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## THE ARCHAEOLOGY OF THE HUNTINGTON LAKE REGION IN THE SOUTHERN SIERRA NEVADA, CALIFORNIA

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TABLE OF CONTENTS

# INTRODUCTION

This survey deals with the archaeology of a large section of the southern Sierra Nevada for which no classification of artifacts or other cultural remains has been made, except at site Fre-115 in Vermilion Valley (Lathrap and Shutler 1955). Because it has been recognized that the high altitudes of the Sierra Nevada were extensively used by the Indians for seasonal (spring and summer) occupation, this section of the mountains represents one more gap to be filled in in the archaeological and ethnological study of the entire Sierra Nevada.

The report is presented for the purpose of adding to and clarifying the Sierra Nevada occupation picture insofar as possible by comparison of collections from sites in this area with those from related surrounding regions. Artifacts found in the Huntington Lake region* will be compared with those of these related sites, and I shall attempt to speculate on chronological evidence in this region and to list its similarities and dissimilarities to certain sequential cultural complexes described in California and Nevada.

The section of the Sierra Nevada to be dealt with here is roughly between Yosemite National Park to the north, the backbone of the Sierra Nevada to the east, Kings Canyon to the south, and the lower San Joaquin River drainage to the west. This area has been explored extensively within the last nine years (1953-61) and site records and artifacts have been turned over to the University of California Archaeological Research Facility and the Robert H. Lowie Museum of Anthropology at Berkeley.

While the extent of the Indian occupation was found to be considerable, it should be remembered that in comparing this region of the Sierra Nevada with other sites and areas less extensively surveyed, caution must be taken in any conclusions drawn because of the differences in amount of exploration carried out. In the portion of the report which compares possibly related sites with the HLR, our comparisons are often between a large area of many sites (Yosemite) and a single site such as Iny-2 (Riddell 1951). A single site obviously cannot be expected to present as complete a picture as an area.

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* Henceforth to be referred to as HLR.

A study of comparable intensity to that presented here has been made for the Yosemite region by Bennyhoff (1956). However, Yosemite Valley's surface artifacts and artifacts from below the surface have probably been dispersed among private collectors to a greater extent than those in the HLR. In Yosemite 401 sites were recorded compared to 139 in the HLR, but a greater number of projectile points were found in the HLR (Table 3). Another possible difference is that, at least in historic times, Yosemite Valley was occupied during the winter months (Powers 1877). Archaeologically the HLR appears to present a homogeneous local picture. This becomes apparent in typological as well as distributional studies of the artifacts. Ethnographically it seems reasonable to assume that this region was primarily occupied by one main group, the Shoshonean, who originated in the Great Basin. These people followed a central trade route within the HLR, running east to west or vice versa (Hindes 1959:8). High passes to the north, east, and south probably funneled Indian trade through this section of the Sierra Nevada in the summer months.

Artifact recovery from the sites of this region was primarily by surface collection. Only 4 sites were test excavated with significant results; a report of the excavations will be presented herein as well as an evaluation of the general subject of excavation in the area.

Site descriptions will not be included as these were covered in part in my earlier report (Hindes 1959) and by Elsasser (1960) in his discussion of the archaeology of the Sierra Nevada.

## DESCRIPTION OF THE HUNTINGTON LAKE REGION

The area of study is called the HLR mainly because the lake serves as an easily recognized central location, although it is artificial and was nonexistent at the time of the Indian occupation. The old trade route came through the former canyon where the lake now lies and sites are found on every stream that flows into the lake. A more specific description of the area includes Paiute Pass and Creek and Florence Lake to the southeast, Mono Canyon and Pass to the east, Middle and South Fork San Joaquin rivers to the north, and the San Joaquin River, Auberry region, and Shaver Lake to the west and southwest. The sites representing the compass boundaries of the area are Golden Lake (Fre-251) to the east, Evolution Valley (Fre-178) to the southeast, Shaver Lake Dam (Fre-210) to the southwest, and Cow Meadow (Fre-221) to the north (see Map 1).[1]

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1. See Foot Notes.

The entire region is characterized by typical Sierra Nevadan forests, meadows, streams, and lakes. Most of the region lies within the Boreal Zone, that is, above 6000 feet (see Elsasser, 1960, for discussion of Life Zones in the Sierra Nevada). To the east are the high peaks of the crest of the Sierra which drop to relatively low altitudes on the eastern slopes where related Indian sites are to be found.

A limit of 4500 feet for sites to be included in this survey was chosen instead of the 4000 foot altitude which has previously been suggested as the approximate dividing line between summer and winter habitation (Barrett and Gifford 1933:129). Lathrap and Shutler (1955:228), however, mention the fact that "local conditions modified rules somewhat as localities at slightly higher altitudes sometimes remained relatively snow-free throughout the winter." The choice of 4500 feet as the dividing line was made because there appears to be a rapid drop in altitude below the 4500 foot level in several boundaries in this region. At 4000 feet and over there are a number of sites which were probably used in the winter months. Among these are Camp Sierra (Fre-217), sites above Chawanakee (Fre-334 through Fre-336), Corlew Meadow (Fre-212), and Stevenson Creek (Fre-206). Three of these sites are between 4000 and 4500 feet, and one is above 4500 feet. While one cannot be certain that they were used through the winter, these sites have a lower altitude flora and the bedrock mortars present are of a number and depth which probably are indicative of more than seasonal occupation sites. In the more southerly parts of the Sierra the oaks and pines and other flora of the foothills are able to grow at higher altitudes; hence the Indians could live there in the winter months at a slightly higher elevation than was possible farther north.

There are numerous sites located in this part of the Sierra Nevada which are adjacent to the highest part of the range. As far as can be ascertained, more trade existed here between Indians of the west and the east of the crest than anywhere else along the range. Elsasser (1960:9) suggests that this may be due to the fact that the Western Mono kept up a trade with their linguistic kin in the Owens Valley. Perhaps, having formed the habit of using obsidian for their weapons and tools, they continued trading obsidian from their related neighbors to the east after migrating to the west, as no obsidian deposits have been found west of the Sierra crest.

Besides trade, this region offered game for hunting and various plants and seeds obtained only in the high mountains. The occurrence of fish in this altitude in earlier times is questionable (Hindes 1959:8).[2]

The Nevada Shoshoneans, who were kin to the Western Mono, used certain medicinal plants from their mountains which were probably often the same as those used by the Western Mono. Archer (1957:8) says, "few of the medicinal plants grow at lower elevations." If one compares the flora of the two areas, many of the plants of the higher altitudes in Nevada are found to be the same as those in the Sierra Nevada proper (Jepson 1925).

In exploring these sites it was found that many of them had been previously excavated and had surface material removed. It was learned that at least four persons, who either live or had once lived in the area, had visited almost all of the large sites and had taken great quantities of material by excavation or surface collection. Unfortunately, many artifacts in their collections have been lost or given away, or never recorded by site. The excavations in many cases were so thorough that few remaining artifacts could be found; for instance, a very large collection was made from Sheep Thief Creek (Fre-169) and Vermilion Valley (Fre-115), prior to the Lathrap and Shutler survey of that site (1955). The latter collection was lost. Occasionally a site was explored which appeared to have been undisturbed, but it was difficult to be certain of this unless there were the telltale small sifted mounds in the refuse deposit.

## OCCUPATION OF THE HUNTINGTON LAKE REGION

In this region there was a total of 139 sites explored and reported. Of these, 9 sites had only artifacts of types other than projectile points. Forty-four sites had obsidian flakes only, and 86 sites produced projectile points. Map 1 indicates the distribution of the sites covered in this report. This map is not essentially different from that used in an earlier report (Hindes 1959) where bedrock mortar occurrences were discussed at length. The present report will not be so detailed in this regard, although it may be repeated here that there were a few sites found which had only bedrock mortar rocks and no flakes.

Bennyhoff (1956, Table 4) divides his sites into large villages, small villages, house sites, large campsites, and small campsites. The villages differ according to the number of bedrock mortar* holes. Sites with 8 to 19 BRM's are classified as small villages, while those with more than 19 BRM holes are classed as large villages. In the area now under consideration some villages are thought to have been trading centers (Fre-123 and Fre-118). Small campsites were probably used by families; they

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*Hereafter referred to as BRM.

are usually found on a small stream and contain less than 8 BRM holes. These may have been sites temporarily occupied when the Indians were on their way to, or returning from, higher altitudes each year. There are also sites which have only a few obsidian flakes, and no midden or BRM holes. These were probably temporary hunting camps.

Elsasser (1960:20) uses the term "occupation sites" for those which are "open" (not caves or rock shelters) and have a midden depth of more than 6 inches. These sites were probably used through the summer. Among the HLR sites there are approximately 36 which have a refuse deposit of over 6 inches. A tabulation of sites in the other categories is not included due to the difficulty of ascertaining the use of a site many years after its occupation. Too many unpredictable factors tend to destroy evidence or alter the original picture.

The groups which may have occupied this area are: (1) Western Mono or Mono living on the south side of the San Joaquin River, and the North Fork Mono; (2) Northern (Owens Valley) Paiute; and (3) Yokuts. Kroeber (1959:264) distinguishes between the Northern and Southern Paiute; he calls the former Mono-Paviotso, and states that Northern and Southern Paiutes "were distinct in both habitat and speech." He further tells us that the Mono-Paviotso division of the Plateau Shoshonean consists of two languages—Mono (Monache) and Paviotso. The boundary between these two languages is the divide between the headwaters of Owens River on the south and Mono Lake Basin (Paviotso territory) to the north (ibid., p. 265).

Kroeber (ibid., p. 266) comments on the spread of the Mono to the west as follows: "Above all, the Mono in the San Joaquin Valley and those east of the Sierra cannot have been separated very many centuries because they differ no more than superdialectically in the north and merely dialectically in the south." He suggests (loc. cit.) that they crossed the Sierra to settle in the San Joaquin drainage a little less than five hundred years ago, and states that their new occupancy must have been at the expense of previous Yokuts' holdings.

The Miwok peoples of the Yosemite area were to the north of the Western Mono,* the Yokuts to the west in the valleys, and the Washo further north in the Tahoe area. To the east were their linguistic kin, the Northern (Owens Valley) Paiute or Northeastern Mono (see Kroeber, op. cit., p. 265).

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*The term "Western Mono" will be used throughout this report, even though a more elaborate system of local language classifications has been recently proposed (cf. Kroeber 1959:264).

The Owens Valley Paiute carried on a trade with the Western Mono, according to Gayton (1948b:160), coming as far as Auberry. The Western Mono served as middlemen between the Owens Valley Paiute and the Yokuts. Gayton states that the Yokuts and Owens Valley Paiute were never on particularly good terms but that the direction of trade was westward from the east to the Western Mono, to the foothill Yokuts, to the valley Yokuts (loc. cit.).

Present day Western Mono living in the Auberry region tell us that in recent times Western Mono, Northeastern Mono, and Yokuts lived in the Auberry region . Gayton (1948b:259) comments that "the eastern and western Mono were friendly and traveled freely in each other's territory. Nevertheless, most of the traveling was done by Eastern Mono who came westward to trade." Again, we are told (ibid., 1948a:56) that the "Foothill Yokuts did not go across the Sierra Nevada to trade. After the intrusion of white settlers the eastern side of the mountain was used as a refuge by the Yokuts in flight from white persecution."

Gayton (1948b:261) reports that "Western Mono resold both rough and finished forms [of obsidian] to the Yokuts neighbors," and that close contact between Yokuts and Western Mono dates only from 1860 (op. cit., p. 159).

Although Gayton (1948b:259) has stated that the Northeastern Mono did most of the traveling in the Sierra Nevada and west, an Auberry informant, John Marvin, tells us that the Western Mono sometimes traveled over the crest of the Sierra and stayed through the winter months on the eastern side. Some of the oldest western Mono can remember their travels into the higher altitudes each summer.

The Western Mono, Northfork Mono, and Northeastern Mono were the chief historic occupants of the HLR during the summer seasons.[3] The Yokuts may have been there in late prehistoric times or before the coming of the Mono, while the Northfork Mono were probably in contact with the Western and Northeastern Mono, or may at times have actually occupied the area. The Mono in the Kings River-Kaweah region occupied mountains further to the south. They probably traded to the east by way of Kearsarge Pass rather than by the passes used by the Western Mono. Mrs. John Marvin tells us that one of the actual crossings between the Western Mono and Northfork Mono was below her present home on the south side of the San Joaquin River in a narrow spot which Redinger Lake now covers. The crossing was called "O" by the Indians. There were probably other crossings since one often hears reports to this effect. There was intermarriage

between the Western Mono and the Northfork Mono and as a result a fine relationship between persons living in Auberry and North Fork survives to this day.

There is some evidence that the Western Mono used Mammoth Pass to the north in crossing the crest of the Sierra Nevada. Elsewhere in this report we have suggested that the Indians who occupied the northernmost sites in the HLR had contact with Mammoth Pass and sites to the north, although the actual exploration of sites along such a route has not yet been made. We may assume that peoples of Shoshonean origin in historic and probably prehistoric times were the only groups occupying this region, with the possible exception of the Yokuts who were driven there by the whites or were traveling there before the Mono settled in the middle altitudes of the western Sierra Nevada.

## PROJECTILE POINTS RECOVERED

Many of the artifacts of the HLR resemble those in the typologies of the artifacts recovered from other sites in California, but they differ in some respects. Here at the HLR are found obsidian scrapers, projectile points, drills and blades, glass trade beads and steatite beads, arrow straighteners, steatite bowls and pottery vessels and sherds (Owens Valley Brown Ware; Riddell 1951), manos, and a steatite pendant. The artifact most commonly found in this region, as in Yosemite (Bennyhoff 1956:30), is the scraper.

The total number of projectile points obtained by surface collection and excavation was 871. Of these 340 were under 1 gram in weight (type A), 264 were between 1.1 and 3.5 grams (type B), and 267 were over 3.5 grams (type C) (see Table 1). In tabulating the projectile points of this region I have used Bennyhoff's (1956) A, B, C weight designations and types. This is because of the marked similarity between the points of the HLR and those of Yosemite. Bennyhoff's typology is not only similar to the HLR typology, but the division in weights is satisfactory and whatever the possible meaning of the three weight groups, the HLR types fall into these same groupings. Distinction in form, that is, whether or not points are triangular shaped or side notched, between certain types is not necessarily significant. However, some specific forms are only found in certain group weights, for example, the A5, C16 and C11a and b subtypes. Evidently the utility of a given point may depend upon its weight, that is, whether used for a spear, dart, or arrow, but unfortunately we do not know much about the actual usages nor does the presence of different weight groups always reflect the

true chronological relationships among the projectile points. The Bennyhoff typology may, therefore, include too many subtypes, especially when there is observable a certain overlapping in weight between specimens of the same general form. There are certain definite B weight subtypes which seem to have been purposely kept to that weight by the manufacturer (the dominant subtype B10 in the HLR and the B4 and B5 subtypes), but even these merge into other weight classes (B10 = A11, B4 = Unique [see Pl. 1Bk], B5 = C7). In final comparisons with other sites discussed in this paper I have merged some of these types, although this process may be found to be arbitrary when further study is made.

Even with the objections noted, weight appears to have at least some significance in stratification studies; hence the decision to use the Bennyhoff typology which allows for distinguishing any projectile point of a specific form within a certain weight class.

Where there are significant differences between the Yosemite and the HLR projectile types, these are noted and described separately. Most of our points fit into a Yosemite type and only one new type of distinctly different shape has been added to the original typology.

Among the projectile points only 11 were of material other than obsidian. Ten specimens were of chert, one was of quartz. No basalt points were found. The same materials also appear in the general collections from the area from which the artifacts could not be tabulated by sites.

