriented toward the mountains since it is an ethnographic fact that metates were used to grind pine nuts. Since the Yana were oriented toward the mountains, contacts must have been more with their northern neighbors than with their valley neighbors to the west.

The archaeological work done in the Sacramento Valley adjoining the Yana has so far defined only the latest culture period; consequently the Kingsley Complex cannot be compared in that direction.

To the south of the Yana in the Sierra Nevada we have no information on any area closer than the Lake Tahoe region, over a hundred miles away. Despite this fact, the affinities in that direction are in some ways more apparent than those with the Valley. Heizer and Elsasser (1953) have outlined two culture complexes in the Lake Tahoe region--the earlier Martis Complex and the late Kings Beach Complex. These authors list the traits of each complex and I will utilize these as check lists for comparison with the Yana material. In the sections that follow, the underlined statements are from Heizer and Elsasser, 1953, pp. 19-20.

Martis Complex

1. Basalt preferred material for chipped implements.

This trait shows a closer connection with the Kingsley Complex than with the Mill Creek Complex. I tabulate here the relative frequencies of materials used for projectile points in each of the two complexes.

Table 7

	Basalt	Obsidian and Chert
Kingsley Cave		
Type 1, 2 (Kingsley Complex)	59	75
Type 3, 5, 6, 7 (Mill Creek Complex)	15	61
Payne Cave (Mill Creek Complex)	11	46

It will be seen that although obsidian is always the most abundant material used, it is not nearly as predominant in the Kingsley component as it is in the two Mill Creek components.

2. Obsidian and chert used rarely.

The converse of the statement under item 1 is appropriate here.

3. Projectile points fairly large and heavy, roughly chipped, variable in form.

This comment applies as well to the Kingsley Complex as it does to the Martis Complex. The Kingsley Complex points are larger and cruder than the Mill Creek points (Baumhoff, 1955, Table 1). The Kingsley Complex points are also very similar in shape to certain of the specimens shown by Heizer and Elsasser from Martis Complex sites while they are unlike any that these authors show from the Kings Beach Complex. Kingsley type 1 (large, side-notched) is very much like Martis type 4, and Kingsley type 2 (large, square stem) is very much like Martis type 3c.

4. Mano and metate for seed grinding.

These are also present in the Kingsley Complex.

5. Cylindrical pestle and bowl-mortar(?).

Cobble pestle and hopper-mortar were used in the Kingsley Complex.

6. Boatstones (and atlatl?).

These are not known from the Yana area.

7. Economic emphasis on hunting and seed gathering.

This is probably also true of the Kingsley Complex but fishing may also have been important at this time.

8. Basalt flake scrapers with pressure-retouched edge abundant.

This trait is not exhibited by the Kingsley Complex or the Mill Creek Complex. There is a parallel development in the Kingsley Complex shown by the emphasis on specialized button scrapers.

9. Expanded-base finger-held flaked drills or punches common.

None of these are known from the Yana area.

Kings Beach Complex

1. Obsidian and siliceous flint preferred for projectile points.

2. Basalt used very rarely for chipped implements.

The two statements above obviously apply better to the Mill Creek Complex than to the Kingsley Complex.

3. Bedrock mortar for seed-grinding.

Here the Kings Beach Complex differs from both the culture complexes in the Yana area. The hopper mortar-cobble pestle and the metate-mano are used there throughout. No bedrock mortars have been recorded from the Yana area.

4. Projectile points small, light, side-notched.

The side-notched points of the Kings Beach Complex and the Desert side-notched points recorded from the Yana area are basically the same. The small, tapering stem points of the Mill Creek Complex are also present in the Kings Beach Complex (Heizer and Elsasser, 1953, Fig. 1d) although they are not as abundant there.

5. Economic emphasis on fishing and seed-using.

This statement also applies to the Mill Creek Complex although hunting seems also to have been of major importance.

6. Bow and arrow offensive weapon (inferred).

This is also true of the Mill Creek Complex. One specimen of bow was recovered from Payne Cave (p. 16). We do not know whether or not it was true of the Kingsley Complex.

7. Scrapers rare, drills absent.

Scrapers do not seem to be rare in Mill Creek Complex sites but there is less specialization than in the Kingsley Complex. Drills are present in the Mill Creek Complex, but they are certainly not abundant.

This comparison provides adequate demonstration of the similarities between the two areas, especially between the Martis Complex and the

Kingsley Complex. The late complexes in each area are less similar. It would appear that the earlier complexes are part of the same under-lying, widespread culture while the later complexes have been differentiated. As was suggested earlier (p. 5) the Kings Beach Complex may represent the entrance of the Washo into California from the east. If this is so it would explain why the same late culture is not present in the Yana area. The late complex there is probably due to influence from the Late Horizon culture of the Central Valley.

OTHER ARCHAEOLOGICAL SITES ON ANTELOPE CREEK

The main object of the trip to Antelope Creek in 1956 was the excavation of Payne Cave. During the evenings the crew had some spare time, which provided an opportunity to do archaeological reconnaissance along Antelope Creek and vicinity. Altogether we have recorded 12 sites in the area (Map 2). A summary of the data on these sites is presented herewith.

At about the point where the trail comes down into Antelope Creek canyon from the north there begins a small valley or flat which runs from there westward to site Teh-192. The flat ground is on the north side of Antelope Creek and is only one hundred to two hundred yards wide, but it makes a pleasant break in the monotony of the countryside which is elsewhere steep and broken. This flat area is the site of Payne's old ranch; some of it had been planted as orchard, a few trees of which still stand. The flat was searched thoroughly and one may be confident that all its aboriginal camp sites have been recorded.

Upstream from the flat the canyon at most places rises abruptly from the stream, as far as the forks of Antelope Creek. At the forks the slopes are gentler and more suitable for occupation. This area was also searched thoroughly. We did not go farther up either fork of Antelope Creek, but W. J. Brokenshire reports that there are a number of sites up North Fork. 3 Nor

The south bank of Antelope Creek between Indian Creek and South Fork Antelope Creek was reconnoitered but no sites were located, this area being rough and little suited to occupation. We did not follow the trail over the ridge separating Indian Creek from South Fork Antelope Creek but in any case that area did not look promising; the terrain is probably too rough and steep for any intensive occupation.

Downstream, below site Teh-192, the canyon walls are sheer and rocky bluffs as far as one can see and there is therefore little likelihood of finding Indian sites in that area.

Teh-65

This is a very small site, only 16 yards in diameter, located near the flat by the old Payne house. It is a few feet below the main flat, on a small flat of its own on the bluff near the edge of Antelope Creek, which runs by 20 feet below. The area was open only on the site itself--brush grows all around the edges and a large digger pine was at one side.

The size of the site would indicate that it was either a fishing camp or the site of a single house.

Only two artifacts were recovered from this site. One was a triangular point of obsidian, the same as type 5 of the Payne Cave collection (Baumhoff, 1955, Pl. 2q illustrates this type). The specimen was 24 mm. long and 10 mm. wide.

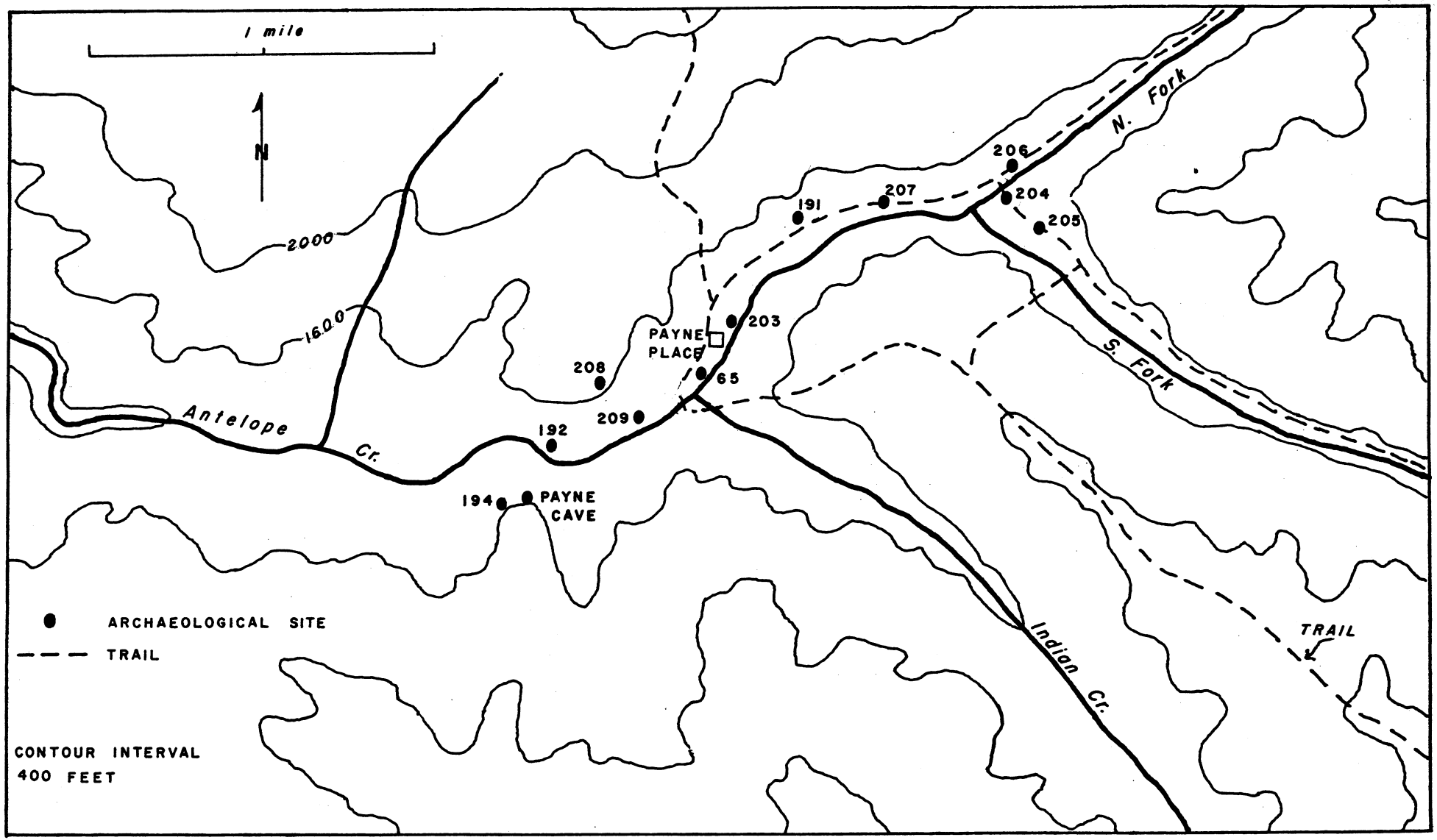
The other artifact recovered was a fragment of a basalt point. The piece was not complete enough to be sure of its type, but it may have been the stem fragment of a type 4 point (Fig. 2i). If this is so the site may be of some antiquity since this kind of point was extremely scarce at Payne Cave.

Teh-191

Less than a half mile below the forks of Antelope Creek, two intermittent streams enter Antelope Creek from the north. Separating the two streams is a low ridge which ends in a small knoll and then drops off abruptly into Antelope Creek, about 50 feet below. On the brow of the knoll overlooking Antelope Creek below is the site designated Teh-191, one of the larger sites in the area. The midden area is extensive, running about 140 yards along the ridge and extending the width of the ridge, a distance of about 20 yards. No brush or trees grow on the site itself, but it is surrounded by a dense growth of redbud, bay, and digger pine.

The midden deposit of the site appears to be of considerable depth, probably more than 3 feet, and it would therefore seem to have been an important site. Two house pits were noted here. They were each about 12 feet in diameter and about 1 foot deep. These dimensions would indicate small, one-family houses.

The only artifacts noted at the site were two metates and three hopper mortars. The metates and mortars were all made of boulders of the native basalt. One of the mortars was a flat rock about 14 inches in diameter with 6 inch (diameter) mortar holes in either side. The second mortar was a flat rock, ovoid in outline, 24 inches long and with a 6 inch (diameter) mortar hole in one side. The third mortar was also a flat rock, round in outline with a diameter of 24 inches, and with a mortar hole 9 inches in diameter.



Map 2. Archaeological Sites on Antelope Creek

The site had obviously been used for residence, but the artifacts give no indication as to the period of its occupation. The two house pits seem to be fairly recent and I have therefore assigned it in part to the Mill Creek Complex. In view of its probable depth of deposit the site would be well worth testing at some future date.

Teh-192

Payne Flat begins at the bottom of the trail coming into Antelope Creek from the north and extends downstream for about half a mile. At the western end of the flat a sandy stream bed loops north from Antelope Creek for a hundred yards or so and then drops south to join the stream again. It appears that this stream bed forms a slough of Antelope Creek during high water, and in so doing makes a small island of the knoll that separates the two streams. On this sandy knoll there is evidence of some occupation. The soil does not seem to be refuse deposit, but it includes a good deal of charcoal (which may be from the campfires of recent fishermen) and a considerable number of artifacts. Two large oaks stand on the site, but the area is clear of other vegetation.

The specimens collected from this site include three flake scrapers, two of green chert and one of black chert, as well as three projectile points. The points are described as follows:

(1) An obsidian point with expanding stem like point type 2 from Payne Cave (Fig. 2j). It is 22 mm. long and 18 mm. wide.

(2) An obsidian point fragment with tapering stem like type 3 from Payne Cave (Fig. 2a-h). The original point is estimated to have been 21 mm. long and 17 mm. wide.

(3) An obsidian point or possibly a scraper. If it is a point then it has a large square stem like type 4 from Payne Cave (Fig. 2i). But it is much smaller and lighter than is characteristic of that type. It is 18 mm. long and 17 mm. wide.

Besides these specimens a hopper mortar is reported to have been recovered from the site, but it was not available for inspection.

This site appears not to have been an occupation site but was probably used for some other purpose, such as fishing. Antelope Creek is quite shallow at this point and it would have been a good place to spear or net salmon.

The site was probably used at about the same time as Payne Cave. Two of the points are of the same type as certain of those used at Payne Cave. The third point is similar in shape to Payne Cave type 4, a type I am suggesting is earlier than the others. It is lighter than the type 4 points, however, and furthermore it is so ill-made that one cannot be

sure of the intention of its maker. The evidence, therefore, indicates that the site is historic or barely prehistoric in time.

Teh-193

This is Payne Cave, described elsewhere in this report.

Teh-194

At the west end of Payne Flat (the location of Teh-192) the canyon of Antelope Creek rises abruptly from the edges of the stream. In the south wall of the canyon some 300 feet above the stream there is a large outcropping of basalt with a vertical face. On the northern aspect of the face is Payne Cave and around the corner, about 50 feet west of Payne Cave, is another small cave facing northwest. This latter cave has been designated Teh-194.

The cave or rock shelter is very small, 18 feet wide and 15 feet deep. It has a slight midden deposit on its floor and some midden spilled down the talus slope in front of the cave. The depth of deposit in the cave is not more than 12 inches and seems to contain no dry material.

Several artifacts were obtained from the cave, including two obsidian flake scrapers, one basalt flake scraper, a unifacial cobble mano, two obsidian point tips, and seven more or less complete projectile points which are described as follows:

(1) A fragment of a Desert side-notched point--type 1 (Fig. 2d, e), 16 mm. wide.

(2) A small, expanding stem point--type 2 (Fig. 2j), dimensions 14 by 10 mm.

(3) A small, expanding stem point--type 2 (Fig. 2j), dimensions 15 by 13 mm. It has small serrations.

(4) A clear obsidian, tapering stem point--type 3 (Fig. 2a-h), dimensions 18 by 12 mm.

(5) A basalt, tapering stem point--type 3 (Fig. 2a-h), dimensions 18 by 11 mm.