It was frequently very difficult to compare artifacts from separate sites because of the different typologies published by archaeologists concerned with the region. In all instances where comparisons have been made or resemblances noted between sites, it must be remembered that the comparisons are subject to error because of these different typologies.

In tabulating these projectile points, there are certain difficulties encountered, such as the fact that one type merges into another, thus making the distinction difficult. Many of the points are broken, and an estimated weight or length may be inaccurate. In Table 2 weights are only given when the point could be weighed or what was thought to be a reasonable guess weight could be made. In some instances, when the point was fragmentary, no attempt was made to tabulate the weight and/or length, although the type could be identified. Also, it is not certain if all the artifacts, especially the fragmentary ones here tabulated, are projectile points; some may be drills, punches, knives, etc. Some specimens within a type (e.g. subtype C9) are very variable and crude, making them difficult to identify positively.

If a point did not have a definite form, it was not tabulated unless it was considered a distinctly new type or subtype not found in Yosemite.

Approximately 24 worked pieces out of the entire collection in the Robert H. Lowie Museum of Anthropology were not typed. These appear to be so badly broken or irregularly formed that they were unclassifiable; the latter may represent poorly shaped projectile points made by beginners in the art of point making.

When comparing basalt and obsidian points,* it is difficult to put the basalt specimens in exactly comparable A, B, C weight classes because basalt specimens tend to be heavier.

Occasionally a group of points that are nontypical in some respects will be found at a single site. This occurred at Central Sample Meadow (Fre-142) where 5 unusually small (9-11 mm. long) points of A type were recovered.

Projectile points in translucent or varicolored obsidian (yellow, red, or streaked) are often formed with care as though the maker had an aesthetic feeling for these varieties.

## Typology

Definitions of types (after Bennyhoff 1956) will initiate the investigation, and these will be applied to the HLR projectile points. Next, there will be a description of the HLR points which have been identified as subtypes of the Yosemite specimens. These will in turn be equated, when possible, to similar types appearing in sites outside of the region. These subtypes are not separately tabulated in Table 2 but should be thought of as being included in the general Yosemite types. See Bennyhoff (1956, Table 17) for comparative number, weight, length, and width of Yosemite projectile points. Numerical comparisons and percentages of HLR types and Yosemite types appear in Table 3.

### Type A points (weight under 1 gm.)

Subtype A1 (Pl. 1Aa-c): small triangular point with straight base. HLR points are often more finely worked than Yosemite points.

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*Note that some basalt specimens were recovered at Yosemite and at other sites or regions utilized here for comparative purposes.

Subtype A2 (Pl. 1Ad-g): small triangular point with concave base. The HLR point average length is shorter than that of Yosemite points. There is a group of very small type A2 specimens (12-13 mm. in length) which tends to lower the average length. A beautifully shaped, serrated A2 type point was found in the HLR (Pl. 1Ag). Eighteen serrated points of this type were found out of the 51 specimens examined. This subtype was also found at Vermilion Valley (Fre-115) (Lathrap and Shutler 1955, Fig. 67j-l). As in the A1 subtype, these points tend to be better shaped than the Yosemite specimens.

Subtype A3 (Pl. 1Ah-j): small point with narrow side notches and straight, boxlike base with straight sides. These are smaller on the average than the Yosemite points.

Subtype A4a (Pl. 1Ak-n): small triangular point with narrow side notches relatively high on the sides, concave base. This subtype also averages smaller than the comparable Yosemite specimens. It is often difficult to distinguish from subtype A4b as they tend to merge. Baumhoff and Byrne (1959) refer to this Desert side notched type of point as the General Subtype. Length of the HLR specimens may be as much as 30 mm., however, while the General Subtype is only up to 26 mm.

Subtype A4b (Pl. 1Ao-r): small triangular points with narrow side notches relatively high on the sides and indented V-shaped base. Material: 3 chert, 1 jasper (?), 79 obsidian. The base is occasionally somewhat rounded rather than V-shaped, but often in such cases deeply indented and not merely slightly concave as is the A4a subtype. In shape this point resembles the Delta subtype of the Desert side notched point (Baumhoff and Byrne 1959:38). However, most of the points are obsidian and one of the main characteristics of the Delta subtype is that it is usually of jasper or chert. At Yosemite this point was found only in obsidian. At Hospital Rock, Tulare County, it was found in material other than obsidian (von Werlhof n.d., Type B).

Three of the A4b points are slightly heavier than one gram, but were nevertheless tabulated as subtype A4b on the basis of their specific shapes. One of these specimens is pictured as a "Unique" point (Pl. 2Cb). In spite of the fact that these three points increase the average weight of the specimens, the average HLR subtype weight is less than its counterpart at Yosemite.

Subtype A5 (Pl. 1As-u): small triangular side notched point with a notched base (straight or angled). Material: 1 chert, 60 obsidian. Within this type there are actually two kinds of bases; however,

Baumhoff and Byrne (1959:38) do not make this distinction and they were not tabulated separately in this report. Their "Sierra" subtype Desert side notched is our A5, but while their points may reach a maximum of 26 mm. in length, the HLR specimens may approach 31 mm. in length.

Subtype A6: does not occur in the HLR.

Subtype A7 (Pl. 1Av): small shouldered point with expanding stem. Material: 1 chert, 6 obsidian. These tend to be variable as at Yosemite, or broken and not well shaped. Two subtype A7 specimens are squat, 18-20 mm. in length. (See also Pl. 2Cf.)

Subtype A8 (not illustrated): small shouldered point with contracting stem. The only HLR specimen is so poor that it is questionable.

Subtype A9 (Pl. 1Aw): small shouldered point with concave base. An excellent specimen is tabulated in the Parker collection from Bear Creek at Huntington Lake (Fre-291).

Subtype A10 (not illustrated): small tanged point with a straight stem. One specimen in Lyon's general collection.

Subtype A11 (Pl. 1Ax-a'): small tanged point with expanding stem. These are not uniform as are Yosemite points, but are quite variable. As in subtype B10, some of these (3) have tangs as long as the stem. These points tend to merge into the B10 subtype.

Subtype A12 (Pl. 1Ab'): small tanged point with contracting stem. These 2 points are not entirely convincing as discrete subtypes, that is, they could be broken projectile points of another type. There appears to be one of this type in the Lyon's general collection of the HLR.

Of the eight-six sites where some type of projectile point was found, there were thirty-six where no type A points occurred. This does not necessarily indicate a significant non-presence of these specimens, unless there were many projectile points recovered from the site. There were several sites at which only one, two, or three projectile points were found.

Type B points (weight 1.1 - 3.5 gr.)

Subtype B1 (Pl. 1Ba-c): medium sized, leaf-shaped point with pointed or straight base. In the HLR subtype specimens the base may also be rounded. This rounded base occurs also in Mono County (Meighan 1955, Fig. 2, No. 2) and at Iny-2 (Riddell 1951, Fig. 2, No. 4). B1 and B2 subtypes tend to blend into one another, particularly Bennyhoff's (1956) B1b and B2d.

Subtype B2 (Pl. 1Bd-f): medium sized triangular point with straight to convex base. Seven triangular points with a slightly concave base occur in the HLR (Pl. 1Bf). These are often more finely shaped and lighter in weight than the majority of the B2 specimens, but they are still within the type B weight group. This subtype does not occur at other, possibly related sites mentioned in this report.

Subtype B3 (Pl. 1Bg-i): medium sized point with concave base. The HLR specimens are variable as are the Yosemite points in this group. Some are slightly shouldered or widely notched, in others the base is narrowed to a very small notch (Pl. 1Bi). The small notched points do not occur in Yosemite and only 5 specimens were found in the HLR.

Subtype B4 (Pl. 1Bj-k): medium sized point with wide side notches and convex base. Material, obsidian. Within this group there are nine specimens with straight bases (Pl. 1Bj). Another characteristic of this subtype is that the greatest width occurs at the base; also, the sides of the base may be pointed or rounded. This point also occurs at Yosemite (Bennyhoff 1956, Fig. 2B4). One of the basalt points at Pla-5 (Heizer and Elsasser 1953, Pl. 1D, No. 2) may be too heavy but the shape resembles this latter point. Also, some of the basalt points from Sie-20 (Martis Complex site) resemble this point (Elsasser 1960, Pl. 2b, c, d)

Subtype B5 (Pl. 1Bl-m): medium sized point with side notches and concave base. These specimens are variable as are the Yosemite points, and generally poorly shaped or broken.

Subtype B6 (Pl. 1Bn-o): medium sized, shouldered point with straight sided stem. These specimens are variable as are the Yosemite types.

Subtype B7 (Pl. 1Bp-r): medium sized, shouldered points with expanding stem.

Subtype B8 (Pl. 1Bs): specimens poor and variable; medium sized points, shouldered, with wide stem and slightly concave base.

Subtype B9 (Pl. 1Bt): medium sized points with short tangs and short, straight stem. Subtypes B9 and B10 are often difficult to distinguish from each other.

Subtype B10 (Pl. 1Bu-w): medium sized point with variable tangs and short, expanding stem. Some of the HLR B10 subtypes have tangs (barbs) as long as the stem. The specimens are wide, a few being as wide as they are long. Of 173 specimens found in the HLR, 33 are wide and have barbs as long as the stem. This subtype was found at Vermilion Valley (Fre-115) (Lathrap and Shutler 1955, Fig. 67Y), and also occurs in Mono County (Meighan 1955, Pls. 3, 17, 18) and at El Portal (Fitzwater and Van Vlissengen 1960:173, type K). Another B10 subtype occasionally found and shown in several of the general collections of the region has concave sides and an attenuated point (not illustrated).

Subtype B11 (Pl. 1Bx-z): medium sized point with angled sides and concave base. The specimens from the HLR are longer than those from Yosemite. The angle is often nearer to the point than to the base. A deeply concave base variety of point 1Bz is related but different. Five of these points were found in the HLR. This latter shape usually occurs in the type C weight class and may be a reshaped projectile point. This is the "Humboldt basal notched" point mentioned by Elsasser (1960, Pl. 2B, L and M) as it appears in B weight at Do-12 (Martis Complex site).

Among the eighty-six sites where projectile points were found, twenty-seven had no B type points. As observed in the cases of absence of A points, this does not necessarily indicate any significant lack of B points since some sites produce so few projectile points.

Type C points (weight 3.5 gr. and over)

Subtype C1 (Pl. 1Ca-b): large, leaf-shaped point with pointed and rounded base. Maximum width near middle of specimen. Among these may be artifacts which were not used as projectile points at all—perhaps they functioned as knives. All specimens tend to be crude and variable. The distinction between subtypes C1 and C2 was often difficult to make as they tend to merge. The base may be narrowed and then straight, or the pointed base may have been broken off.

Subtype C2 (Pl. 1Cc-f): large, leaf-shaped specimen with pointed base. Among the HLR points there are 10 with rounded bases rather

than pointed; the sides are usually angled (Pl. 1Cf). This latter type also occurs in Mono County (Meighan 1955, Pl. 3, No. 7). It occurs in basalt at Little Lake (Harrington 1957, Fig. 41, second row, second and third from left), and at Pla-5 (Heizer and Elsasser 1953, Pl. 1C, No. 1). A thin and finely chipped subtype C2 specimen occurs in the HLR which is usually made of a varicolored obsidian. These, like some C1 specimens, may be tools, such as knives, rather than projectile points.

Subtype C3 (Pl. 1Cg-i): short, heavy, leaf-shaped point with indented base. Bennyhoff (1956, Fig. 5, C3g) describes these points as "short," but he has pictured a short point and one which we recognize would be long if not broken. Although there are no complete specimens among the HLR subtype C3 recorded herein, there are several complete projectile points of this type to be seen in collections from this region. These specimens are long and parallel-sided or slightly convex, tapering gradually to a point. The HLR specimens are the "G" variety C3 of Yosemite.

Subtype C4 (Pl. 1Cj-l): short, heavy, roughly triangular point with convex sides and straight base. Some of the HLR points have straight sides above the base, narrowing to the tip (Pl. 1Cj). The specimen shown in Plate 1Cl is one of the thin, finely worked pieces that may not be a projectile point. Many of these were found in the HLR. Our points in this general classification do not usually taper to a point as rapidly as those pictured from Yosemite, and they are usually less crudely shaped.

Subtype C5 (Pl. 1Cm-p): large point with deeply concave base. There is a variety of shapes among the HLR subtype C5 specimens. The C5 specimen pictured by Bennyhoff is also found in the HLR (Pl. 1Cm), where it is represented by 10 specimens, as well as by a much longer point, probably parallel-sided for some distance or with only slightly convex sides finely tapering to a point (Pl. 1Cn). The base of another variety of C5 point is pictured by Bennyhoff (1956, Fig. 1f), and there are 25 of this latter type in the HLR. There are two additional subtype C5 varieties, one with pointed rather than rounded lateral projections at the base; the other is a very short C5 subtype which may sometimes have been a reshaped projectile point (9 specimens, Pl. 1Cp). This short C5 subtype is also found in Mono County (Meighan 1955, Pl. 3, No. 9), and "shoulderless" Pinto points, which are also in this category, have been found at Little Lake (Harrington 1957, Fig. 39, top row). Another projectile point classified in this group has a small, narrow, notched base with the lateral projections sometimes turned inward (10 specimens). This is also a variably shaped point and could be classified with subtype C3 as well. Bennyhoff (1956, Fig. 1C) pictures one of these and calls it a subtype C3 point. They are included here in the C5 subtype classification because they seem so distinct from

the subtype C3 projectile points. The weights of the subtype C5 specimens were not included in Table 2 because so many of the largest points were broken that to weigh only the smaller points would not have given an accurate average. Probably subtypes C3 and C5 would be the heaviest points in the collection, averaging around 8 or 9 grams in weight.

Subtype C6 (Pl. 1Cq-r): large point with narrow side notches and convex base. The HLR subtype C6 point may have a convex or a straight to almost concave base (see, e.g., Pl. 1Cr; 3 specimens). A "blade" from Mono County is shaped like the latter point (Meighan 1955, Fig. 2, blade 3). Heizer and Elsasser show (1953, Pl. 1D, No. 3) one basalt point from Pla-5 which resembles this straight based variety. This point is a type mentioned by Baumhoff and Byrne (1959:39), which resembles the small Desert side notched points but is much larger: "This kind of point is found in Great Basin sites at a much earlier time than the Desert side notched."

Subtype C7 (Pl. 1Cs-t): large point with wide side notches and concave base. Most of the subtype C7 points found in the HLR are well shaped and uniform, but are slightly different from the Yosemite C7 subtype. The sides of the base are rounded, not truncated, and the notches tend to be more regularly formed (Pl. 1Ct). There are 19 of these latter points as compared to 5 of a cruder though generally similar shape (Pl. 1Cs). This subtype resembles those found at Nev-15 and Do-12 (Elsasser 1960, Pl. 1A - W and Pl. 2A - O). The latter may be lighter than the HLR subtype C7 points; they are of basalt rather than obsidian.

Subtype C8 (Pl. 1Cu-w): short, heavy point with developed shoulders and wide stem. These are very variable and tend to be crudely shaped. The example shown in Pl. 1Cu verges on a C10 subtype as the stem is inclined to be pointed.

Subtype C9 (Pl. 1Cx-a'): short, heavy point with developed shoulders and wide, expanding stem. These are extremely variable, as were the corresponding subtype from Yosemite. Nearly all the variants found at Yosemite were also found in the HLR. The variant shown here in Pl. 1Ca' is unlike any of the Yosemite variants. This was represented in the HLR by 7 specimens out of 20 recovered. These specimens have either a convex or straight base, and the point is usually longer than that in the example shown.

Subtype C10 (Pl. 2Aa): short, heavy shouldered point with contracting stem. No specimens in the HLR. The example illustrated is actually a type B point on the basis of weight.