(6) A chert, tapering stem point--type 3 (Fig. 2a-h), dimensions 25 by 15 mm.

(7) A triangular point of basalt--type 5 (Baumhoff, 1955, Pl. 2q, r, s), dimensions 26 by 16 mm.

Since all the projectile points from this cave fit in the series from Payne Cave it is clear that the sites were occupied or used at the same time. They may have been simply two rooms of the same house. Since they face in different directions it would have been convenient for people to have used both and thereby traversed a wider lookout in times of concealment.

Teh-203

At the east end of Payne Flat, near the spot where the trail crosses Antelope Creek, stands the boulder foundation of the house built by Jim Payne. About 300 yards east of the Payne house foundation is a small mound with chippage and other evidence of aboriginal occupation. The mound is about 50 yards in diameter and rises only a few inches above the level of the flat. The soil of the site is brownish red midden. The site is in the middle of Payne Flat about 200 yards from Antelope Creek so it was probably not used for a fishing station. There are no trees or brush near the site, but the area must have been cleared by Payne so that the barrenness may not be aboriginal.

Only two specimens were recovered from this site; Payne may have picked up most of the specimens in years past. One of the specimens recovered was a heavy green chert chopper, larger than fist size, with heavy flakes taken off around the margin. The other specimen was a discoidal cobble, 3.5 inches in diameter, which had been used as a mano.

There is clearly no way of knowing the age of this site from the information at hand. It was probably not an occupation site, at least not for any great length of time, or it would have had more depth and area. It was probably not a fishing site either or it would have been closer to the stream. It probably served as an overnight campsite or as the site of a single house.

Teh-204, 205, 206

About a mile upstream from the old Payne house, Antelope Creek divides into North Fork and South Fork. The area between the forks and the area on the north side of North Fork are both rather flat, well above high water and otherwise excellent places to camp. Three sites were found in these areas, perhaps all part of a single village.

If all three sites were part of the same village then Teh-204, the site between the forks, must have been in some sense the main part because it was here that we found evidence of a large house, large enough to have been an earth lodge, marking the chief village of a tribelet.

The site is not large in area--it is oval in outline with dimensions of about 40 yards by 20 yards. It is a considerable mound, rising to a

height of about 15 feet. The mound is probably not exclusively refuse deposit--it is no doubt built on a natural knoll--but even a site 7 to 10 feet deep would be eminently worth while excavating.

The housepit observed at the site was oval in outline with dimensions of 20 by 10 feet. The outline of the house was indicated by a low embankment of earth about 4 inches high which ran around the edge. A small, circular mound about a foot in diameter and 4 inches high was in the center of the pit.

A fair number of artifacts were recovered from the site. They are described herewith.

(1) Hopper mortar of a flat basalt boulder, round in outline with a diameter of 15 inches. The mortar hole was 5 inches in diameter and the mortar had some small pits pecked in the surface outside of the mortar hole.

(2) Metate of a flattish boulder of vesicular basalt, oval in outline and 17 inches long. The grinding area was 9 inches long.

(3) Same as (2) except dimensions were 12 by 20 inches and the ground surface was 12 by 18 inches.

(4) A heavy green chert chopper made of a flattish cobble about 6 inches long with several large flakes taken off both sides along one edge.

(5) Three heavy, green chert flake scrapers.

(6) A fist-sized hammerstone of green chert.

(7) A basalt blade or knife, triangular in shape, 52 mm. long, 32 mm. wide, and 10 mm. thick. This is very much like the specimen illustrated in Baumhoff, 1955, Pl. li.

(8) Basal fragment of a square-stemmed point like that illustrated in Baumhoff, 1955, Pl. 2c.

(9) A single clam shell disc bead 9 mm. in diameter.

The nature of the projectile point recovered, the heavy choppers and scrapers, and the lack of Payne Cave type projectile points suggests that this site is old, while the clam shell disc bead suggests that it is recent. The site might show some stratigraphic culture change if it were excavated, but if the pit or depression described is in fact a housepit then the site must have been occupied in fairly recent times or the pit would not still be so plainly visible.

Site Teh-205 is also located between the forks of Antelope Creek but is a few hundred yards south of Teh-204. Teh-205 has an area of 35 by 15

yards but without any apparent depth of deposit. The site area shows a few signs of occupation--chips and flecks of charcoal--but its main interest lay in some large boulders with many small holes pecked in them. One of the boulders is 54 inches long and 28 inches high and has approximately 20 pits in it. The pits are from 1 to 2 inches in diameter and about 1 inch deep. The other boulder is about 38 inches long but only 5 inches of it shows above the ground. There are 19 pits in this rock similar to the ones in the first rock.

These rocks look very much like one of the "rain rocks" shown by Heizer (1953, Pl. 2a). Heizer notes that these sacred rocks are found among the Shasta, neighbors of the Yana to the north, where they are thought to contain a weather spirit who brings rain. It seems a likely speculation that the rocks discovered at Teh-205 served a similar purpose for the Yana and that site Teh-205 represents a ceremonial adjunct to Teh-204.

Site Teh-206 is located on the north bank of North Fork just above the forks. It is a rather large mound for this region, 48 yards long and 28 yards wide. The site had considerable depth--one edge has eroded away exposing a face of 3 feet. The site probably goes to a depth of 6 feet or more in the center.

There are a good many pits in the surface of the site that look as though they may have been housepits. Nine of these pits could be distinguished, but they do not look as though they were arranged in any sort of pattern. They average 6 or 8 feet in diameter and are only a few inches deep.

Several artifacts were recovered from site Teh-206. Two flake scrappers were collected--one of black chert and one of obsidian. A heavy chopper was also recovered. It was fist sized, made of green chert, and was flaked along one edge.

Three projectile points were recovered from the site. Two of them are triangular points similar to those shown from Kingsley Cave (Baumhoff, 1955, Pl. 2q, r, s). Of the two triangular points, one is white chert with dimensions 18 by 13 mm. and the other is gray obsidian with dimensions 25 by 15 mm. The third projectile point is a small point with bifurcated stem made of basalt. This is the same as Kingsley Cave type 6 (Baumhoff, 1955, p. 44). The type is illustrated in the Redbank report (Treganza, 1954, Pl. 2o, p, q). Its dimensions are 19 by 13 mm.

It appears that these three sites at the forks of Antelope Creek in some way constitute a unit. There are two reasonable interpretations as to the age of these sites. One is that the occupation was first at the sites between the forks and later shifted to Teh-206 on the north side of Antelope Creek. This hypothesis would explain the fact that late type points were found at Teh-206 while none were found at the sites between the forks.

The alternative interpretation is that all three sites were used simultaneously--Teh-204 was the headquarters site with the earth lodge which served as a dance and meeting house (see p. 42), Teh-205 was a ceremonial site associated with the headquarters site, and Teh-206 was the main occupation site with many bark houses. This interpretation would explain the multiplicity of housepits at Teh-206 and the single large house pit at Teh-204. I favor this last interpretation and believe that the late type points would be found at all three sites if excavations were undertaken there. If Teh-204 had once been exclusively an occupation site it would be bigger than it is. Furthermore the clam shell disc bead and the housepit both indicate that it is late in time.

Teh-207

This site is located on the trail which runs along the north side of Antelope Creek about 500 yards below the forks. It is a very small site, 30 yards in diameter, with little if any depth of deposit. It has considerable chipping waste, and black soil with charcoal through it, but besides that there is very little to distinguish it from the surrounding area.

The site is in a grove of oaks and is surrounded by chaparral. It is about 50 yards back from Antelope Creek at a place that does not seem particularly appropriate as a fishing station. The site was probably the locale of a single house. Since no artifacts were recovered the culture of the site cannot be placed in time.

Teh-208

Payne Flat is about 200 yards wide, in the immediate vicinity of the old Payne house, from the edge of the creek to the point where the canyon wall begins to rise. The canyon rises sharply, ascending about 300 feet in the distance of 300 yards. About 250 or 300 feet above the level of the stream a sheer bluff rises up for another 50 or 100 feet. In this bluff is a small shelter with a high ceiling--the site here designated Teh-208. The area protected by the bluff (from wind rather than rain) is of considerable size, about 70 by 30 feet, but most of it is outside the overhang and slopes away sharply so there is no question of occupation on any but the upper 10 to 20 feet. This latter part had a shallow deposit but it is not dry and the materials recovered were generally undistinguished.