Subtype C11a (Pl. 2Ab-d): short, heavy point with weak shoulders and slightly expanding stem with indented base. The HLR specimens are crude and irregular. All are fragmentary.

Subtype C11b (Pl. 2Ae-f): long, heavy point with variable shoulder development and straight to slightly expanding stem, with indented base. These are variable and often crudely shaped. The point in Plate 2Af is well shaped, and the lateral projections are divided by a decided notch. This type is suggested as an atlatl point by Riddell (1960, Pl. 2A-2D, and p. 23) at the Karlo site. It also occurs in Mono County (Meighan 1955, Pl. 3, No. 33, basalt).

Subtype C12 (Pl. 2Ag-i): Large, heavy, tanged point with straight stem. These are variable and sometimes the tangs are slight. Among these specimens there are 3 fragments with tangs as long as the stem (not illustrated). This type resembles a Martis Complex (Pla-5) point type in basalt (Heizer and Elsasser 1953, Pl. 1D, No. 21). A basalt point from Sie-20 also resembles this latter point (Elsasser 1960, Pl. 2Dj).

Subtype C13 (Pl. 2Aj-m): short, heavy, tanged point with expanding stem. In the HLR specimens the tangs are not as long as the Yosemite points illustrated in Bennyhoff (1956). While these are ordinarily somewhat crudely shaped, the point illustrated in Plate 2Aj is of fine workmanship. At Little Lake a nontypical point occurs which resembles this point, except that the sides of the stem are rounded rather than pointed (Harrington 1957, Fig. 41, 3d row, center).

Subtype C14 (Pl. 2An-o): long, heavy, tanged point with contracting stem. Of the 5 specimens, 3 from the HLR do not have hooked barbs but are sloping or merely shouldered (Pl. 2An). The tabulated specimens of the latter are all fragments, but complete specimens are found in general collections of the region. This variant resembles a point in basalt from Pla-5 (Heizer and Elsasser 1953, Pl. 1A, No. 17). Projectile points in basalt at Nev-15 resemble this type, although they are not all in the type C weight range (Elsasser 1960, Pl. 1Aj, k, and l).

Subtype C15 (Pl. 2Ap-q): Heavy, tanged point with expanding stem and indented base. Four of the seven specimens of this subtype found in the HLR are heavier and the basal projections longer than the Yosemite specimens illustrated (see, e.g., Pl. 2Aq herein). This particular variety of point does not occur in any other sites with which we are comparing the HLR.

Subtype C16 (Pl. 2Ar-t): long, parallel-sided blade with expanding base and basal concavity.

Subtype C17 (Pl. 2Au-v): long, heavy, shouldered point with rounded, convex stem (all specimens are basal fragments). While this HLR type is longer than "Lake Mohave and Silver Lake Points," it resembles the types found in basalt at Little Lake (Harrington 1957, Fig. 41, 2d row, 1st and 2d from right). It is not a Yosemite type.

No identifiable type C points were found at 25 out of the 86 sites in the HLR. In 3 of these there were type C fragments, not identifiable.

Unique projectile point types

1. Pl. 2Ca (Fre-293): this point is not obsidian, but is possibly a type of basalt. It is nontypical of this region. Its shape resembles one of the Danger Cave, Utah, specimens (Riddell 1960, Fig. 8 9gl).

2. Pl. 2Cb (Fre-137): this point is one of the 3 specimens which are subtype A4b shape but in type B weight range.

3. Pl. 2Cc (Fre-295): this specimen is in the C type weight class, although it should be designated a B10 subtype on the basis of its form. It is unusually well shaped and the barbs are as long as the stem. Another very large B10-like point was found on the shore of Huntington Lake. A similar specimen was reported from Solano County, California, by Treganza and Cook (1948, Pl. XXVII).

4. Pl. 2Cd (Fre-293): a well-shaped, thin point with slightly concave base, not notched as is the subtype B3. This is the only specimen of this shape and may have been a small knife or scraper rather than a projectile point.

5. Pl. 2Ce (Fre-247): this specimen resembles subtype A4b, but is of chert. It is almost as long as it is wide. The tip may have been reshaped.

6. Pl. 2Cf (Fre-137): this point is similar to subtype A7. It is very squat, and wider than it is long. Two of these specimens occurred at this site. These are occasionally found in general collections of the region. One specimen was recovered from Hospital Rock (von Werlhof n.d., type O).

7. Pl. 2Cg (Fre-123): perhaps closer to the A4 subtype point than any other type A point, this specimen has slight side notches (see Pl. 1An). These are possibly a definite subtype because they are often well shaped. They may have a notched or concave base.

## Comparison with Yosemite projectile point types

Comparison between the Yosemite and the HLR projectile point types can be more accurate than comparisons with other sites both because the same typology was used in analysis of the specimens and because in many cases there was an over-all similarity of types in the two regions.

Subtypes A1 to A5 points from the HLR are generally more definitely shaped than those from the Yosemite area (cf. Bennyhoff 1956, Fig. 3 and Pl. 1 of this report).

Types A, B, and C points from all sites in Yosemite and the HLR occurred in the following percentages of totals:

| | A | B | C |
|---|---|---|---|
| | percentage | | |
| Yosemite (346 points found) | 50 | 20 | 30 |
| HLR (870 points found) | 39 | 30 | 31 |

Two Yosemite subtypes were not found in the HLR; these were A6 and C10. Three of each were tabulated from Yosemite. One HLR subtype, C17, was not found at Yosemite.

A comparative list in number and percentage of totals of types found at Yosemite and in the HLR is presented in Table 3. Percentages are listed where any significant numerical difference occurs. The difference in the grand total of projectile points recovered necessitates a comparison on a percentage basis.

The dominant projectile point subtype in the HLR is the B10, 20 per cent; second is A4b, 10 per cent; third is A4a, 9.05 per cent; and fourth is C5, 8.85 per cent.

At Yosemite the dominant subtype is A4a, 14 per cent; second is A5, 9 per cent; third is A4b, 8 per cent; and fourth is C5, 5 per cent.

While the A5 subtype does not fall within the first four dominant subtypes in the HLR, it is numerically significant—7 per cent, or fifth in order.

Occurrences of the Desert side notched points (A4a, A4b, A5) are significant in both areas, and as a group are the dominant types. However, subtype B10 emerges as an interesting difference between the two areas, as does the C5. Subtype B10 swells the total type B percentage in the HLR. It should be noted that the heavier weight classes, B and C together, amount to a higher percentage of total points found in the HLR than in Yosemite. This leads us to the question of interpretation of occupation in the HLR, which will be discussed later in this report.

## Comparison between sites in the Huntington Lake Region

Before proceeding with comparisons with other sites, I should like to discuss the numerical occurrence of projectile points at sites within the HLR (Table 4).

Six sites were chosen for this comparison. By points of the compass they are, roughly, Fre-115 (Vermilion Valley) to the east; Fre-137 to the north; Fre-245 to the southwest; Fre-291 at Huntington Lake; Fre-123, a site possibly joining trade routes from the northeast and west; and Fre-256, a site somewhat farther north but near Fre-115. These are all occupation sites or, according to Elsasser (1960:20), sites where over 6 inches of refuse deposit exists. Minor test excavation was carried out in all of these sites, but at Fre-291 the area had been completely disturbed by construction. The artifacts tabulated from this site were mainly from the Parker and Clark collections made in the years before our site explorations. At Fre-256, just prior to our excavations, some collectors completely destroyed any possible evidence of stratification and removed both surface and buried artifacts. Many of the artifacts tabulated from this site are from the Morgan Blasingame collection.

It will be noted (Table 4) that the dominance of certain projectile point types in these six sites does not always agree with the general numerical occurrence in the HLR. In four of the six sites, for example, subtype B10 is dominant. At Fre-115 there was no distinction made numerically between subtypes A4a, A4b, and A5. Their total, including those recovered by Lathrap and Shutler (1953:232, shape 1) and two found since their report was published, is 13. Hence the dominant single subtype at Vermilion Valley is probably A2 (shape 9, 9 specimens) which is not within the top six most numerous subtypes in the HLR. There were only 9 subtypes from Fre-115 found in the 1955 survey of Lathrap and Shutler, as against 40 subtypes which have been identified for the whole HLR—38 for these six sites we are discussing.

The typology is more diversified for sites Fre-123, Fre-137, Fre-256, and Fre-291 than for the Vermilion Valley site. In three out of the six sites subtype A4 (a or b) is second numerically. A5 subtype is second in Fre-137. Subtypes A11 and C5 are tied for second at Fre-291.

Site Fre-245, at which a house pit was excavated, yielded 34 type A weight, 5 type B weight, and no type C weight points. Even the subtype B10 was scarce at this site (only 3 specimens found). The conclusion to be drawn here is that this is predominantly a "late" occupation site. The few type B points might indicate the late Tamarack-like complex (Bennyhoff 1956), or a transitional period merging from the late prehistoric into the protohistoric period. Also to be noted is the occurrence of Owens Valley Brown Ware in this site (see Pottery section below), which is also associated with late prehistoric or historic times in the region.

In connection with trade routes, the occurrence of certain projectile point types from these sites in relation to those found in sites outside the HLR may be of some possible significance. The dominant types at Fre-115 (Vermilion Valley) have already been associated with Iny-2 (Owens Valley) to the southeast by Lathrap and Shutler (1955:233). These Fre-115 types are connected with the A4a, A4b point assemblage at Yosemite where the latter are also predominant. Similar points are found as well in the King's Beach Complex sites at Tahoe (Heizer and Elsasser 1953, Fig. 1).

Site Fre-137 is accessible to possible trade routes from the north (Hindes 1959:11, 12). Here we find that subtype B10 is dominant. It is also dominant in Mono County (Meighan 1955:15, type 6), Tommy Tucker Cave, Lassen County (Fenenga and Riddell 1949, type 1), and Karlo, Lassen County (Riddell 1960:27, type 3), all sites to the north. The second subtype in numerical occurrence from Fre-137 is A5. This is also second at Yosemite.

If any relationship at all can be posited between converging trade routes and point types, then one might expect to find a mixture of types at site Fre-123 (below Camp 61) where all the main trade routes from north, east, and west could converge. This site was examined by the University of California Archaeological Survey at Berkeley. The projectile points from the surface and from excavation were more numerous than at any other site in the HLR (Fre-137, second, with some excavation; Fre-256, third, surface only, with no significant results from excavation). The points from Fre-123 were found to relate as follows in numerical order:

1. B10: dominant in Mono County, Tommy Tucker Cave, and at Las-7.
2. A4b: numerous in Yosemite and Iny-2; dominant in King's Beach Complex sites (Lake Tahoe region).

3. A4a: dominant in Yosemite; numerous at Iny-2 and Hospital Rock, Tulare County.
4. C5: numerous in Yosemite and at Las-7.

Hence there is a possible relation to Northern Paiute (Northeastern) trade, as well as trade with the Miwok of Yosemite and the Washo of the Tahoe region.

Site Fre-245 on South Tamarack Creek to the southwest of Huntington Lake is dominated by subtypes in numerical order as follows: (1) A4b; (2) A4a; (3) A2. The latter may be related to Iny-2 and Yosemite types.

Subtypes A11 and C5 are second numerically at Fre-291 (Bear Creek at Huntington Lake). Although B10 is dominant at this site, the occurrence of subtypes A11 and C5 in second place is unique among these six sites.

The dominant projectile points at Fre-256, near Fre-115, are subtypes B10, A4a, A2, and C5.

The above data are presented to show the difference in numerical occurrence among the HLR sites as well as to indicate which types may conceivably be connected with sites elsewhere.

Since Fre-115 (Vermilion Valley) is known as a historic site and has been used as a comparative site in former reports, it is of interest to note it has a nontypical projectile point assemblage as compared with the general HLR.

A list of projectile points recovered from HLR sites, classified according to numerical prevalence and weight (A, B, and C), is shown in Table 5. Source of the points, surface or excavation, is indicated, as well as the sites at which points of certain weights do not occur.

The distribution of projectile points in five sites in the region other than the six large sites just discussed should be noted. These are sites where sufficient points were collected to make a significant difference in the occurrence of A, B, or C weight points: Fre-169, Fre-371, Fre-119, Fre-118, and Fre-158.

Site Fre-245 has been mentioned in connection with the numerical prevalence of A weight points and lack of C points. At Paiute Canyon (Fre-197) all the projectile points were type A; this was also true of Stump Springs site No. 1 (Fre-226). Of particular interest is the fact that adjacent to the latter site is Stump Springs site No. 2 (Fre-227)

where only C weight points were recovered. Here we have possible early and late assemblages close together. This is rare in a region where the tendency is to show points from all three weight classes on a given site. Perhaps the dry creek bed next to the site where only type C points were found had dried up in earlier times and the use of the site was discontinued. On the six large sites discussed above the locations probably remained ideal for centuries.

There were three sites that yielded only types B and C points: Kaiser Creek No. 1 (Fre-292); Boggy Creek No. 2 (Fre-293); and Pitman Creek No. 2 (Fre-295). Near to Boggy Creek No. 2 is Boggy Creek No. 1 (Fre-256) where points of all three weight classes occur. These two latter sites are situated at the other end of Vermilion Valley from site Fre-115.

## Comparison with areas outside of the Huntington Lake Region

Ideally, a comprehensive chart should be drawn up to indicate relationships between projectile point types from numbers of sites or complexes in or near the Sierra Nevada. I have, in fact, compiled such a chart but consider its formal presentation not to be in order because of several possibly misleading interpretations which could be read into it: First, all of these sites or complexes do not represent positively defined chronological periods; second, it seems that such a chart inevitably tends to compare types which blend into each other, and at best could be but a resemblance presentation, not a definite type by type comparison as was possible between the already described Yosemite and HLR types. Finally, in judging the prevalence of certain projectile points outside the HLR in comparison with points from that area, one should keep in mind the destruction of some of the sites, such as the Martis Complex sites (Elsasser 1960:38, Nev-15). Also, the small number of artifacts recovered, as in Iny-2 (Riddell 1951:25) and the Greasy Creek site (Tul-1) (Pendergast and Meighan 1959, Table 1), should be taken into consideration.

In the Conclusion of this report possible relationships between certain Sierra sites and complexes on which reports have been published and the occurrence of projectile points will be discussed.

Numerically significant Sierra Region projectile point types not occurring in the Huntington Lake Region

The following projectile point types occur in sites which are mentioned throughout the text as relating to the HLR. They are presented because they show the main points of difference from the HLR types in the B and C weight classes, and they probably represent older complexes. Since I am attempting to note similarities and dissimilarities in connection with age of cultures, these types are included as an indication of the major projectile point differences between the Martis Complex and the HLR.

1. The 3A-3B (shouldered) Martis Complex types of Nev-15, Do-12, Sie-20, and Sie-21 (Elsasser 1960, Pls. 1 and 2) are somewhat similar to the Yosemite C10, which, however, does not occur in the HLR. They are also similar to a small subtype C14 (see Pl. 2An), but the latter is not a typical point of the HLR, that is, points of this type from the HLR are larger and heavier. Three of the Martis points look larger (ibid., Pl. 2Aj, 2Cj, 2Cd). These points also occur at Karlo (subtype 9g), Pla-5 (subtype 3A), and at El Portal (A type), where Fitzwater and Van Vlissengen (1960:169) compare the latter point with Bennyhoff's A weight subtype points A6 and A8, when it is apparently a specimen which should be classified as in the B type weight class.

2. The 5A type of the Martix Complex sites Sie-20, Sie-21, Do-12, and Nev-15 (Elsasser 1960, Pls. 1 and 2) is similar to the Yosemite and HLR C14 subtype, but it is a small point and not typical in this weight. It probably occurs in Mono County (Meighan 1955, type 7), at Karlo (Riddell 1960, subtype 9g), and in the King's Beach Complex in the Tahoe area (Heizer and Elsasser 1953, Fig. 1d).

3. Subtype 5d, Martis Complex type, occurring at Do-12 (Elsasser 1960, Pl. 2A, 2Z, and 2A') is similar to our subtype C15, but it is in B weight class. The example shown (ibid., Pl. 2Aa') appears to be more exactly a C15 shape, however. In the Karlo tabulations this type is 3d (Riddell 1960, Fig. 5) and is numerous. It also resembles the barbed Pinto type at Little Lake (Harrington 1957, Fig. 39), type F in the King's Beach Complex, El Dorado and Placer counties (Heizer and Elsasser 1953, Fig. 1) and types No. 19 and No. 22 at Tommy Tucker Cave, Lassen County (Riddell 1956).

## COMPARISON OF HLR ARTIFACTS WITH THOSE FOUND IN LOWER ALTITUDES IN PERMANENTLY OCCUPIED SITES OF THE WESTERN MONO ON THE SOUTH SIDE OF THE SAN JOAQUIN RIVER

The projectile points and other artifacts from Auberry, José Basin, and Power House No. 3 referred to below are from private collections. The reason for comparing these with specimens from the HLR is that these middle altitude sites may possibly produce artifacts from the late prehistoric Yokuts or other groups of the Great Central Valley. Also, there are a few points available for comparison from the north side of the San Joaquin (Northfork Mono) and, so far as I know, these have not been previously tabulated.

Power House No. 3 (Collections: Gary Aubrey, Fred Mahoney and Tom Landers) All obsidian specimens.

| Projectile point subtypes | Number |
|---|---|
| A1 | 3 |
| A2 | 3 |
| A4a | 10 |
| A4b | 5 |
| A5 | 2 |
| A11 | 1 |
| B1 | 2 |
| B7 | 2 |
| B8 | 1 |
| B10 | 12 |
| C1 | 3 |
| C3 | 2 |
| C5 | 1 |
| C11a | 3 |
| C16 | 1 |
| Total | 51 |

Other artifacts: Glass trade beads, steatite bead, sherds, steatite doughnut shaped object, scrapers.

José Basin (Mrs. John Henry's collection) All obsidian projectile points: subtypes A4a (1); B10 (2), drill base (expanded, center notched).

Auberry (Camilla Smith's collection). All obsidian projectile points:
B10 (2); C1 (1).
Steatite specimen (approx. size of U.S. half-dollar) with square hole in center.
A Unique C weight class point of obsidian, about 4 inches long.

The Unique C weight class point referred to above has expanded lateral barbs and a small, pointed, contracting stem. It is a distinctly shaped, long, parallel sided blade or projectile point, tapering to a long tip. The only other specimen of this shape that I have seen is in the collection from Hospital Rock (von Werlhof n.d., type D). The latter is smaller but has the same kind of base. Von Werlhof does not separate this point from an A10 type, but it is different nevertheless. It is also found in central California (Treganza 1954, Pl. 21) in a serrated form, in the Red Bank Reservoir area, Tehama County.

North side of the San Joaquin River (Mrs. John Henry's collection).
Projectile point subtypes: A2 (1); A7 (1); A11 (1); B10 (4); C5 (2). All obsidian.

Discussion: The Power House No. 3 collections do not show much variation from the usual types and prevalence of types found in HLR sites of over 4500 feet. Subtype B10 is dominant and A4a is second in number recovered. A4b is also comparatively numerous. Subtype C11a is more numerous, comparatively, at Power House No. 3 than in the HLR. On the whole, the distribution of types would not be unusual for a site in the higher regions. Twenty-four out of 52 points here are in the A weight class. Seventeen are in the B weight class, and 11 in the C weight class. The only unique point is similar to a Danger Cave point (Riddell 1960, Fig. 8, 9g1). It is a leaf shaped point with slight shoulders closer to the tip than to the base.

The collections from José Basin (near Auberry) where Western Mono still live, from Auberry, and from the north side of the San Joaquin are too small for exact comparisons, but it may be noted that subtype B10 remains the highest, numerically, in these regions.

## USE OF LARGE TYPE C PROJECTILE POINTS AND RELATED ARTIFACTS

As has been previously stated, the use of projectile points (or blades or knives) is a subject which is open to much conjecture. I am concerned here especially with the use of the long C3, C5, and C16 subtypes (Pls. 1C and 2A), since they are so numerous in this region. Bennyhoff (1956:42) calls the C16 a blade, but tabulates the specimens with the projectile points, as has been done in the present report. In the Crane Flat Complex Summary, Bennyhoff mentions (ibid., p. 55) spears and dart points as probably represented.

Riddell (1960:23) suggests that points weighing 1.2 and 3.0 grams are arrow and/or dart points; 3.0 grams or more are predominantly dart points; and 1.2 grams or less are arrow heads. He does not suggest spearheads as a use for some of the heavier points.

Meighan (1955:16) comments on the blades found in Mono County, about which he says: "Some of the blades may conceivably have been projectile points, although their large size argues against this interpretation. The notched types were no doubt hafted, but the more common square based form could have been used in the hand without preparing a handle."

In the Greasy Creek Report (Pendergast and Meighan 1959:4, Fig. 1), the following comment is made on the C5 subtype found there: "The much larger and more coarsely chipped artifacts of this form (stone) were probably knives and not projectile points at all." These specimens are more crude than many found in the HLR.

In Steward's (1933, Fig. 3) report on the Owens Valley Paiute, there is pictured a "skinning knife" which is a pointed blade with a straight base. A blade is also pictured inserted in a stick for general cutting. It is not possible to tell if the latter blade has a straight, concave, or notched base.

Harrington (1957:52, Fig. 40) calls the long, notched point of chalcedony from Little Lake a spearhead. This specimen is similar to many specimens found in the HLR, except that the latter are obsidian.

There are several forms among the C3, C5, and C16 subtypes that may be short or long parallel-sided projectile points. These may be stubbed and reshaped, tapered to a long, fine point from parallel sides, or the sides may tend to be convex and less finely tapered to a point. There are many variations.

These C weight class points are usually found with only 2 1/2 to 1/2 inch of the fragmentary base remaining. If the specimens were tied to a spear shaft, or used as a dart and struck an object, at what point would they break? If they were used as knives, we would perhaps find the sides irregularly chipped or broken unless they were used in a dagger-like fashion. Some of the finer (larger) points have the appearance of projectiles while others do not. On the other hand, it may be possible that these artifacts were useful as knives or blades in prehistoric times and remained in use into historic times. Riddell (1960:25) mentions large, broad, heavy blades from Danger Cave. He says, "their weight, thickness and width, as well as the fact that a number of these specimens have blunt points and no basal thinning, suggest use as knives rather than as projectile points. . . . Knives also often are indicated by the fact that one edge is straight or concave, while the opposite edge is strongly convex. The edges often exhibit wear through use."

It is obvious in the above discussion that archaeologists are not in agreement on the use of these large points. I suggest that at least some of the long, parallel-sided specimens were used as projectile points and some were used as knives, as was thought possible, for example, with the Danger Cave blades. Perhaps at some future time and with additional study of these artifacts, more definite conclusions may be made. However, it seems likely that those used for projectile points are "early" artifacts, while knives may have been used up to historic times as well as in prehistoric times.

## EXCAVATIONS

Table 6 summarizes the types A, B, and C projectile points and the levels at which they were found in four sites which were test excavated in the HLR.

Fre-123: one house pit and five 3 by 3 foot test pits. This site was most extensively excavated.

Fre-137: one house pit and one 3 by 3 foot test pit excavated.

Fre-169: six 3 by 3 foot test pits excavated. (This site had been thoroughly excavated previously by persons unknown.)

Fre-245: one house pit and two 3 x 3 foot test pits excavated.

The deepest excavation was at Fre-123 where the depth of the refuse deposit extended to 30 inches. In their excavation at Vermilion Valley (Fre-115), Lathrap and Shutler (1955:228) indicate a maximum depth of 30 inches, with an average depth of 20 inches. At most of the HLR sites the excavation came to bedrock at 18 inches. By comparison, the Yosemite deposit (Bennyhoff 1956, Table 12) extended to 54 inches. The HLR sites are usually located on granite outcroppings and soil between boulders or spread over granite here has little depth. The comparatively few excavations made in this area seem to indicate that great numbers of artifacts are not to be found in the midden soil itself.

On the other hand, it may be of some importance to realize that the surface findings in Yosemite were more subject to removal because more collectors were in this area than in the HLR. Certainly, in the latter area we seem usually to be dealing with more projectile points per site than in Yosemite. Riddell (1960:7), in the Karlo Report, states: "Possibly artifacts tend to be concentrated in the upper level because of aeolian erosion carrying away the topsoil and leaving the projectile points and other stone specimens concentrated in this level." The melting snow and erosion in the higher altitudes surely have some effect on the shallow midden of the sites. This very shallowness may in part account for the lack of stratification. There was no cultural stratification at Fre-115 where Lathrap and Shutler (1955:238) observed that it is possible more stratification might be found if a much larger excavation of the deeper layers were made.

I believe that unless a site can be found in the HLR which has a substantially deeper refuse deposit, no true stratification will be found in the deeper levels. However, this should not discourage further excavation if a large occupation site, presumably undisturbed, is found in the future.

In Table 6 the A type points show a definite preponderance on the surface and in the 0-6 inch level; a few occur in the 6-12 inch level; and frequently none in the deepest level (below 12 inches). There is some suggestion of a dominance of type B points in the 6-12 inch level. This would supposedly place them in the middle of a sequence between type A and type C projectile points which tend to occur in the lower levels. However, all three types of points are also most numerous in the 0-6 inch level for all sites combined. More of all three types are found on the surface than in the excavations, but it is possible this may be a lopsided comparison. It appears therefore that the occurrence of points has no definite significance except for the type A point majority on the surface and in the 0-6 inch level, and a tendency for

the type B weight class points to be above the deepest levels. The whole picture is confused by the presence of the heaviest points in the upper levels.

In considering the Yosemite stratification, one might reasonably suppose that a greater depth of deposit allows for a greater amount of stratification. Excavation of three sites was reported by Bennyhoff (1956): Mrp-9, Mrp-97, and Mrp-105. In Mrp-9, it is shown (ibid., Table 5) that fewer projectile points were found on the surface than in the lower levels. Only 15 points were found, and type A weight points in the upper levels make the only significant showing. This concentration of type A points in upper levels is present in all four of the HLR excavated sites. In Mrp-97 (ibid., Table 9), there are more projectile points shown as found on the surface than in the lower levels. This is the same finding as was indicated in three out of four HLR excavated sites (Table 6). In Mrp-97 there is some occurrence of type B weight points above a type C point, but only one type A point, which suggests that this site belongs in the "middle" or Tamarack Complex at Yosemite (ibid., p. 54). This particular set of occurrences is not found in any of the four HLR sites, although the type B points, as I have noted, are more numerous in the 6-12 inch level than the type A points, except in Fre-169 and Fre-245. At Mrp-105 (ibid., Table 13), more projectile points were found (48) than at any other Yosemite site, and fewer were on the surface than in the lower levels. The type A points were concentrated in the upper levels as in the HLR sites, and the type B points were concentrated in the middle level, along with the type C points. Only 3 type C points were found below the middle level compared to 6 in the same level with the concentrated type B points. As I have attempted to point out, the points in the HLR excavated sites do not show any stratification of type C points to indicate their older position.

Bennyhoff (ibid., p. 56) speaks of "limited excavation" in four sites, which "provided stratigraphic evidence for a succession of three cultural assemblages." The Yosemite sites did not represent extensive stratification, however, and further excavation, both in Yosemite and the HLR might uncover more significant data.

## ARTIFACTS OTHER THAN PROJECTILE POINTS RECOVERED IN HUNTINGTON LAKE REGION

### Beads

Table 7 summarizes the occurrence by sites of the trade and steatite beads found in the HLR. Of particular interest is the fact that no

shell beads of any kind were recovered in this region, although they were found at Yosemite (Bennyhoff 1956:52), Iny-2 (Riddell 1951:18), Mono County (Meighan 1955:11), and in the Northfork Mono area (Gifford 1932). All these regions or sites appear to have some relationship to the HLR, and one would think that Pacific Coast trade evidence, in the form of shell beads, should also be found in the HLR.

Steatite beads were recovered from either the surface or the 0-6 inch levels in all but two instances where they were found at the 6-12 inch level. The sites where most steatite beads were found were Fre-123 (9) and Fre-137 (9). Elsasser (1960:32) states: "Steatite disc beads and steatite arrow shaft straighteners both seem to have a distribution in the Sierra Nevada limited to the southern part of the range, and both seem to occur in late prehistoric or historic archaeological contexts."

Glass trade beads are tabulated as clear or opaque. A total of 21 were recovered: Fre-137 yielded 6; Fre-123, 5. These beads are all of the historic period and were found on the surface or in the 0-6 inch level. They also occur at Iny-2 (Riddell 1957:19), Mono County (Meighan 1955:11), at two sites in the Yosemite region (Bennyhoff 1956:52), at El Portal (Fitzwater and Van Vlissengen 1960), and at Hospital Rock (von Werlhof n.d.).

There are several shapes of glass beads: angled, ovoid, cylindrical, and round. The colors are dark blue, light blue, red, white, orange red, yellow white, red and white, and gray.

Although steatite beads were found at Iny-2, steatite sherds have not been found there (Riddell 1951:17). The beads may have arrived at this site by exchange in trade with the Western Mono who had steatite readily available (see below). It should be noted that in both the HLR and at Iny-2 the historic glass trade beads were found in relatively great numbers whereas they are fairly rare in other sites.

Steatite (bowl) sherds

Table 8 shows the occurrence of 35 steatite sherds recovered from the HLR, 33 from the surface and 2 from the 0-6 inch level. At Fre-291 (Bear Creek at Huntington Lake), more sherds (9) were found than at any other site in the region. Four each were found at Fre-118 (Badger Flats) and Fre-293 (Boggy Creek No. 2). These three were probably occupation sites.

In Mr. L. A. Robinson's collection, there is a steatite bowl, entire except for the bottom portion, from Shaver Lake Dam Site. He also has in his collection one partial and one complete bowl from Fre-208 on the Southern California Edison Company road above the San Joaquin River. This is Western Mono territory, but in a site elevation too low for the present report.

Mr. Robinson, Mr. T. Newton Russell, and Mr. O. J. Woodward have explored steatite deposits near the HLR. They report steatite in the State Park at Friant Dam on the Madera side of Millerton Lake. They endeavored to enter the Kennedy property in order to find the steatite deposit mentioned in Gifford's (1932:25) report on the Northfork Mono, but without success. However, they found a steatite outcropping above Academy, and there are other reports of steatite in this area which have not been investigated. Steatite was available to the Indians on the west side of the Sierra Nevada who came seasonally into the region we are studying. Heizer and Treganza (1944:308) report steatite deposits near Lindsay and Fish Creek, Fresno County.

Pottery: Owens Valley Brown Ware

One hundred and thirteen fragments were tabulated from the HLR (Table 8); 3 were found at depths of 6-12 inches below the surface, 31 at the 0-6 inch level, and the remainder on the surface. At Fre-245 (South Tamarack Creek No. 2), the greatest number of sherds (39) were found, with the majority (29) at 0-6 inch depths in a house pit. These sherds were associated with type A projectile points (34) and a few type B points (5). There were no C type points in association.

The name "Owens Valley Brown Ware" is used as a descriptive term, but there is evidence that the Western Mono Indians made this ware in the Auberry region. Mrs. Maggie Marvin of Auberry told me that she could remember her grandmother making bowls from clay of the kind which characterizes this pottery. Although Gifford (1932:25) reports no Owens Valley Brown Ware from the Northfork Mono, local Indian informants (Mrs. Johnson and her daughter) have told me that this pottery was indeed made in that area and the material used came from Hooker's Cove (Kinsman Flat). They were shown a picture of a typical bowl and Mrs. Johnson said she could remember when the Indians made them.