In front of the same rock bluff, a little below the shelter and 10 or 15 yards to the west of it, there are a few square feet of level ground and here there were some signs of occupation. Both the sheltered area and the adjacent open area in front of the bluff are included under the number Teh-208 and the artifacts from them will be described together. Besides many obsidian and basalt flakes the following artifacts were found here:

(1) The head of a 3-tined silver table fork. It is very long and thin--each tine is 54 mm. long, 3 mm. wide and 2 mm. thick. The gaps between the tines are each 4 mm. wide and thus the total fork is 17 mm. wide.

(2) A heavy basalt flake scraper.

(3) A green chert flake scraper.

(4) A well-made quartzite point tip.

(5) A bone awl tip, probably of deer bone.

(6) A tapering-stem point of obsidian. It is the same as Payne Cave type 3 (Fig. 2a-h), dimensions 17 by 14 mm.

(7) A triangular, straight base point of chert. It is similar to Payne Cave type 5 illustrated in the Kingsley Cave report (Baumhoff, 1955, Pl. 2q). Dimensions 19 by 14 mm.

(8) A triangular, straight-base point fragment of obsidian. Like Payne Cave type 5 (Baumhoff, 1955, Pl. 2q). The point is 12 mm. wide.

The specimens from this site are clearly late in time where they indicate anything at all. This site, like Payne Cave, may very well have been used by the Yana during the period of concealment.

Teh-209

This site is located on Payne Flat about half way between the old Payne house and the west end of the flat. The area is now covered with chaparral which must have grown up since aboriginal days. The site is a roughly circular area of chippage of about 30 yards diameter, but it does not seem to have any midden deposit. It may be that the site was an area specialized to chipping and no one lived there at all.

The artifacts recovered from this site include 3 chert scrapers, 2 basalt scrapers, and 1 obsidian scraper. Two projectile points were also found at the site. One of them was a basalt point the same as Payne Cave type 3 (Fig. 2a-h). It had serrated edges and dimensions of 15 by 12 mm. The other point from this site was a fragment, also of basalt and of type 3. It was 12 mm. wide. These two points indicate that the site was probably used during the latest culture period.

Summary

By way of a summary of the foregoing material, Table 8 is presented giving the pertinent data for each site in the Antelope Creek area. The Age column indicates whether the site belongs to the late culture--Mill

Creek Complex, or the culture preceding that--Kingsley Complex. It is obvious that these conclusions based on only a few artifacts can be accepted or used only with the greatest caution. Extensive work on any one site is likely to change the interpretation.

Table 8

Summary of Antelope Creek Archaeological Sites

Site Number	Kind of Site	Age
Teh-65	Single house or fishing station	Kingsley, Mill Creek (?)
Teh-191	Village site	Mill Creek, other ?
Teh-192	Fishing camp (?)	Mill Creek
Teh-193 (Payne Cave)	Cave	Mill Creek
Teh-194	Rock shelter	Mill Creek
Teh-203	Single house or fishing station	(?)
Teh-204	Headquarters camp or village site	Mill Creek
Teh-205	Ceremonial site	Mill Creek (?)
Teh-206	Village site	Mill Creek
Teh-207	Single house or fishing station	(?)
Teh-208	Rock shelter	Mill Creek
Teh-209	Chipping site (?)	Mill Creek

The foregoing account of the archaeological sites on Antelope Creek has a twofold objective. One is simply to evaluate the archaeological resources of the region--to see what sites should be excavated in the event of future work in the area. The most productive appearing sites are clearly Teh-191 and the complex of sites at the forks of Antelope Creek. These are the only sites which seem to have any considerable deposit.

The other objective, one that is common to any site survey, is the determination of settlement patterns. In this connection we would like to know, or be able to infer, the site location with respect to topography and natural resources, the age of the sites, population of the sites, and the function of the sites (cf. Heizer and Baumhoff, 1956, for a statewide consideration of these problems).

We may read the topographic and ecological relationships more or less directly in the present case since the landscape appears not to have undergone much change since aboriginal times. The important ecological factor here seems to have been the existence of a stream with a good salmon run. As noted earlier (p. 7), the chief food resources of the Yana were acorns, deer, and fish. The first two products are ubiquitous in the area and therefore the villages are arranged with respect to the third--fish. Topographically the main consideration seems to have been the presence of the flat land--all the non-cave-shelter sites except Teh-191 are located on flats. The other possible consideration here is that the north side of the stream may have been preferred, whether it was flat or not. All the non-cave-shelter sites are located on the north side of streams (Teh-204, 205 are on the south side of North Fork Antelope Creek but on the north side of South Fork Antelope Creek). If a site is on the north side of a stream it is apt to be on a south slope and therefore will receive the greatest benefit from the winter sun. Probably both these items, i.e., flat land and full southern exposure, are factors in the choice of living sites. In any case the question of whether south slopes in general are preferred is completely confounded here by the fact that all large flats occur on the north side of the canyon. The question will have to be tested some place in Yana territory which is at a similar altitude and where flats occur on both the north and south sides of a stream.

The age of sites presents a difficult problem in this area, as it does everywhere. If one has established a firm sequence then presumably there are certain artifact types which will tell us the age of sites. The difficulty is in obtaining a large enough sample to be sure of the determination. In Northern California the best indicator artifacts are probably projectile points. These occur with sufficient frequency usually to enable us to obtain a fair sample merely by surface collecting, but the changes in point types in a sequence are fairly slow and we are often not able to deal with problems of micro-chronology, so that in many cases we cannot answer the question of whether or not two sites are contemporaneous. If these problems can be solved at all, it will be only by excavation.

For the Antelope Creek sites I have indicated with which culture period I believe each is associated. All but one of the sites evidently belongs in roughly the same period as Payne Cave. Whether they were all occupied at the same time, however, I cannot say.

Estimation of the population of the area partially depends on age determination of the sites. If we knew which sites were occupied at the same time we could make a guess at the overall population. In the present circumstances this is quite difficult. Even if we knew what sites were simultaneously occupied, we are still faced with other problems--how many houses were there at each site and how many people lived in each house. Because of these difficulties I have had to make some strong assumptions in order to get any population estimates at all. Some or perhaps all of the assumptions will be proved wrong in the future. In that case, one might ask, why present the conclusions at all if they are built on such a weak argument? The answer to this is that the conclusions should be presented as the best we can do at the moment but that they require extensive testing before we can place confidence in them.

For present purposes I am assuming that there were 2 houses at Teh-191 and 9 houses at Teh-206, the numbers being derived from housepit counts. In addition I am assuming that 2 of the small sites had single houses (I do not know which 2 sites). Each of these houses is assumed to have been a bark house occupied by a single family (the houses at Teh-191 and Teh-206 could hardly have been large earth lodges). In addition there is the large house at Teh-204. If this was a large earth lodge, as it seems to have been, then it was probably occupied by 3 to 5 families (cf. Garth, 1953, p. 144). We will assume it had 4 families, thus giving a total of 17 nuclear families in the Antelope Creek area. For purposes of the present estimates I am assuming that the nuclear family here had an average of 5 persons. This problem has been investigated in considerable detail in Northwestern California (Cook, 1956; Baumhoff, n.d.) and it appears from that data that 5 persons per house is a conservative estimate. The conclusion is therefore that the Antelope Creek area was occupied by a total of 85 persons.

Finally there is the question of the function of the sites. One may be confident in the identification of the large occupation sites but beyond this the determination of function becomes questionable. In the present case I feel confident of the identification of Teh-204 as the "headquarters" site of the tribelet and of site Teh-205 as a ceremonial adjunct. Also one may feel sure that the caves or shelters were used for concealment, at least during the historic period of hiding. But the function of the remaining sites is entirely open to question. One really has no way of knowing whether these small open sites are fishing camps, single house sites, or whether they served some other function. We need more information from ethnographers on this sort of thing.

APPENDIX I. YAHI PLACE NAMES

During the time Ishi, the last survivor of the Yahi, spent in San Francisco at the Museum of Anthropology, every effort was made to record his native lore. In this connection T. T. Waterman, A. L. Kroeber and S. T. Pope, in 1914, made a trip to Yahi territory with Ishi to record details which could only be gathered on the spot (many of the photographs shown by Waterman, 1918, were taken on that trip). Waterman recorded as many place names as he could on the trip, some of which are published (Waterman, 1918, Map 1), others remaining until now in the form of handwritten notes. In Waterman's publication and in his notes, the orthography is not explained. It seems to be the same as Sapir's (1922) for the Northern Yana.

I transcribe the notes here, preserving Waterman's orthography, and giving the names in the same sequence that Waterman recorded them. [Remarks in brackets are mine.] The sequence is occasionally important because where the location of certain features is uncertain they can sometimes be inferred from the location of the adjacent names, which must have been recorded at nearly the same time.

The place names given by Waterman are usually accompanied by his remarks on location, or other pertinent information. When the meaning of the remark is clear I have, in some cases, changed it slightly. For instance the name "tcirumau" has the remark, "knife-like ridge, below C F, N." I have changed this to read, "A knife-like ridge on the north side of the creek, below Center Ford." When the meaning is not clear to me I give it without change.

Map 3, which accompanies Appendix I, was traced from the United States Geological Survey's Mineral Quadrangle, 1941. On this map are shown all the English place names mentioned in the text. It should be possible to locate all the Yahi place names with reference to these points. Most of the place names in English were taken from the Mineral Quadrangle but a few are to be found only on the United States Geological Survey's Panther Springs Quadrangle, 1953.

wansk!ana, Deep Hole Camp. A rock cliff west of tapanmana.
[Deep Hole Camp is on the Moak Trail near the head of Little Dry Creek. I have not been able to find the word "tapanmana" recorded elsewhere, but it is probably the same word as "t!apanma'nati" below.]

tculawok. A hill north of Little Dry Creek, mineral spring.

k'emtanati, Drennan Camp. witcu describes it.
[Drennan Camp is on Little Dry Creek about 2 miles west of Deep Hole Camp.]

man waxati. Spring.
[It is not clear whether this means spring in general or some particular spring in the neighborhood of Drennan Camp.]

putus. Cave in Lousy Gulch.
[I have not been able to locate Lousy Gulch on modern maps but it seems to be the tributary of Little Dry Creek coming in at Drennan Camp. I have so marked it on Map 3.]

ta pupati. Gully east of Lousy Gulch (runs into Little Dry).

basyA, Devils Den.
[This is probably what is shown on modern maps as Devils Kitchen.]

matwi, Devils Parade Ground.

mardu, Cold Spring Flat. Back of deer range.
[Cold Spring Flat is not shown on my maps but Waterman shows it on his (1918, Map 1). It is not clear what his mention of a deer range refers to.]

yulwa, a creek.
[It is impossible to tell what creek this refers to. Both Deadhorse and Panther Creek are north of Deer Creek from the Cold Spring area.]

t'asma. A mountain farther north than this.
[This could be Onion Butte but there is no way to be sure.]

cunkcna, Moak Trail (?), place (?).

malama'na, Graham Pinery.

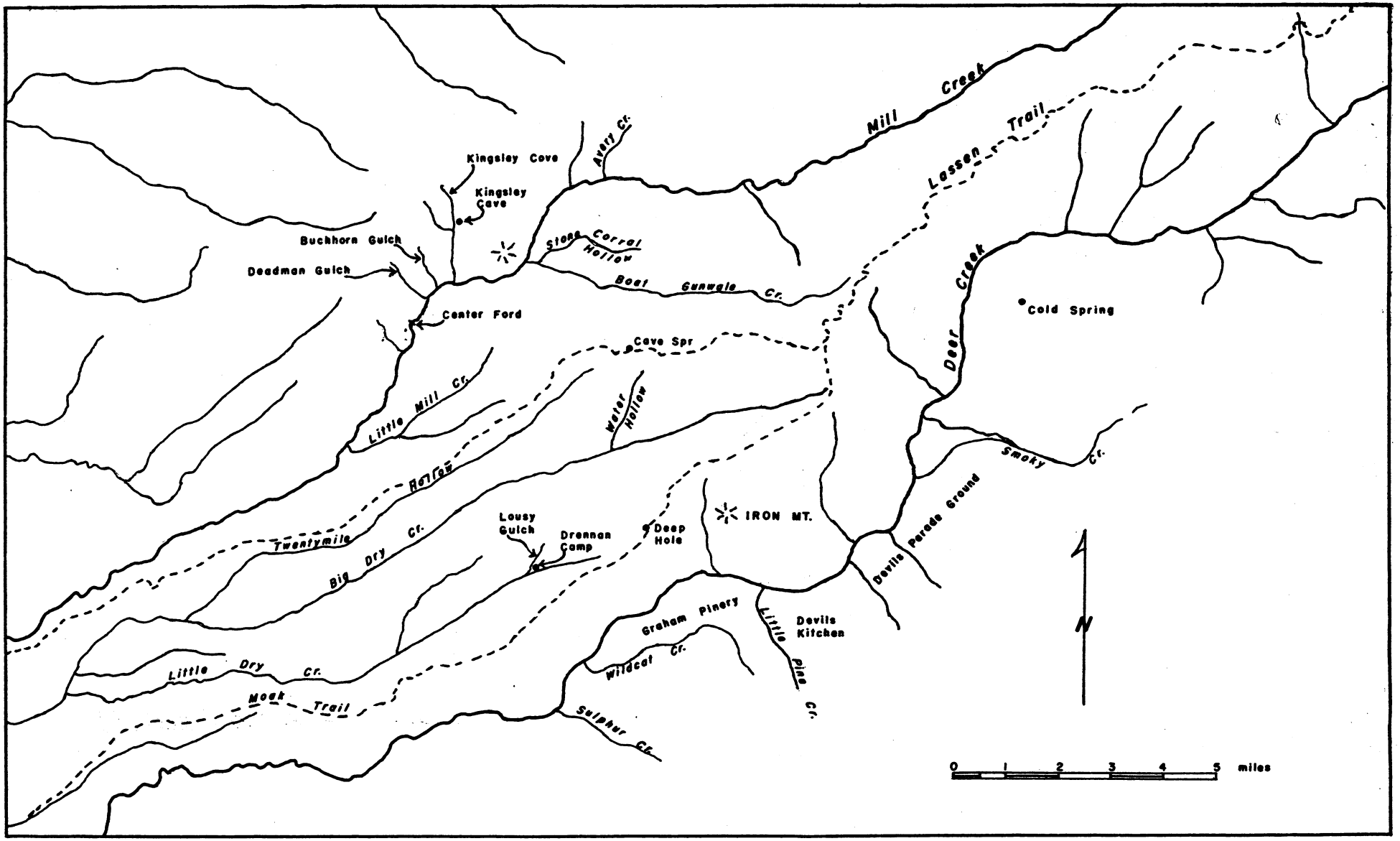
matowi, Graham's Smokey Creek. Mineral spring.
[This probably refers to Little Pine Creek rather than Smokey Creek, which is 4 or 5 miles upstream from Graham Pinery.]

basaya (pasya), Devils Den.
[These are clearly variants of the name previously given for Devils Den.]

putus. Hole north of Little Dry Creek.
[This is the same word given for the cave in Lousy Gulch. It may refer to the same place or it may be a general term for hole or cave.]

tap'upa. Tributary of Little Dry Creek.
[Waterman also marks this as "Brush Camp." He may mean the south fork of Little Dry Creek which joins at Drennan Camp.]

t'apanma'nati. Ridge north of Iron Mountain.