Drills

Forty-eight drills, of which 46 are obsidian and 2 chert, have been recorded from this area. In Plate 2B it will be seen that while some are

well shaped, others are only fragmentary or crude points which were probably used for a time and then discarded. The finest types (Pl. 2Ba, e) are similar to Bennyhoff's (1956) Fig. 8c, f. The HLR type shown in Plate 2Bb is also well shaped, although the tip is absent. This point does not occur at Yosemite. All other types in Plate 2B are crudely shaped, but were probably adequate for use as punches or perhaps reamers. Small drills about an inch long, with finger-holding bases, were found, and they were said to have been used for the purpose of drilling holes in steatite beads (not illustrated).

The finer drills from the HLR, although rare, are on the whole more carefully shaped than those reported from Iny-2 (Riddell 1951), El Portal (Fitzwater and Van Vlissengen 1960), Martis Complex sites (Heizer and Elsasser 1953), except for Pla-5 which shows well shaped specimens in basalt, and Little Lake (Harrington 1957). Mono County (Meighan 1955) and Karlo types (Riddell 1960) are more like the HLR types in workmanship, although in Mono County some of the shapes are the same (Meighan 1955, Pl. 4, Nos. 16, 19) No drills were found in the Kings Beach Complex sites, Tahoe region (Heizer and Elsasser 1953).

It is interesting to note that Heizer and Elsasser (1953:19) list drills with "expanded base, finger-hold flaked drills or punches" as a Martis Complex trait, whereas Bennyhoff (1956:53) places "long, parallel sided [obsidian] forms, diamond shaped in cross section, with an expanding base" in the latest, or Mariposa Complex. The latter are the finely chipped (drill) types found in the HLR and Mono County. The finer basalt types may be ancestors to the HLR obsidian drills which certainly resemble the finer workmanship of the type A projectile points (especially the Desert side notched variety) rather than the more crudely made type C points.

Drills are found at the majority of sites I have been discussing; hence it is difficult to use them as time markers unless some age difference between types or materials is found to be significant. Their absence from the Kings Beach Complex site of the Tahoe region is of interest since drills are present at other late prehistoric or historic sites mentioned in this report.

The HLR site where the greatest number of drills for the region was found was Fre-256 (Boggy Creek No. 2), with 11 drills varying from crude to fine examples. This was one of the sites almost destroyed by collectors, but the drills recorded are from the Morgan Blasingame collection made available to us. This site is not far from the western end of

Edison Lake, on the eastern end of which is situated Vermilion Valley (Fre-115). Drills were also found at Fre-115 (Lathrap and Shutler 1955: 234).

In connection with possible stratification, it should be noted that all but 4 drills were found on the surface in this region. Three were from the 0-6 inch depth and one from 12-18 inches in depth. The latter specimen (Pl. 2Bk) is more like a reamer as it is thick and ridged lengthwise and crudely shaped.

Flake scrapers

These were the most numerous artifacts in both the HLR and Yosemite, as well as in several other regions examined for the present study. Scrapers which had only a slightly worked edge were discarded in tabulating because of the great number and crudeness of the specimens. Oval scrapers are comparatively rare; subrectangular specimens with working on one, two, or three edges are usual. Often there is a point worked on the flake, which could have been used as a kind of punch or drill. Some of the specimens show a crudely chipped notch formed on the sides, as though to scrape or cut a small stick or perhaps arrowshaft (spokeshave). Many of the scrapers are plano convex in cross section rather than flat flakes. Although crude, all of the general types found at Yosemite (Bennyhoff 1956, Fig. 7) were found at the HLR. There appears to have been some interest in the materials used for scrapers. Frequently, those that are made of red obsidian or translucent gray and yellow varieties of rock are better shaped; these may have served for frequent use. As has been previously noted, it is often difficult to distinguish a projectile point such as one in the C4 category from a well made scraper.

Scrapers were found at all levels in the HLR test excavations. More scrapers were found below the surface than on the surface of three out of four sites excavated, although two out of four of these same sites had more type A projectile points below the surface than on the surface.

The flake scraper is rare in the Kings Beach Complex sites (Heizer and Elsasser 1953). However, it is present in other historic sites, such as Iny-2 (Riddell 1951) and Mono County (Meighan 1955). In both of the latter sites some heavier, type C points, have been found associated with the scrapers, as at Yosemite and in the HLR.

Scrapers of one kind or another occur in all sites or regions I have attempted to relate to the HLR. Thus it seems reasonable to suppose that they were present in all complexes, although the types may have varied with the sequence of cultures.

Knives and blades

Complete artifacts of these categories are comparatively rare in the material collected from this region. Only one whole blade (Pl. 2Bm) was found (Fre-227, Stump Springs Road No. 2), but fragments of large obsidian knives or blades are fairly common. They are found frequently in private collections from the area. In the Robinson Collection, for example, there are blades found at Fre-220 (Hoffman Meadow). In the Lyon Collection at Shaver Lake, there are 11 well made blades which were originally found in that area. Whole blades from Hutchinson Meadow (Fre-200 and Fre-201) are in the private collection of Mr. Roy Koontz. The above blades are all of obsidian and approximately 3 to 5 inches in length.

The Lyon Collection also contains 7 very large (9 to 10 in. long) obsidian artifacts which are often called "ceremonial pieces." Five of these are almost complete, and 3 are finely to roughly flaked, wide in the center but tapering to a point at one end and straight at the other. These may have been used as large knives, or brush or wood cutters. The two remaining specimens are more crudely shaped, thicker and wider at the center, and tend to be pointed at both ends. These may possibly be large obsidian blanks for trading, formed for convenient carrying, and to be made later into small artifacts. Mrs. Lyon tells the story of someone finding these pieces near Shaver Lake, arranged together in a pattern when they were uncovered.

Portable grinding stones

No portable metates or mortars have been found in this region. One crudely shaped, hollowed, granite rock, found at Fre-335 (Upper Chawanakee No. 2), was certainly used for grinding purposes, but is too heavy to have been carried any great distance. At several sites there were shallow holes attached to or continuous with deeper holes in the bedrock. Metates of any kind are rare. Occasionally I have seen large, slightly hollowed, granite boulders that could have been used for grinding, but it was not possible to distinguish definite signs of their use for this purpose.

The bedrock mortar was, by all odds, the accepted method of grinding at these high altitudes, undoubtedly due to the steep trails up which it would have been necessary to carry portable mortars or metates. It may be that in very early times wooden mortars were used in this region, but there is no evidence of this remaining at present. In the Auberry and José Basin regions there are portable stone mortars (John Marvin

Collection) which indicate that while the Western Mono may have used them, they probably did not take them to the mountains. On the other hand, they would probably be among the first articles removed by collectors from the sites.

Portable grinding stones were rare at Iny-2 (Riddell 1951), and they did not occur in Mono County (Meighan 1955). Their appearance in Yosemite (Bennyhoff 1956) may be due to the ease with which they could be carried into the Valley and to possible longer occupation, although they were not found at El Portal (Fitzwater and Van Vlissengen 1960).

Manos and pestles

Oval granite manos taken from streambeds are commonly found in this area. These stones were so readily available at the sites that it is sometimes necessary to identify a true mano by finding it *in situ* or buried in the site refuse area, although it must in any case have the appearance of having been used for rubbing or grinding. These unshaped manos fit the hand comfortably, and probably, since they were so easily available, a more finely made mano was not usually found in the mountains. Two finely shaped manos were recovered, one from Fre-291 (Bear Creek at Huntington Lake) and the other from Fre-132. They are both straight sided with rounded corners. The first is of a fine grained gray granite, the second of a coarse grained white and gray granite.

Many stones and pestles in different shapes were found on these sites. One of the more common is a small, round, granite stone, an inch to an inch-and-a-half in diameter. These may possibly have been used in some sort of game, or to crack nuts or seeds, or they may simply have been prized by the Indians. Mrs. Maggie Marvin's acorn-cracking stone is of smooth, white granite; she is proud of this stone and it is still in use.

The pestles are usually granite creek cobbles, roughly triangular in long section and pointed at the pounding end. These are the usual Sierra Nevada bedrock mortar pestles found also at Iny-2 (Riddell 1951), and in Mono County (Meighan 1955) and Yosemite (Bennyhoff 1956). (See Table 9 for references.) Other pestle shapes are short and more triangular, or long and thin with a pounding end.

It was noted that there are often more pestles than bedrock mortar holes present at a particular site. The explanation of this may be that a pestle would become worn and would be discarded for a new one that would fit the hole. Also, as the hole deepened a pestle of different shape may have been required.

Blackened cooking stones were also found in these sites, usually in the refuse deposit.

Arrow straighteners

A fine example of an arrow straightener was found at Fre-123 (below Camp 61). This is of a kind of micaceous schist, shaped so that the sides taper slightly to truncated ends. The specimen contains two straightening grooves. This artifact was found at the 0-6 inch level in a test pit, in heavily burned earth. It was so carefully shaped that it was probably a prized possession, and possibly was brought from another area.

Another straightener, with one groove, is in the L. A. Robinson Collection. It is of steatite and is oval in shape. This specimen was found at one of the Stump Springs Road sites above Chawanakee. There is another straightener in Mr. Robinson's general collection of the region, which is of steatite and has two grooves and is oval in shape, with ends which may be described as truncated.

Mrs. Johnson has in her possession a steatite arrow straightener which has a single groove on both surfaces.

An arrow straightener was also found in Mono County (Meighan 1955: 11) in a private collection.

Another type of arrow straightener, or possibly an acorn cracker, occurs in the HLR. It is a round stone, tire-shaped, with a tapering hole in the center. The hardness of the stone is said to determine its use. Although the definite use of these artifacts has not been established, it is suggested that the soft stone was used to straighten an arrow shaft, and the hard stone for acorn cracking. The acorn was set in the hole and struck by another stone. This type of stone is in the Robinson Collection and was found at Tamarack Creek (Fre-198).

Steatite ornaments

A steatite pendant was found at Tunnel Creek near Shaver Lake and is in the private collection of Mr. and Mrs. Newquist of Big Creek. It is about three-quarters of an inch in diameter and three inches long. A hole has been drilled at the top for suspension from a cord.

Pictographs

No pictographs were found within the HLR. In lower, adjacent areas, one was found in the Northfork Mono territory of the San Joaquin by Mr. T. N. Russell, Mr. O. J. Woodward, and Mr. L. A. Robinson. It is west of Saginaw Creek, above the Italian Bar Road. The markings are a simple line "crosshatching" design on the face of a large boulder. Another pictograph is reported in a deep walled canyon farther up the San Joaquin River. It is said to be difficult to locate, as well as being virtually inaccessible. While there is no known explanation of the absence of pictographs and petroglyphs in this region, it is possible that some may have existed in the past but were obliterated due to heavy weathering in the winter months. It would appear that there are endless opportunities for making pictographs on the sheer rock surfaces in the area.

Other specimens or traits

Boatstones and specific artifacts for fishing purposes have not been found in this region. The salmon fishing by the Western Mono in the San Joaquin River as far up as Power House No. 4 is well remembered by Indians and whites who describe this skill.

No inhabited caves or shelters have been identified in this region.

## CHRONOLOGICAL RELATIONSHIPS OF CERTAIN PROJECTILE POINT TYPES IN THE HUNTINGTON LAKE REGION AND SURROUNDING AREAS

Since the long subtypes C3, C5, and C16 projectile points are all more prevalent in the HLR than in Yosemite and, in fact, subtypes C3 and C5 are more prevalent here than in any region with which this area is being compared, their possible age and use is of importance. Subtype C16 specimens occur only at Yosemite and Hospital Rock, Tulare County (von Werlhof n.d.).

Bennyhoff (1956, Figs. 5 and 6) classes these specimens with projectile points. However, he speaks (ibid., p. 42) of subtype C16 as a "blade." There are only two subtype C16 specimens from Yosemite which he likens to a "Yuma" point, with implied antiquity. One specimen is of obsidian and one of basalt. The specimen (obsidian) shown in his Figure 6p is like the HLR point, that in Figure 6o (basalt) is not (loc. cit.).

Bennyhoff pictures another of the HLR subtype C16 points from Fre-105, San Joaquin Valley (ibid., Fig. 6r), and states that "similar specimens of obsidian occur in the Sacramento Valley" (ibid., p. 44). He also refers to an excavation in Solano County on a tributary of the Sacramento River (Treganza and Cook 1948, Pl. XXVII, type No. 1).

The subtype C3 specimen described as "short" in the Yosemite area is not necessarily so according to Bennyhoff's own illustration of this subtype (1956, Fig. 5g). The typical HLR subtype C3 is long and parallel-sided in the complete specimens from general collections of this area. This subtype also occurs at Karlo (Riddell 1960, Fig. 7, 9c) where it is found in large numbers. It appears at the Martis Complex site at Do-12 (Hobo Hot Springs, Nevada) where it is termed a "Humboldt [Nevada] concave base A" point (Elsasser 1960:54, Pl. 2Bg-k); however, it is in type B rather than type C weight range.

According to Bennyhoff (1956:43) the Yosemite subtypes C3, C5, and other C type points "were concentrated in the deep levels of Mrp-105 . . . overlapping with B types." He also observes (loc. cit.) that the C3 and C5 subtypes were found in the San Joaquin Valley at Tule Lake, and that "they fall within the range of points associated with the Pinto Complex of the Southern California Desert." Two of these "blades" were found at Vermilion Valley (Fre-115) by Lathrap and Shutler (1955:234). They tell us, "This type of blade is widespread in the Southern Sierra, and may have a respectable antiquity. Its occurrence both here and at Slick Rock Village [Tul-10] confirms that it survived until the contact period."

There are three sites where only type A points occur in the HLR, except for subtypes C5 or C3 points found with them. This distribution is also found at Slick Rock Village (Fenenga 1952:344), subtype C5; at Iny-2 (Riddell 1951, Fig. 1), subtype C5 (Riddell's type 13); and at Greasy Creek (Pendergast and Meighan 1959, Fig. 1). This distribution may indicate that these type C artifacts, or at least some of them, belong to a later culture because they alone were associated with the small type A projectile points. Pendergast and Meighan (op. cit., p. 6) state that "the materials from the Greasy Creek excavation parallel those from Slick Rock Village." Greasy Creek, however, gives evidence of stratification and subtype C5 specimens were found at lower levels.

The C5 subtype also occurs in Mono County (Meighan 1955, Pl. 3). Meighan (op. cit., p. 19) says, "many of the characteristic projectile points of the southern California desert areas are identical to Mono types." He is speaking of type 3, among others, which in the HLR is subtype C5.

Bennyhoff (1956:43) comments, "Types C8, C5 . . . are common in Middle Horizon sites in the Sacramento Valley." Subtype C5 is also present at Karlo (Riddell 1960, type 9d), and at Little Lake a type resembling "shoulderless Pinto" was found in chalcedony (Harrington 1957:52, Fig. 40). Riddell (1951:17) states that type 13 from Iny-2 "in no way differs from specimens excavated by Harrington at Little Lake. At the Martis Complex site, Do-12, this type is short, perhaps retouched, and is called the "Humboldt Basal notched type" (Elsasser 1960, Pl. 2B1 and m). However it is in type B weight class.

In the foregoing references the consensus places these heavy points (knives or blades) in at least Middle Horizon culture, and they are supposed to extend to historic times. The 3.5 gram weight for projectile points is a characteristic of the Crane Flat Complex of Yosemite with a suggested terminal date of 500 A.D. (Bennyhoff 1956:55). Certainly there is an equal indication of this earlier culture in the HLR as far as these projectile points are concerned, since the percentage of type C weight points is approximately the same as at Yosemite, and there are even more type B weight projectile points (30 per cent of total found at the HLR compared to 20 per cent at Yosemite).