Map 3. Mill Creek–Deer Creek Area

wolopti. First shelter up Sulphur Creek.

basiwi. Hill opposite the first shelter up Sulphur Creek.

hanmawi madu. A salt lick up Pine Creek. Probably the same as the rock finger on Deer Creek divide.
[Waterman used Pine Creek as an alternate for Wildcat Creek.]

tc'ulan'i, kinitc (after reflection), Iron Mountain.

tapupa, Big Dry Creek.

waliwa, Mt. Shasta.

kɬasmat. Ridge with snow.
[It is not clear if this is a general term or if a particular place is meant.]

ba'tcapa, Sulphur Spring. On the northern part of Big Dry Creek.
[I have not been able to locate this spring.]

mukɬawi. Cave on ridge above Water Hollow.

tcolawa. Saddle of a hill on northern Big Dry Creek.

an'sxa, Water Hollow.

wallmiu. A salt spring opposite Water Hollow.

woxinstca, wokinstca. A place up Dry Creek from the first night's camp on Mill Creek.
[This evidently refers to the place Ishi and Waterman camped on their trip to Mill Creek.]

-----. A cave and salt spring north of Water Hollow.
[No name was recorded here. Evidently Ishi had forgotten the name.]

baiyaki. A creek west from Cave Spring hill.

tculawa. A rock west from Cave Spring hill.

puninwi. A cave west from Cave Spring hill.

pɬuownwi, Boat Gunwale Creek (from Cave Spring).

payaki, Twentymile Hollow.

makɬona. A cliff on Mill Creek.
[This cliff was probably located from somewhere near Cave Spring.]

paiyati. A hill with pine timber.
[This again was probably located from Cave Spring.]

waliwa. A snow mountain east from Cave Spring.

talaukAmwa. Center Ford on Mill Creek. T26N, R1E, Sect. 3.
[This ford is marked Blunkall Crossing on modern maps but the township and range locations show that they are the same. I have shown it as Center Ford rather than Blunkall Crossing on Map 3.]

p!inu. A big cave (with table?) 2 miles above Center Ford.
[This may read 12 miles rather than 2 miles, but if it did it would indicate a cave far out of the range of Waterman's and Ishi's travels. If it were 2 miles up from Center Ford it would be in about the right place for Kingsley Cave. Waterman later gives p!in'u as the name of a camp a quarter mile upstream from Center Ford.]

t!alap. A small pinnacle above Center Ford on the south side of the creek.

malsunmatu. A cave north of the creek a half mile below Center Ford. Buckeyes on point.

woxsuwawi. The ledge below malsunmatu.

palaupu. Buck Flat (Crag with a hole through), north side, Center Ford.
[I am not sure what this means. If it is a flat how could it be a crag with a hole through it?]

t'alusauna. Lepu gulch, cabin, and spring. T26N, R1E, SE corner Sect. 9.
[This place is not marked on the modern maps. It is evidently on the south side of Mill Creek about a half mile above the mouth of Little Mill Creek.]

huk!umi. A crag point on the north side of Mill Creek, below Center Ford.

asiwiwawi. A ledge with caves above the Lepu place.

tcirumau. A knife-like ridge on the north side of the creek above Center Ford.

k!oiyomi. The next crag below.
[Evidently the next below tcirumau.]

p!i'nu. Camp a quarter of a mile upstream from Center Ford.
[Nearly the same word was given previously as the name of a cave upstream from Center Ford.]

t!unk!aina. Rock (crag) opposite Center Ford camp.

pitsknaitea. Crag or cliff above t!unk!aina.

kulu. Juncture of Big and Little Mill Creeks. Jump crossing and cave here.

muk'autantciwa. Another leap-crossing where Mill Creek canyon comes out in valley.
[The topography indicates that this is probably just below the mouth of Little Mill Creek.]

k'uneuti (chief). Blunkall's Flat, northwest of Deadman Gulch.
[It appears that this word means chief as well as being a place name.]

t!alaukumwa. Tom's Cabin Gulch, big spring.
[Tom's Cabin Gulch does not now appear on the map. This probably refers to what is now called Buckhorn Gulch.]

xayu. A flat east of Deadman Gulch.

pitsknaitca. A chimney cave above Blunkall's cabin.

palapiuyanna. Crag or peak right above Blunkall's (also on edge of Center Ford camp).

piptc'uni. The next big point above Dead Man's Cave.

xayu, Dead Man's Cave. Double cave, side by side skeleton mat, just above Deadman Gulch on Mill Creek, close.
[It is not clear what "mat" means here. It may be an abbreviation for "material" but if so its meaning is still not clear.]

mamunpuk'u. A cave with a tiny spring above same, hole through back wall.
[This cave is probably near the mouth of Kingsley Cave. There are many small blow-outs in the cliffs here.]

batcu mamauna. Long, wall-like crag above Kingsley's Cave.
[This must refer to the cliff out of which Kingsley Cave is cut. Cf. Baumhoff, 1955, Pl. 4b.]

t!ena. Cave, Kingsley Creek, up-river side, salt spring. Cave same with baskets found in it.
[This is evidently Kingsley Cave itself. I have not seen a salt spring in that area. The baskets mentioned here may include the one described in Appendix II.]

bunswuni. Cave, two gulches below Spring Branch.
[Spring Branch is very likely one of the branch streams making up Kingsley Cove.]

wamatiwi. Table Mountain.

buncwawi. Crag to the south. Down and right from Spring Branch.

hatcawaiyu. Crag to the north.

tcarasulaiwa. Next crag above hatcawaiyu.

tawilawatcu. Spring Branch.

silma, Avery Butte.
[I have not been able to find such a mountain on the map. It is probably Long Point, the hill northeast of Avery Creek.]

tutma. A white hillside or ridge toward the creek from Avery Butte.

silma (?). Stone Cabin Hollow. Leads toward Avery Butte from Mill Creek. Down right from tutma.
[Stone Cabin Hollow is probably what is now called Stone Corral Hollow.]

wati. Big Mineral spring.
[This may be the town of Mineral, 10 or 12 miles north.]

batawi. The creek from Big Mineral Spring.

matɨoma. Across Mill Creek from Avery Butte.

APPENDIX II. A COILED BASKET FROM KINGSLEY CAVE

The excavation of Kingsley Cave in 1952 and 1953 provided an excellent sample of certain kinds of tools and implements from that site but the preservation conditions were such that very few perishable items were recovered. In 1954, however, the University of California Museum of Anthropology was fortunate enough to acquire a basket that seems to have been collected at Kingsley Cave many years ago, before natural agencies had destroyed the specimen.

The basket is cataloged under the number UCMA 1-97858. I quote, in part, a letter dated Jan. 31, 1954 to Professor R. F. Heizer from Mrs. Joseph Grinnell of Berkeley, California.

". . .Miss Georgie Dell McCoy. . .has turned over to me an Indian basket which she would like me to give to the Museum of Anthropology, if you would care for it.

"Miss McCoy is a descendant of Red Bluff, Tehama County, pioneers, her grandparents having settled there in 1857.

"The basket in question was picked up by Norman Kingsley, during the last raid he led on the Modoc Indians, and taken home to his wife as a trophy. Many years after his death his widow became financially embarrassed and sold the basket to Miss McCoy's mother, Mrs. Galen C. McCoy, in Red Bluff."

This is clearly the same Norman Kingsley mentioned in connection with the purported massacre at Kingsley Cave (Baumhoff, 1955, pp. 41-42) and his "last raid on the Modoc Indians" surely refers to the Yana rather than the Modoc. The Modoc wars were notorious in Northern California and consequently Indian troubles are often referred to as Modoc raids even when other Indians were actually involved. Norman Kingsley's last raid, therefore, probably refers to the Kingsley Cave massacre and we may conclude that the basket actually comes from Kingsley Cave.

The basket itself (Pl. 1e, f) is a coiled bowl, ovoid in cross section and round in outline, measuring 21.5 cm. in diameter and 10.5 cm. in height. The mouth of the bowl is somewhat constricted, measuring 12.5 cm. in diameter. The coiling is fairly crude and heavy, by Pomo standards, but it is tight and not unpleasant in appearance. It is difficult to be sure of the structure of the foundation--in places it seems to be 2-rod and in other places bundle foundation. The foundation varies in size from 2 to 3 mm. diameter and there are about 20 coils per 10 cm. The stitches are made of split strand from 1 to 2 mm. wide and less than 1 mm. in thickness. The stitches are all split on the inside, apparently deliberately since only an occasional one is missed. The tightness of the piece is indicated by the fact that there are about 55 stitches per 10 cm.

The basket is decorated with 9 double vertical stripes which begin at about the point where the basket starts to curve upward and extend to within 2 coils of the rim. The stripes cover a vertical distance of 36 coils. Each stripe thus runs from the bottom to the top of the basket and has a width of 3.5 cm.

Each of the 9 stripes is composed of 2 smaller stripes placed side-by-side and separated by 2 stitches of non-decorated material. Each of the half-stripes is made up of from 6 to 9 stitches of decorative material replacing the ordinary stitching material on alternate coils. That is, each stripe is made by replacing the ordinary stitching, not on every coil, but on every other coil. There may be a functional reason for not making the replacement on every coil--if on every coil the stitching were stopped and a new thread introduced along a vertical line then a crack would probably appear along the line and make the basket less secure.

The same decorative material is used to form 11 dots or pips which appear on the bottom of the basket, 2 coils before the vertical stripes begin. Each of these dots is made by replacing the ordinary thread with 2 or 3 stitches of the decorative thread. The position of the dots does not seem to be systematically related to the stripes.

The decorations are all in a dark red or brownish material which replaces the neutral or buff color of the ordinary threads. The decorative threading appears to be introduced merely by inserting it under the last stitch of ordinary threading. Stitching then proceeds with the decorative threading, while the ordinary thread, which is now not being used to stitch, is carried along behind the coil so that it can again be used when the end of a decorated strip is reached. The decorating thread is narrower than the ordinary thread, being only slightly more than 1 mm. wide. The stitches made of the decorative thread are not split by the stitches above, probably because the decorative thread is so narrow. But no effort is made to make the inside of the basket neat.

The basket is coiled in a clockwise direction, as viewed from the mouth, and it is begun by coiling from the start.

The rim is finished by placing a slightly heavier stick on top of the last coil and then stitching this coil to the one before with neat but otherwise ordinary threading. Two buckskin loops are attached to the rim coil on diametrically opposite sides of the basket. These were probably attachments for a handle (cf. Sapir and Spier, 1943, p. 265).

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UC	University of California Publications, Berkeley
-AR	Anthropological Records
-PAAE	American Archaeology and Ethnology
UCAS-R	Archaeological Survey Report

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EXPLANATION OF ILLUSTRATIONS

Figure 2. Artifacts from Payne Cave.

a. Type 3 projectile point, obsidian; Pit E-5, 0-6"; UCMA 1-156478.
b. Type 3 projectile point, obsidian; Pit C-4, 24-30"; UCMA 1-156496.
c. Type 3 projectile point, obsidian; Pit E-7, 6-12"; UCMA 1-156490.
d. Type 1 projectile point, basalt; Pit E-5, 6-12"; UCMA 1-156458.
e. Type 1 projectile point, obsidian; Pit D-6, 0-6"; UCMA 1-156464.
f. Type 3 projectile point, obsidian; Pit E-6, 0-6"; UCMA 1-156498.
g. Type 3 projectile point, basalt; Pit E-4, 12-18"; UCMA 1-156500.
h. Type 3 projectile point, obsidian; Pit E-5, 6-12"; UCMA 1-156474.
i. Type 4 projectile point, obsidian; Pit D-4, 12-18"; UCMA 1-156502.
j. Type 2 projectile point, obsidian; Pit E-6, 0-6"; UCMA 1-156468.
k. Stone pendant fragment; Pit E-5, 6-12"; UCMA 1-156847.
m. Wooden object; Pit C-5, 0-6"; UCMA 1-156779.
n. Wooden object; Pit C-5, 0-6"; UCMA 1-156790.
o. Wooden object; Pit E-7, 0-6"; UCMA 1-156792.
p. Wooden object; Pit C-5, 0-6"; UCMA 1-156783.
q. Deer splint awl; Pit E-7, 0-6"; UCMA 1-156821.
r. Bone pendant; Pit D-6, 6-12"; UCMA 1-156826.
s. Bone object; Pit E-5, 6-12"; UCMA 1-156817.
t. Bone awl; Pit C-5, 0-6"; UCMA 1-156806.
u. Bone awl; Pit F-5, 12-18"; UCMA 1-156813.

Figure 3A. Artifacts from Payne Cave.

1 and 2. Fragment of a self bow; UCMA 1-156796.
3. "Braided" object; UCMA 1-156745.
4. Matting of single strand cordage; UCMA 1-141635.
5. Twined basketry; UCMA 1-156741.

Figure 3B. Proposed sequence of projectile point types in the Yana area (see p. 12).

Plate 1.

a. View from Payne Flat toward the southwest. The foreground shows Payne Flat with characteristic oak and digger pine vegetation. Payne Cave is located in the rock outcrop in the background. Photo by J. A. Bennyhoff.

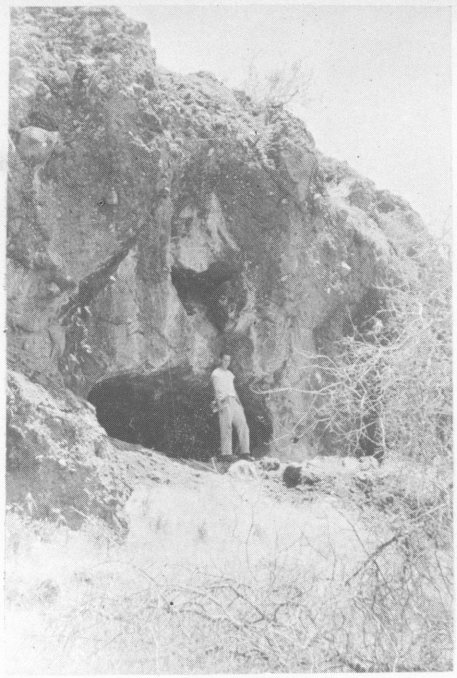
b. View of Teh-194 from the northeast. Teh-194 is a small cave located a few yards east of Payne Cave. Many small caves of similar character are to be found in the cliffs in this section of Tehama County. Photo by J. A. Bennyhoff.

c. View from the mouth of Payne Cave toward the northwest. Payne Flat is seen running diagonally through the lower right quadrant of the picture. On the upper left is shown a high rocky bluff characteristic of this region. The bluff shown has another cave site located in it (Teh-208). Photo by J. A. Bennyhoff.

d. View from the mouth of Payne Cave toward the west showing the landscape of Antelope Creek canyon below Payne Flat. Photo by J. A. Bennyhoff.

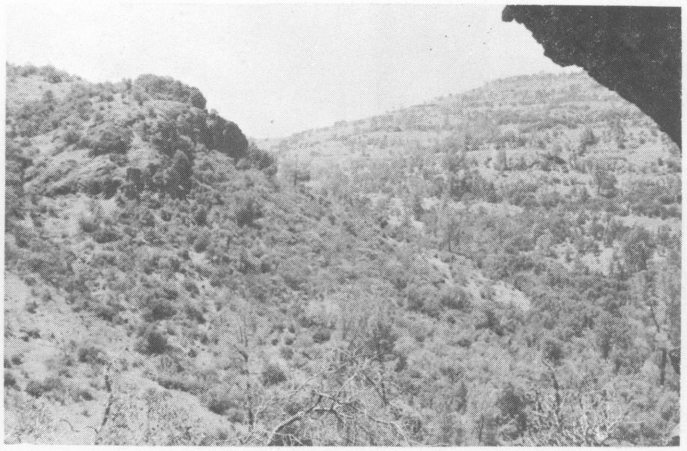
e. and f. A coiled basket probably from Kingsley Cave (UCMA 1-97895, see App. II). Fig. 1e shows the profile view and Fig. 1f shows the bottom of the basket. The basket is 10.5 cm. high. Photos by A. B. Elsasser.