Riddell (1960:23) states, "It would seem that weight is one of the important factors . . . to be considered in separating the dart points from the arrow points." He thinks there might be a "period of transition in which the atlatl was being replaced by the bow." The suggestion is made that the points from the Karlo site weighing about 1.2 and 3.0 grams were arrow and/or dart points, and those weighing 3.0 grams or more were predominantly dart points. "Those weighing approximately 1.2 grams or less can be considered predominantly or exclusively as arrow points" (op. cit.).

Riddell's divisions in weight are not far from the A, B, C weight divisions of the Bennyhoff types. As I have already noted, some types merge together, and some individual specimens run over or under the average weight of their type. A number of these might be explained by the existence of a transitional period. The tentative Tamarack Complex of Yosemite might be considered a "transitional" period when somewhat heavier points were at first used with the bow and arrow. What, then, is indicated by the higher percentage of B weight points in the HLR? It could mean a larger or longer transitional occupation, or it could simply be due to the removal of more specimens from the surface in the Yosemite area. However, one might assume that all projectile point specimens of any weight whatever on the surface would be removed equally, except for the small A weight

points which are numerous in both areas and perhaps more difficult to find.

Elsasser (1960:55) suggests that the Martis Complex site, Do-12, gives evidence of a later phase of the Martis Complex by analysis of projectile points, and at the same time a mixture with another complex, that is, that called the Tamarack Complex by Bennyhoff.

Since there has been no definite stratification of type C points in the HLR, the only basis we have for placing the region in any cultural sequence is that provided by the surface artifacts. Although our C weight artifacts are not found in definite layers, they resemble the Yosemite points in this weight so closely that a similar cultural sequence may be considered.

It would not be reasonable to say that all projectile points from the HLR were used and made in the same cultural period by the same groups. Obviously, some of the heavy points are more crude and could not have been used with a bow and arrow. It would be difficult to imagine a skilled craftsman shaping a fine subtype A5 point and also a subtype C9 type. They certainly suggest separate manufacturing traditions, unless they were meant for totally different purposes.

Elsasser (1960:15) states, "In some cases it has been possible solely by means of surface survey to identify, if only tentatively, one or more culture complexes in sequential relationship." There seems to be very little separate identity as between sites within this region. The over-all picture is a mixture of A, B, and C projectile points in all sites throughout the region, and a tendency to the same prevalence of types among these sites.

Because of the numerical prevalence in the HLR of the subtype B10 point, it would seem of importance to devote some discussion to it at this juncture.

In considering the higher percentage of occurrence of type B points found in the HLR as compared with Yosemite (10 per cent difference), it is apparent that the B10 points are the subtype which swells the percentage at the HLR. The prevalence of this subtype in the HLR suggests a definite relationship to the following sites where it is also dominant:

1. Mono County (Meighan 1955, type 6)
2. Karlo, Lassen County (Riddell 1960, types 2a and 3a)
3. Tommy Tucker Cave, Lassen County (Fenenga and Riddell 1949, Fig. 58, types j, k, l, etc.)
4. El Portal, Mariposa County (Fitzwater and Van Vlissengen 1960, type H and K)

B subtype points are also numerous at Iny-2 (Riddell 1951, type 11) and at Martis Complex sites (Elsasser 1960, type B5, in basalt).

This represents a mixture of complexes, and, as expected, there is observed great variation in the workmanship of the B10 points. Some are crudely shaped while others are as finely shaped as the small Desert side notched points.

The variety of B10 specimen shown in Plate 1Bw, with barbs as long or almost as long as the stem, is often wider than the usual B10 examples and are generally well shaped. Fitzwater and Van Vlissengen (1960:172-173) distinguish two types (H and K) which I have included under the one B10 heading, and they relate their H type to Bennyhoff's type A11, although it is type B weight. Their K type, which they relate to Bennyhoff's type B10, plus the H type, make together the dominant type at El Portal, if my classification is followed. In the general B10 category in Yosemite, Bennyhoff does not make the distinction between these two B10 types, nor are they dominant there. In the description of projectile points, I have given the total count of B10 specimens for the HLR and also noted the separate variety (shown in Pl. 1Bw) count for the region.

The "Gunther barbed" point of northwestern California is similar to our B10 (Pl. 1Bw). Fitzwater and Van Vlissengen (1960:158), commenting on material from Trinity County, say that this point "appears to be chronologically associated with the late prehistoric or historic period of the area from the mouth of the Frazer River to northwestern California, and inland as far as the northern Great Basin." (See also Treganza 1958:14-15.)

A separate study of the varieties of the B10 subtype may be of interest in attempting to determine whether some of them belong to an older culture. If the B10 appeared consistently in the same sites with the historic Desert side notched points, they could be placed in the "late culture," but this is not the case. In the sites within the HLR where only types A and B points occur, the subtype B10 is found (Fre-245), but so also are one subtype B2 and one subtype B5. Hence, the subtype B10 at this site

does not occur alone with the type A points. On the other hand, there are two sites (Fre-197 and Fre-226) where only type A points were found, and no B10 type points were associated with them.

## COMPARISON OF THE HUNTINGTON LAKE REGION WITH SIERRA NEVADA AND RELATED ARCHAEOLOGICAL COMPLEXES (GENERAL)

### Yosemite

Let us compare the HLR with the three complexes suggested by Bennyhoff (1956:53-55) at Yosemite. The similarities and dissimilarities, so far as they can be determined with limited excavations, are as follows:

#### Mariposa Complex

Similarities:

1. Points weighing less than 1 gram (almost all obsidian, other materials minor). Subtypes A2, A4, A5, A7, A11 numerous.
2. Bedrock mortars and cobble pestles
3. Flake scrapers most common artifact
4. Drills long, parallel sided, expanding base
5. Steatite vessels (sherds) and beads
6. Use of bow and arrow
7. Serrated points

Dissimilarities:

1. No clamshell disc beads
2. Presence of Owens Valley Brown Ware
3. Yosemite type A points 50 per cent of total recovered, HLR 39 per cent

#### Tamarack Complex

Similarities:

1. Points weighing between 1.0 and 3.5 grams
2. Obsidian preferred material, others used occasionally

3. Commonest point subtype B10; also B3, B5, B9 (not numerous)
4. Bedrock mortar and pestles
5. Flake scrapers, oval scrapers occasionally

Dissimilarities:

1. Subtype B7 projectile points not as numerous at the HLR as at Yosemite, subtypes B2, B3, B4 fairly numerous
2. Yosemite type B points 20 per cent of total recovered, HLR 30 per cent

Crane Flat Complex

Similarities:

1. Points weighing more than 3.5 grams
2. Manos
3. Obsidian preferred material, other material occasionally
4. Subtype C5 most common point, C9 also numerous
5. Spear and dart points probably represented
6. Core scrapers
7. Percentage of totals of type C points in the HLR and Yosemite approximately the same

Dissimilarities:

1. No portable metates identified in the higher altitudes (HLR)
2. Subtypes C1 and C11 not as common as subtypes C3, C7, C16

It may be seen that the main differences between the two regions are the percentages of totals of types A and B points recovered, the occurrence of shell beads in Yosemite but not in the HLR, Owens Valley Brown Ware in the HLR, and probable absence of portable metates in the HLR. There are also some differences in the numerical occurrence of specific projectile point types.

On the whole, the dissimilarities do not appear to be of great significance. The similarities, on the other hand, are marked. It

might be that the particular trade that brought shell beads to Mono County, Yosemite, and Iny-2 was nonexistent in the HLR (Table 9). This specific item (shell beads) in the Mariposa Complex does not effectively alter the relationship between the two areas. The same may be said of the occurrence of Owens Valley Brown Ware in the HLR, which seems to have been a normal development since Iny-2 and the HLR undoubtedly have a direct ancestral relationship. The absence of the portable metate in the HLR may be explained by the comparative inaccessibility of the region.

The percentage differences in projectile point occurrences have been discussed above; there may be several explanations for these. The significant fact is, however, that in the HLR the differences suggest a larger or longer occupation in the Tamarack-like and Crane Flat-like complexes.

Martis and Kings Beach Complexes (Heizer and Elsasser 1953:19-20)

Martis Complex

Similarities:

1. Projectile points fairly large and heavy, roughly tipped, and variable in form
2. Manos for seed grinding
3. Economic emphasis on hunting and seed using
4. Scrapers
5. Expanded base finger-held flaked drills or punches common

Dissimilarities:

1. Basalt preferred material (materials other than obsidian rare in the HLR)
2. The metate and bowl mortar and cylindrical pestle absent from the HLR
3. No boat stones found in the HLR
4. Certain type C points found at Martis sites not found in the HLR
5. Desert side notched and other small points numerous in the HLR

Kings Beach Complex

Similarities

1. Obsidian preferred for projectile points
2. Bedrock mortars for seed-grinding
3. Projectile points small, light, side notched
4. Bow and arrow offensive weapon (inferred)

Dissimilarities:

1. Flint projectile points rarely found in the HLR
2. Scrapers not rare but abundant, drills present
3. Probably the HLR is attributable to late Northeastern Mono and Western Mono (rather than Washo)
4. Presence of heavy projectile points in the HLR
5. Glass trade beads relatively numerous at the HLR

The absence of boat stones, which are suggested as one of the time markers in the Sierra Nevada, is of importance here in determining cultural relationships. As they are found at Karlo sites (Riddell 1960), in the Martis Complex sites (Heizer and Elsasser 1953), and at Little Lake (Harrington 1957), it is not beyond reason to entertain the thought of possibly finding them in the HLR. For one example, a boat stone was found in the Kings-Kaweah region of the southern Sierra Nevada where the Western Mono also settled (Oscar Noren Collection).

Riddell (1960:23) suggests that his 2d and 9a projectile point subtypes were used as dart points for the atlatl. The 2d subtype is most similar to the HLR C11a and C11b subtypes, which are not numerous either in the HLR or in the Yosemite region. The Karlo 9a subtype resembles our subtype C1, and some of the C2 and B1 subtype specimens (Pl. 1B and C). Subtypes C1 and C2 types are fairly numerous in the HLR, and more prevalent than in the Yosemite region (Table 3). The HLR subtype C15 is more numerous than either C11a or C11b, and is, in addition, a better defined type (Table 1). It somewhat resembles the atlatl type, and might be the HLR dart point. Two fairly large specimens occur in the HLR in the Martis Complex site Do-12 (Elsasser 1960, Pl. 2z and a'). It may be questioned that if the boat stone is an atlatl weight, what was used for such a weight in the HLR if the atlatl were in use there?

This is perhaps an opportune point at which to discuss the use of either basalt or obsidian as projectile material in relation to the age of the cultures employing these two materials. Heizer and Elsasser (1953:21) state: "The common emphasis on implement material other than obsidian may mean that in this [Martis] period we are dealing with separate groups, small in number, which had few intimate contacts with each other. Obsidian, which is available only in a few places, may at this time have been used abundantly only by the owners of the obsidian quarries and their immediate neighbors." They suggest that it was only in later periods, when trade increased contacts, that there developed a regular and large scale barter in obsidian which was sufficient to supply all or most needs for flaked implements.

With this in mind, it may not be pertinent to use basalt as an identification of age in all areas. If certain groups, for example, used only basalt because they had no contact with obsidian, there must, conversely, have been areas where obsidian was always used, such as in the Mono area. Since it has been established that the Western Mono were of Shoshonean (Mono-Paviotso) extraction and came from areas where obsidian was found, they probably used it from what was for them an early date, and its use continued after the Mono crossed to the west side of the Sierra crest. Because of their linguistic kinship with the peoples on the east, trade between them could be expected. This does not prove that the Western Mono culture in this region could therefore be as old as the basalt-using cultures. It is only pointed out that the lack of basalt articles does not necessarily place the HLR cultures in a purely historic or late prehistoric period.

Pinto Complex (Harrington 1957)

We have discussed possible relationships with the complexes in Yosemite and the Martis and Kings Beach locales. Since a possible relationship of HLR material to certain Pinto projectile points has been noted in this report, I shall attempt to compare certain specific Pinto elements found at the Stahl Site at Little Lake with specimens from the HLR. There are possibly 5 types of projectile points found in the HLR which resemble certain Pinto and Lake Mohave points from Little Lake. The approximate age given the Stahl Site was estimated as at least 3000 years (Harrington 1957:72). The HLR points which resemble the Pinto and Lake Mohave points are the C5 subtype "shoulderless Pinto" (9 specimens). The subtype B8 (4 specimens), which is like a "sloping shouldered" Pinto, is comparatively rare, and the "barbed Pinto" (op. cit., Fig. 39) is like subtype C15 (7 specimens) in the HLR. Also, the C11a and C11b subtypes

(4 specimens each at HLR) resemble the sloping and square shouldered Pinto points (loc. cit.). The "Pinto spearhead" in chalcedony, as stated previously in the present report, is very similar to the HLR long subtype C5, in obsidian. The "shoulderless Pinto" types mentioned above are generally shorter than the HLR subtype C5, and some may have been reshaped. The HLR subtype C17 specimen, not present in Yosemite, may resemble when entire the Mohave-Silver Lake points with large, roundish base (op. cit., Fig. 41, 2d row), but the fact that they are broken from a supposed point makes it impossible to make a definite comparison.

Of the subtypes of points resembling Stahl Site specimens (not Pinto or Mohave), one is the HLR B6 or C8, which is somewhat similar to "wide stem" points (op. cit., Fig. 41). Subtypes B1, C1, and C2 resemble the Stahl Site "leaf-shaped" and "willow-leaf" points (loc cit.). All the subtypes mentioned above probably represent older types in the HLR assemblage. At the Stahl Site, as in the HLR, we have an "obsidian preferred" culture. Harrington (op. cit., p. 49) says, "obsidian was used chiefly in place of the various materials available in the Pinto Basin." Comparison of the elements is as follows:

Similarities:

1. Drills and scrapers
2. Manos
3. Knives and blades
4. Owens Valley Brown Ware
5. Glass trade beads
6. Boat stones absent in both areas

Dissimilarities:

1. Steatite absent at Little Lake
2. Shell beads present, though rare, at Little Lake
3. Portable metates absent in the HLR
4. Arrow straighteners absent at Little Lake
5. Bedrock mortars absent at Little Lake

Although there are Pinto characteristics at the Stahl sites, there are also elements which occurred in the historic period, such as Owens

Valley Brown Ware, trade beads, and a few "late" projectile points. These were thought to have been of later Shoshonean origin (ibid., p. 70). Hence, relationship to be considered is only in certain type C weight projectile points which might also represent an older culture in the HLR.

Regions west of the Sierra Nevada

The final area to be discussed briefly in relation to the HLR is the west, where the Yokuts (Penutian) groups border the Western Mono in the valley. Any possible connection with the Middle Horizon Sacramento Valley sites (Lillard, Heizer and Fenenga 1939) can only be inferred through projectile point types that are found there as well as in the HLR. In citing these possible relationships, I am taking the liberty of using Bennyhoff's (1956) references, because of the type similarities between Yosemite and the HLR.

Our numerous subtype C5 points and our comparatively rare subtype C8 specimens are "common in Middle Horizon sites in the Sacramento Valley" (ibid., p. 43). Of our C16 specimens, Bennyhoff (op. cit., p. 44) says, "there is perhaps more evidence in favor of the point being a Middle Horizon form. Similar specimens of obsidian occur in the Sacramento Valley."

## CONCLUSION

From this region we have a report relying mainly on surface collections. While the area is large, there appears to be a general similarity between the characteristics of the sites and the over-all typology of artifacts, in spite of a few cases of projectile point type concentrations in individual sites. The question arises whether or not we can identify one or more cultural complexes in sequential relationship by surface survey only.