a



b

c



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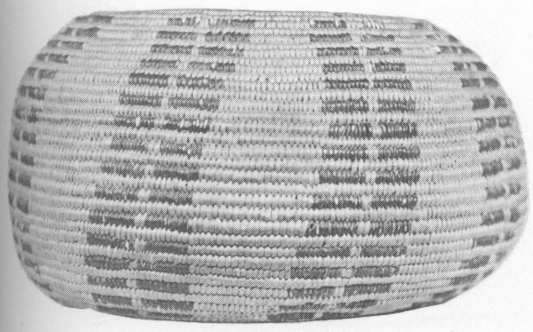


e

f

Plate 1

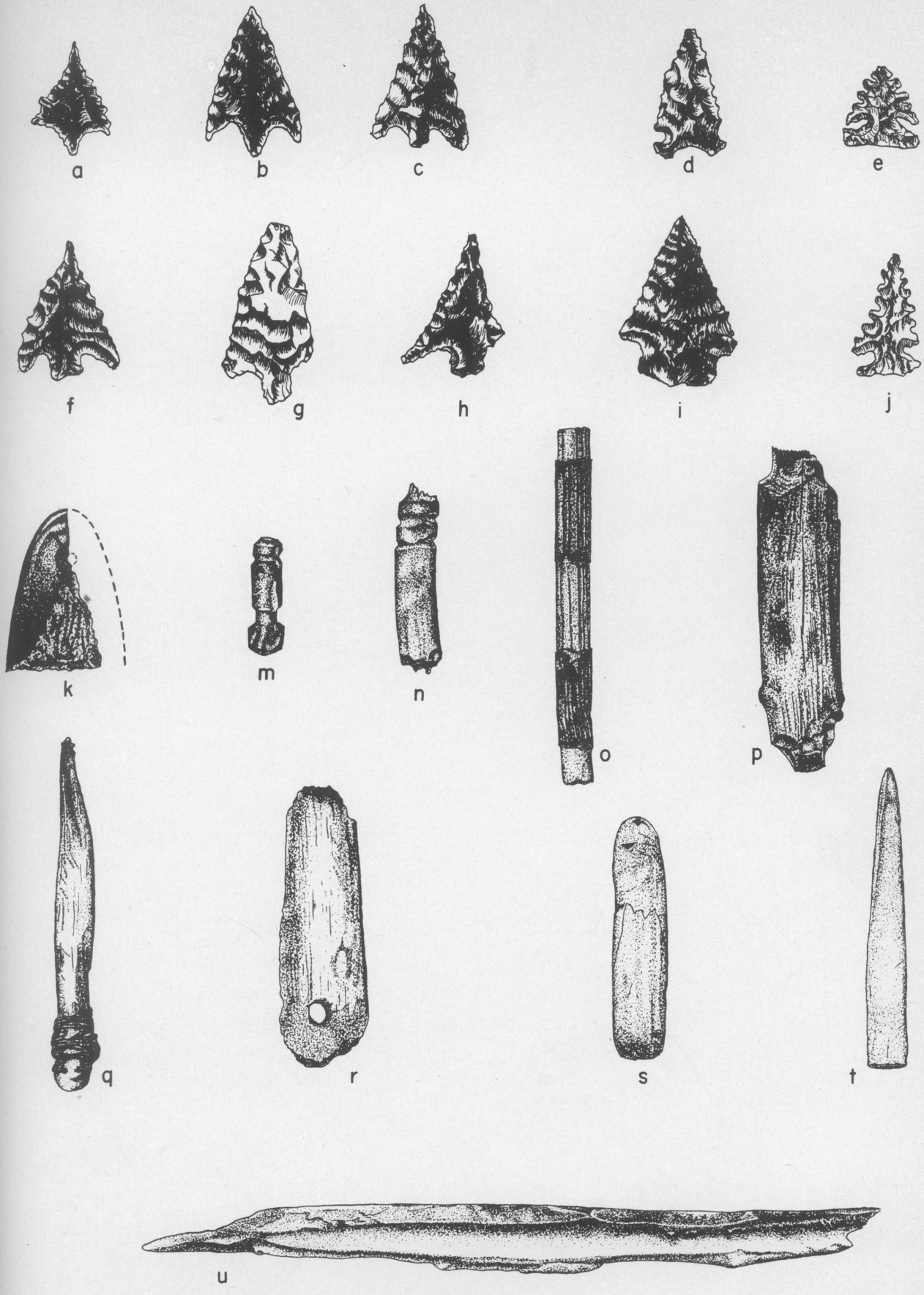
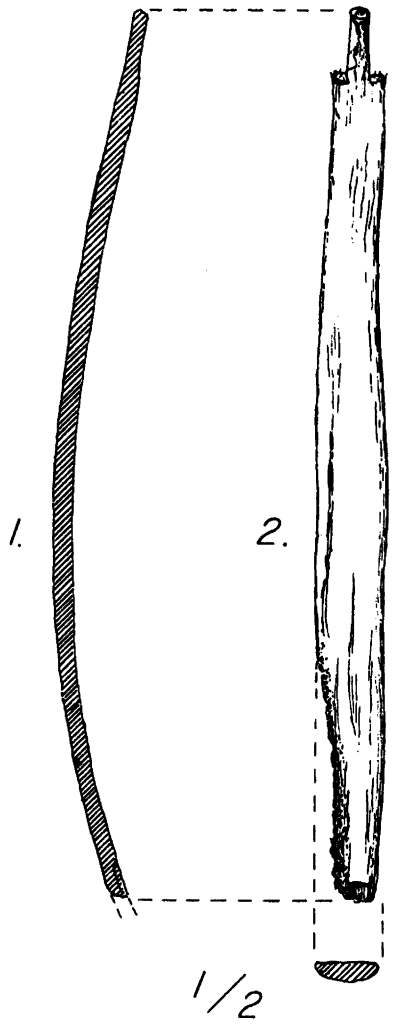
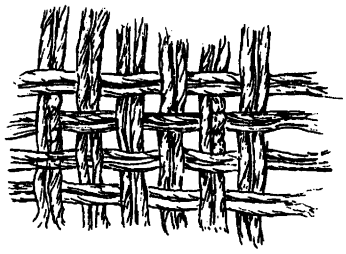
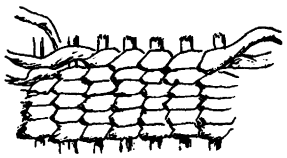


Figure 2

A







B

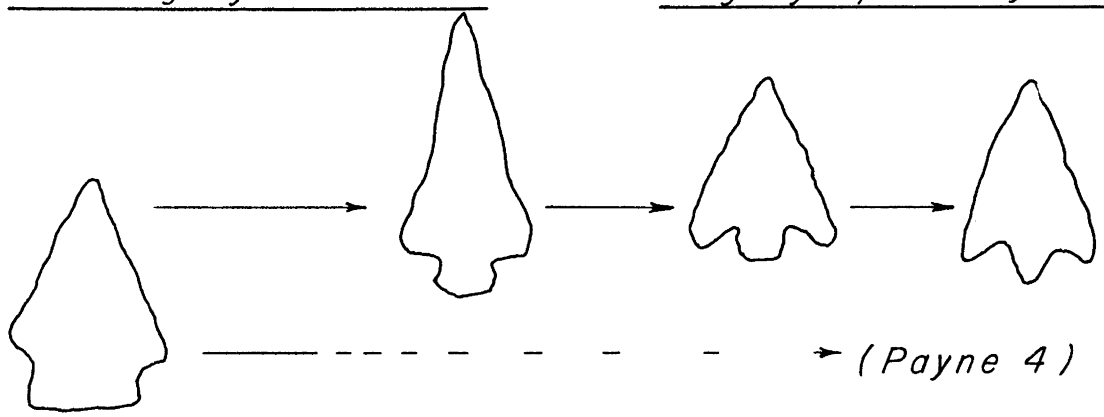


Figure 3