I have presented a comparative study of the HLR with the Martis Complex, Kings Beach Complex, the Yosemite Complexes, and also such projectile point comparisons as were possible with the Pinto site at Little Lake and projectile points from Middle Horizon sites in the Sacramento Valley. It should be mentioned that from El Portal comes a different typology than that from Yosemite proper, as there were no A weight projectile points found there (Fitzwater and Van Vlissengen 1960, Table V). A Tamarack Complex culture is not suggested at El Portal, probably because historic trade

beads and bedrock mortars were present, but these were also found by Bennyhoff in the Yosemite area and if a transitional period actually existed, the El Portal projectile points appear to fit into the Middle (Tamarack) Complex of the Yosemite region. The prevalence of the subtype B10 projectile point at this site, some of which Fitzwater and Van Vlissengen (op. cit., p. 172) type as a subtype A11 in spite of its type B weight, is of importance because of the same prevalence in the HLR.

Although the B and C weight projectile points are almost entirely absent in the Kings Beach Complex sites, the type A point assemblage there is very similar to that of the HLR. This may help to indicate that older cultures were also present in the HLR because points with weights other than those of type A were present. The essential differences between the Martis Complex sites and the HLR are as follows:

1. Predominantly basalt artifacts (Martis)
2. Presence of the boat stone (Martis)
3. Some types of B and C weight points not present at both

To go farther afield, we may note that the dissimilarities in comparison with the Karlo sites are:

1. Presence of the boat stone (Karlo)
2. Some basalt points (Karlo)
3. Some type B and C points not found in HLR present at Karlo

The absence of bedrock mortars at the Little Lake site may be significant, as they do not characteristically occur in Karlo and Martis Complex sites. There is some evidence of "late" occupation in almost every site or complex I am attempting to relate to the HLR. Thus, one or more of the following traits seems to occur in each site, regardless of its chronological affiliation:

1. Shell beads
2. Bedrock mortars
3. Trade beads
4. Owens Valley Brown Ware
5. Type A projectile points, particularly Desert side notched points
6. Steatite arrow straighteners

I have previously stated that there is a possibility that the absence of the use of basalt as a material does not necessarily indicate a historic

or late prehistoric site. I have also pointed out that there exist in the HLR certain projectile point types possibly used as atlatl darts, even though no boatstones have been found there. While certain type C projectile points consistently weighing over 3 grams, from Martis Complex and Pinto sites, do not occur in the HLR, there are, conversely, certain C weight projectile points discovered in the HLR not found in Martis Complex or Pinto sites. Caution must be used in relating basalt projectile points to obsidian points. The relationship is at best a resemblance, rather than an exact comparison. However, in some cases the resemblance appears to be sufficient to allow discussion of typographical relationships.

To return to the original question of identifying cultural complexes in sequential relationship by surface survey only, this was, in fact, done at Pla-5, which was placed in the Martis Complex, as preceding the Kings Beach Complex (Heizer and Elsasser 1953). In this case there were two very distinct types of sites. In the HLR the sites tend to reflect a homogeneous culture, although one or more culture complexes may be present in individual sites.

We may recall that Kroeber believed that the Western Mono probably did not settle in the middle altitudes of the western Sierra Nevada until around 500 years ago. Before that time their ancestors from east of the Sierra undoubtedly came, perhaps sporadically, into this region. There is also the possibility that the Yokuts from the west, then living in the middle altitudes before the Mono took their location, also came to this area. If the region was occupied by even earlier peoples from the Great Basin or Middle Horizon, peoples, for example, from the valleys to the west, we have the possibility of an occupation as old as early Martis or even Pinto complexes. When we present these possibilities, we should take into consideration that Yosemite, Mono County, and Iny-2 all have some similar type C weight points. Meighan (1955:18) tells us, "Areally, the Mono County material shows no particular relationship to the cultures of Central California. . . . Clear-cut similarities to Mono County specimens are abundant in objects from sites of the Great Basin and southern California deserts." The Pinto-like types found in Mono County are like the HLR C5, B7, C11a and C11b subtypes.

Elsasser (1960:12) comments that at Fre-115 (Vermilion Valley) and Iny-2 (Owens Valley) archaeological material "was not amenable to positive placement in a local sequence--including appreciable portions of prehistoric time." He states that "the great majority of the specimens from the sites evidently were associated with the late prehistoric or

early historic periods of the Owens Valley Paiute and with Mono and Yokuts groups on the western side of the main crest of the Sierra." Elsasser also writes (op. cit., p. 14), "Crane Flat and Tamarack complexes both may have some affiliation with the Martis Complex," and wonders (op. cit., p. 11) if there was "an early 'basement' culture in the foothills of the Sierra Nevada, dating perhaps from more than 5000 years ago."

If one is endeavoring to find a local sequence in the HLR cultures, one must turn to the Yosemite sequence where the cultural elements are markedly similar to those at the HLR. It would seem reasonable to equate the HLR with the Crane Flat, Tamarack, and Mariposa complexes, even though no type C weight stratification has been positively identified in the HLR.

The Yosemite historic occupation was by the Miwok, who were linguistically related to the Western Penutian groups rather than the Great Basin peoples. However, Bennyhoff (1956:7) states, "The quantity of obsidian found in the Yosemite area indicates that trade with the Mono Lake area (Paiute) existed for centuries. . . . Later historical and ethnographic accounts are filled with references to Paiutes in the Sierra." Paiute informants told Steward (1933:257) that they hunted in Little Yosemite Valley in the summer and wintered in Yosemite Valley when pine nuts were scarce. Bennyhoff gives other instances, and then comments (loc. cit.), "The conclusion which one must draw from the above data is that many camp sites in the High Sierra, and even some villages with mortar rocks in Yosemite and Hetch Hetchy, may represent late Paiute occupation, as well as Miwok."

This latter information about Yosemite occupation may explain the similar typologies of Yosemite and the HLR. It is likely that the Paiute traded artifacts to the Miwok as they did to the Yokuts. Similarity in artifacts between these two regions may be interpreted to mean that the Paiute occupation of the Yosemite region was greater than has been supposed, since the occupation of the HLR was primarily Shoshonean.

If we use the Yosemite complexes as a basis of cultural sequence in the HLR, and consider the spreading of the Western Mono to the west (not earlier than 500 years ago as suggested by Kroeber), this would place the migration in the Mariposa Complex. If our dominant subtype B10 points and the type B percentage of 30 per cent of total points found represent a Tamarack-like period, it would probably be in the latter part of that period and in the early Mariposa period that the ancestors of the Western

Mono (and possibly Yokuts traveling from their foothill occupation) were in this region. In considering the possibility of earlier cultural elements in our sites we do not have evidence of differing cultures between sites (except in a few rare cases) because the A, B, and C weight projectile points occur together in almost all of the sites. This probably indicates a sequence in occupation by the same peoples using the same sites through the centuries, unless later groups took over the same sites previously occupied by peoples of an earlier culture.

We should perhaps also consider, at this point, wind deflation and other types of erosion. These may contribute to the peculiar surface situation whereby "late" points occur on the surface together with "early" points. Without stratification as an actual physical indication of early cultural sequences, and without marked distinctions in projectile point weights among the sites in the region, an attempt to name complexes for this area would be presumptuous. The placing of cultural sequences by periods in connection with the Yosemite complexes, based on projectile point weights and other features of the Yosemite Valley, may be acceptable, as follows:

Period 1: ? to 500 A.D.

1. Occupation, possibly by early Great Basin peoples (Shoshonean?) or possibly ancestors of the Yokuts (Penutians) from the west
2. Corresponds to Crane Flat Complex of Yosemite
3. Use of type C projectile points--spear and dart points probably represented

Period 2: 500 to 1350 A.D.

1. Before Western Mono occupation; probably occupied by Shoshoneans or possibly Yokuts then in the foothills west of the Sierra Nevada
2. Corresponds to early Mariposa Complex and Tamarack Complex
3. Yosemite
4. Use of type B projectile points
5. Bedrock mortars

Period 3: 1350 to 1850 A.D.

1. Last 500 years Western Mono and related Northwestern Mono occupation
2. Corresponds to late Mariposa Complex, Yosemite
3. Use of type A projectile points
4. Glass trade beads after contact with white settlers
5. Steatite arrow straighteners, steatite beads and vessels
6. Bedrock mortars
7. Owens Valley Brown Ware

In the above comparison of Yosemite and HLR complexes, we are assuming that they occurred at the same time. This may possibly be erroneous, although the great similarity of points suggests that the cultures were developing simultaneously. The lower percentage of type A projectile points in the HLR may indicate a less concentrated occupation or a culture that started later. It is unlikely that the latter is the case because the Paiute were trading with both areas (Yosemite and the HLR) and the Western Mono in the HLR were their kin. The HLR showed a higher percentage of total type B points recovered than did Yosemite. This, also, is subject to conjecture, and may represent a longer transitional stage or a heavier occupation at that time. Type C percentages are approximately the same at both places.

There is some evidence of projectile point typological connection with the Middle Horizon of the Sacramento Valley and the "Pinto Culture" of the southern California deserts. Elsasser (1960:14) comments that the Martis Complex "could be centered either in the Great Basin or in California. With regard to age, its position was deemed to equate with the Middle Horizon of Central California. It showed possible connection as well with the Southern California deserts . . ., this connection being based on a similarity of some types of Martis projectile points to Pinto points."

The HLR points similar to the central California points are the numerous C5 and the rare C8 subtypes. Since the C5 subtype is also found in Mono County sites and at Iny-2, it may be more likely that the closer relationship is with the southern California desert area or the Great Basin, rather than far over the crest of the Sierra to the west. The C5 subtype is the fourth most numerous point in the HLR. I have noted that

there are some variants of the C5 subtype (see description of projectile points), and it may be possible that some came from the east and south and some from the west.

We have seen in the presentation of elements for the Martis Complex that certain traits were definitely dissimilar to the HLR, mainly, for example, the use of basalt, the boat stone, and certain projectile point types (Table 9). It would seem probable that the Martis Complex sites and the sites of the southern Sierra Nevada had developed certain characteristics independently.

I do not believe that the Martis Complex, as such, is definable in the southern Sierra Nevada because of the basic differences noted in cultural patterns between it and what may be called the pervasive HLR pattern in the south, even without the question of age. There are certain similarities, as noted, but on the other hand, it may not be admissible to compare the elements that indicate greater age, although there are some C weight points in common (i.e. specimens which resemble one another in shape but not always in material) and each region presents some type C points which are not in common.

An outstanding difference between the Martis Complex sites and those of the southern Sierra is the almost complete absence of historic artifacts in the Martis sites. From the southern Sierra sites come points in types A, B, and C weights. The rarity of type A points in the Martis Complex is probably due to a limited historic occupation. Other "late" features, such as trade and shell beads, are also absent. The absence of Owens Valley Brown Ware, arrow straighteners, and steatite beads is probably due to a difference in cultural patterns, rather than to differences based upon mere chronological considerations.

The southern Sierra Nevada area includes sites of similar cultures—Yosemite, the HLR, Mono County, Iny-2, Hospital Rock and Slick Rock Village, and probably Greasy Creek, Tulare County. The major dissimilarities between Mono County, Iny-2, Yosemite, and Greasy Creek as a group and the HLR lie in the presence of shell beads in all of the former sites. Some stratification of artifacts was found at Greasy Creek (Pendergast and Meighan 1959:5, Table 1), where knives or large projectile points were found from 0 to 54 inches, and at Hospital Rock (Werlhof, n.d.).

The differences between these seven sites or groups of sites are substantially very slight. I have not included Slick Rock Village in Table 9 for comparison of traits with the HLR; however, it has the following elements

in common: trade beads; steatite beads and sherds; Owens Valley Brown Ware; manos; scrapers; knives and blades; drills; bedrock mortars; and house pits. Its dissimilarities are the presence of shell beads and portable metates. This site was presumably occupied by Yokuts and Western Mono, and its location is lower on the Kaweah River than Hospital Rock (Fenenga 1952). In considering the seven sites or complexes outside of the HLR, we see that the dissimilarities to the HLR are mainly in the amount of projectile points and the lack of variety in certain weight classes of these specimens. Mono County lacks steatite artifacts; Hospital Rock and Iny-2 lack arrow straighteners; and Greasy Creek lacks type B projectile points (as does Slick Rock), drills, trade beads, and arrow straighteners. However, considering that these are mainly individual sites, there appear to be sufficient traits altogether to allow their placement within the cultural picture of the southern Sierra Nevada along with the HLR (Table 9).

The Kings Beach Complex has been associated with the historic and late prehistoric Washo. However, the culture differs from the above mentioned southern Sierra sites in that no type C points were recovered and some other types of artifacts are absent (Table 9).

It should be noted that flake scrapers and some type of mano are common to all sites under discussion.

Site Fre-115 (Vermilion Valley) has until now been the only HLR site used by archaeologists for the purpose of comparison with other possibly related sites in the Sierra Nevada region. As has been already noted, the projectile points of Fre-115 do not have the same distribution or occurrence as in other large sites of the region. The two major differences are: (1) the prevalence of certain types seems atypical for the region; and (2) many types occurring in other HLR sites are not present (Table 4).

One could emphasize this difference and cite site Fre-115 as having several characteristics differing from the rest of the region, but this would not seem to be realistic when one places the site in the over-all picture. In the first place, there are other sites in the region which do not easily fit into the average picture. Also, the projectile points recovered from site Fre-115 are fewer in number than those from the sites with which it is compared, except for site Fre-245 which, as has been noted, lacks type C points (Table 4).

Another consideration is that in sites near Fre-115, to the west and

east, projectile point assemblages were found that more nearly approximated the "typical" HLR distribution. It would be difficult to designate site Fre-115 as unique, as it appears to be one of many sites along the main trade route from east to west (Hindes 1959:8).

Similarities to other sites of the region are: occurrence of all three weight classes of projectile points; Owens Valley Brown Ware; trade beads; bedrock mortars; steatite beads; and one steatite sherd (Lathrap and Shutler 1955).

The possibility of the development in this region of an independent culture seems doubtful. The Great Basin influence alone seems to nullify this possibility, and the similarity of the cultural elements of all the southern Sierra Nevada sites to the east and west of the crest suggests a spreading of a basically similar culture from at least the Great Basin, if not also from central California and the southern California desert region. It can be said that there is a distinct southern Sierra Nevada cultural sequence represented with a few variations in the eight site or site areas mentioned above.

Finally, due to the presence in this region of projectile points and other artifacts similar to the Yosemite assemblages, it seems reasonable to relate the HLR cultures to the Yosemite cultures, including the Crane Flat Complex. It may also be possible to relate the HLR earliest culture to the Martis Complex elements. Elsasser (1960:75, Table 15) has suggested some affiliation and Bennyhoff (1956:55) suggests a terminal date of 500 A.D. for the Crane Flat Complex, but this is due to the emphasis on obsidian. If the use of obsidian is not a factor in determining age, the heavier point types may place certain HLR aspects and the Crane Flat Complex in the same age as the Martis Complex.

However, while there is evidence of historic, late prehistoric and probably some earlier occupation, there is no positive indication of this very early culture in spite of the Pinto-like and Middle Horizon projectile points at the HLR. It may be that these points only influenced later points found in Yosemite and the HLR, but the cultures evidently did not exist simultaneously. One does not "sense" great antiquity in these mountain sites, but neither can one prove how early the occupation began.

It would be advisable to keep in mind the value of finding a site or sites in this region which would provide greater depth of refuse deposit and possible stratification of artifacts. As in other areas of California, further study and analysis may lead to more exact knowledge of the occupation of this region.

FOOTNOTES

1. Although the area around Shaver Lake and Dinkey Creek was also occupied by the Western Mono, we do not have site or artifact tabulations for these localities. Mrs. Lyon's general collection includes artifacts from this area as well as higher altitudes, but they have not been catalogued according to location found. We know, however, that there were many sites in this region. In the summer of 1961 two large sites, not already recorded, were explored, and artifacts from Shaver are in the Preheim collection, Big Creek.

   The Western Mono came out of José Basin into the Shaver Lake area by way of Stevenson Creek to the North Fork of Stevenson Creek (Tunnel Creek), thence to Camp 73 site (Fre-239), and to the Huntington Lake area by way of the Shaver Lake Trail and Mono Trail. The entire Shaver Lake and Dinkey Creek regions need further exploration in connection with the HLR report. A site exists (not reported) at Shaver Lake Dam, on the lake side of the dam (Fre-210 is on the road side of the dam), where the Indians were said to have held large gatherings each year. Many artifacts have been collected by private collectors from this site which was previously on the Stevenson Creek route. Although it is unlikely that there was all-winter occupation at Shaver Lake (5000 ft.), it was certainly possible to occupy these sites for longer periods than in the higher altitudes. It is not known whether the Western Mono in the Dinkey Creek area used more southerly passes to cross the Sierra.

2. In the summer of 1961 I visited Mrs. Susan Johnson of Northfork, and through the interpreter, her daughter Carolyn, learned that on her trips over the crest of the Sierra some fishing was done. Mrs. Johnson could not remember any artifacts used for fishing purposes (she was a young mother at the time). When asked if they might have used some plant to catch the fish, Carolyn picked a plant growing next to their house. It was the plant of the Spurge Family known as Turkey Mullein, or Eremocarpus setigerus (Jepson 1925:595), which was used by the Indians to stupefy fish in small streams so that they could be caught by hand. It is possible that this plant was taken on the journey over the mountains, as it does not grow in high altitudes.

3. Mrs. Susan Johnson, of Northfork, informed us that when she was a young woman her family crossed over the crest of the Sierra many times in the summers. They went to obtain pine nuts and to visit their "relatives" in Bishop. They would stay for a month or so, and the trip took three full days (two nights). They went by both Mono and Mammoth passes, as Mrs. Johnson remembers visits to Mono Hot Springs with great pleasure and recalls the characteristic design of the Devil's Post Pile near Mammoth Pass. Mrs. Johnson's daughter, who acted as interpreter during the interview, was carried over these trails on her mother's back. The trails were marked with piles of rock, and they ate three meals a day en route, stopping to use the "pounding rocks" at sites along the trails. Mrs. Johnson mentioned that parts of the trail were steep and rocky. When going east they went by the south of Shuteye and across the San Joaquin above Mammoth Pools. In later years they took horses and carried guns. They went either in a small family group or in larger groups.

TABLE 1

Types A, B, C Projectile Points from Huntington Lake Region

| Type A | | Type B | | Type C | |
|---|---|---|---|---|---|
| Subtype | No. Found | Subtype | No. Found | Subtype | No. Found |
| 1 | 20 | 1 | 4 | 1 | 12 |
| 2 | 51 | 2 | 27 | 2 | 17 |
| 3 | 9 | 3 | 16 | 3 | 22 |
| 4a | 79 | 4 | 13 | 4 | 14 |
| 4b | 83 | 5 | 6 | 5 | 77 |
| 5 | 61 | 6 | 6 | 6 | 6 |
| 6 | -- | 7 | 6 | 7 | 24 |
| 7 | 7 | 8 | 4 | 8 | 4 |
| 8 | 1 | 9 | 5 | * | 4 |
| 9 | 1 | 10 | 173 | 9 | 20 |
| 10 | 1 | 11 | 4 | 10 | -- |
| 11 | 25 | | | 11a | 4 |
| 12 | 2 | | | 11b | 4 |
| | | | | 12 | 12 |
| | | | | 13 | 5 |
| | | | | 14 | 5 |
| | | | | 15 | 7 |
| | | | | 16 | 22 |
| | | | | 17 | 8 |
| Totals | 340 | | 264 | | 267 |
| Per cent | 39.0 | | 30.4 | | 30.6 |
| GRAND TOTAL PROJECTILE POINTS | | | 871 | | |

* Unique specimen: Pl. 1Bk

TABLE 2

Tabulation of Projectile Points from Huntington Lake Region*

| Type | Number Specimens Recovered | Average Weight (gm.) | Average Length (mm.) | Average Width (mm.) | Remarks |
|---|---|---|---|---|---|
| A1 | 20 | 0.6 | 24 | 14 | |
| A2 | 51 | 0.5 | 20 | 12 | 1 chert(?) |
| A3 | 9 | 0.5 | 20 | 10 | |
| A4a | 79 | 0.5 | 18 | 11 | |
| A4b | 83 | 0.5 | 21 | 12 | 3 chert, 1 jasper |
| A5 | 61 | 0.6 | 22 | 12 | 1 chert |
| A7 | 7 | 0.9 | 21 | 17 | 1 chert |
| A8 | 1 | | | | |
| A9 | 1 | | | | |
| A10 | 1 | | | | |
| A11 | 25 | 0.8 | 23 | 16 | |
| A12 | 2 | 0.7 | | | |
| B1 | 4 | 2.8 | 28 | 18 | |
| B2 | 27 | 1.5 | 29 | 19 | |
| B3 | 16 | | 28 | 16 | |
| B4 | 13 | 2.5 | 26 | 20 | |
| B5 | 6 | 2.8 | 27 | 19 | |
| B6 | 6 | 2.7 | 29 | 20 | |
| B7 | 6 | 1.7 | 31 | 18 | |
| B8 | 4 | 2.6 | 28 | 19 | |
| B9 | 5 | | | | |
| B10 | 173 | 1.9 | 30 | 18 | |
| B11 | 4 | 3.0 | 28 | 21 | |

TABLE 2 [cont'd.]

| Type | Number Specimens Recovered | Average Weight (gm.) | Average Length (mm.) | Average Width (mm.) | Remarks |
|---|---|---|---|---|---|
| C1 | 12 | 7.7 | 46 | 19 | |
| C2 | 17 | 6.4 | 37 | 22 | |
| C3 | 22 | | | 24 | 1 chert |
| C4 | 14 | 5.1 | 39 | 23 | 1 chert |
| C5 | 77 | | | 26 | |
| C6 | 6 | | | 26 | 1 chalcedony |
| C7 | 24 | 5.8 | 39 | 30 | |
| C8 | 4 | 4.9 | 37 | 23 | |
| C9 | 20 | 5.4 | 37 | 21 | 1 quartz |
| C11a | 4 | | | 21 | |
| C11b | 4 | 4.6 | 37 | 24 | |
| C12 | 12 | 4.9 | 38 | 24 | |
| C13 | 5 | 5.2 | 37 | 24 | |
| C14 | 5 | | | | |
| C15 | 7 | 5.0 | 38 | 23 | |
| C16 | 22 | | | 30 | |
| C17 | 8 | | | 33 | |

* All specimens obsidian except as indicated

TABLE 3

Occurrence of Projectile Point Types
Numerical Comparison Between Yosemite and Huntington Lake Region

| Type | Yosemite | Per cent of Total | Huntington Lake Region | Per cent of Total |
|---|---|---|---|---|
| A1 | 6 | 1.73 | 20 | 2.30 |
| A2 | 14 | 4.05 | 51 | 5.85 |
| A3 | 7 | -- | 9 | -- |
| A4a | 49 | 14.05 | 79 | 9.05 |
| A4b | 26 | 7.50 | 83 | 9.55 |
| A5 | 30 | 8.70 | 61 | 7.00 |
| A6 | 3 | -- | -- | -- |
| A7 | 13 | -- | 7 | -- |
| A8 | 3 | -- | 1 | -- |
| A9 | 1 | -- | 1 | -- |
| A10 | 2 | -- | 1 | -- |
| A11 | 11 | 3.20 | 25 | 2.85 |
| Totals | 166 | 50.00 | 340 | 39.00 |
| B1 | 3 | -- | 4 | -- |
| B2 | 4 | 1.15 | 27 | 3.10 |
| B3 | 4 | 1.15 | 16 | 1.85 |
| B4 | 3 | 0.85 | 13 | 1.50 |
| B5 | 5 | -- | 6 | -- |
| B6 | 3 | -- | 6 | -- |
| B7 | 14 | -- | 6 | -- |
| B8 | 4 | -- | 4 | -- |
| B9 | 5 | -- | 5 | -- |

TABLE 3 [cont'd.]

| Type | Yosemite | Per cent of Total | Huntington Lake Region | Per cent of Total |
|---|---|---|---|---|
| B10 | 13 | 3.75 | 173 | 19.70 |
| B11 | 2 | -- | 4 | -- |
| Totals | 60 | 20.00 | 264 | 30.00 |
| C1 | 6 | -- | 12 | -- |
| C2 | 2 | 0.60 | 17 | 1.95 |
| C3 | 5 | 1.45 | 22 | 2.55 |
| C4 | 5 | 1.45 | 14 | 1.60 |
| C5 | 17 | 4.95 | 77 | 8.85 |
| C6 | 3 | -- | 6 | -- |
| C7 | 6 | 1.73 | 24 | 2.75 |
| C8 | 2 | -- | 4 | -- |
| C9 | 9 | 2.60 | 20 | 2.30 |
| C10 | 3 | -- | -- | -- |
| C11a | 4 | -- | 4 | -- |
| C11b | 5 | -- | 4 | -- |
| C12 | 3 | 0.85 | 12 | 1.40 |
| C13 | 6 | -- | 5 | -- |
| C14 | 5 | -- | 5 | -- |
| C15 | 3 | -- | 7 | -- |
| C16 | 2 | 0.60 | 22 | 2.50 |
| C17 | -- | -- | 8 | -- |
| Totals | 86 | 30.00 | 263 | 31.00 |

TABLE 4

Comparison of Projectile Point Occurrence in Six HLR Sites

| Type | Fre-245 | Fre-123 | Fre-115 | Fre-137 | Fre-256 | Fre-291 |
|---|---|---|---|---|---|---|
| A1 | | 4 | 5 | 2 | 3 | |
| A2 | 8 | 3 | 9 | 4 | 11 | |
| A3 | 2 | 1 | | 2 | | 1 |
| A4a | 9 | 17 | | 7 | 12 | 5 |
| A4b | 10* | 21 | 13 | 5 | 5 | 1 |
| A5 | 5 | 8 | | 9 | 6 | |
| A7 | | | | 2 | | 2 |
| A8 | | | 1 | | | |
| A9 | | | | | | 1 |
| A11 | | 3 | | 7 | | 6 |
| A12 | | | | | 1 | |
| Totals | 34 | 57 | 28 | 38 | 38 | 16 |
| B1 | | | | 1 | | |
| B2 | 1 | 3 | | 6 | 4 | 4 |
| B3 | | 1 | | | | |
| B4 | | | | 1 | 2 | 2 |
| B5 | 1 | 1 | | 1 | 1 | 1 |
| B6 | | | | | 1 | 1 |
| B7 | | | | | 1 | 1 |
| B9 | | | | 1 | | |
| B10 | 3 | 28 | 5 | 29 | 20 | 20 |
| Totals | 5 | 33 | 5 | 39 | 29 | 29 |

TABLE 4 [cont'd.]

| Type | Fre-245 | Fre-123 | Fre-115 | Fre-137 | Fre-256 | Fre-291 |
|---|---|---|---|---|---|---|
| C1 | | 1 | | | 1 | 2 |
| C2 | | 1 | | | 5 | 1 |
| C3 | | 9 | 4 | 7 | | 1 |
| C4 | | 3 | | 2 | 1 | 2 |
| C5 | | 17 | | 7 | 9 | 6 |
| C6 | | 1 | | 1 | | |
| C7 | | 1 | 5 | 3 | 7 | 2 |
| C8 | | 1 | | | 1 | |
| C9 | | 1 | | 2 | | 1 |
| C11a | | | | 1 | 1 | |
| C11b | | 1 | | 1 | 1 | |
| C12 | | 1 | | | 3 | |
| C13 | | | | 1 | | |
| C14 | | | | 1 | | 1 |
| C15 | | 1 | | 1 | 1 | 1 |
| C16 | | 6 | | 1 | 2 | 3 |
| C17 | | | | 2 | 2 | 3 |
| Totals | | 44 | 9 | 30 | 34 | 23 |
| Grand Totals | 39 | 134 | 42 | 107 | 101 | 68 |

* Underlined numbers represent dominant projectile point types at each site.

TABLE 5

Projectile Points Recovered from Huntington Lake Region Sites

| Site | Points Recovered | | | | Source |
|---|---|---|---|---|---|
| | Total | Type A | Type B | Type C | |
| Fre-123 | 135 | 58 | 33 | 44 | Excavation and surface |
| Fre-137 | 108 | 38 | 39 | 31 | Excavation and surface |
| Fre-256 | 101 | 38 | 29 | 34 | Surface |
| Fre-291 | 67 | 16 | 27 | 24 | Surface (private collection) |
| Fre-245 | 39 | 34 | 5 | -- | Excavation and surface |
| Fre-169 | 35 | 13 | 11 | 11 | Excavation and surface |
| Fre-293 | 30 | -- | 18 | 12 | Surface (private collection) |
| Fre-371 | 18 | 15 | 1 | 2 | Surface |
| Fre-119 | 17 | 2 | 4 | 11 | Surface |
| Fre-118 | 15 | 5 | 6 | 4 | Excavation (inconclusive), surface |
| Fre-158 | 14 | 7 | 2 | 5 | Surface |
| Fre-197 | 14 | 14 | -- | -- | Surface |
| Fre-121 | 13 | 1 | 4 | 8 | Surface |
| Fre-142 | 12 | 7 | 3 | 2 | Surface |
| Fre-198 | 11 | 3 | 5 | 3 | Surface |
| Fre-225 | 11 | 3 | 5 | 3 | Surface |
| Fre-161 | 10 | 6 | 4 | -- | Surface |
| Fre-120 | 9 | 7 | 1 | 1 | Surface |
| Fre-150,151 | 9 | 6 | 3 | -- | Surface |
| Fre-243 | 9 | 5 | 3 | 1 | Surface |
| Fre-292 | 9 | -- | 4 | 5 | Surface |
| Fre-296 | 8 | 5 | 2 | 1 | Excavation and surface |
| Fre-186 | 8 | 5 | 1 | 2 | Surface |
| Fre-226 | 7 | 7 | -- | -- | Surface |

TABLE 5 [cont'd.]

| Site | Points Recovered | | | | Source |
|---|---|---|---|---|---|
| | Total | Type A | Type B | Type C | |
| Fre-122 | 7 | 1 | 5 | 1 | Surface |
| Fre-145 | 7 | 1 | 2 | 4 | Surface |
| Fre-295 | 7 | -- | 6 | 1 | Excavation and surface |
| Fre-299 | 7 | 4 | 1 | 2 | Surface |
| Fre-335 | 6 | 4 | 1 | 1 | Excavation and surface |
| Fre-238 | 6 | 2 | 2 | 2 | Surface |
| Fre-336 | 6 | 4 | 1 | 1 | Excavation and surface |
| Fre-227 | 5 | -- | -- | 5 | Surface |
| Fre-200 | 5 | 3 | 2 | -- | Surface |
| Fre-138 | 5 | -- | 2 | 3 | Surface |
| Fre-133 | 4 | 2 | 1 | 1 | Surface |
| Fre-139 | 4 | -- | 3 | 1 | Surface |
| Fre-199 | 4 | 3 | -- | 1 | Surface |
| Fre-334 | 4 | 3 | -- | 1 | Surface |
| Fre-246 | 4 | 2 | 1 | 1 | Surface |
| Fre-252 | 4 | 1 | 2 | 1 | Surface |
| Fre-115 | 3 | 3 | -- | -- | Surface (see below) |
| Fre-146 | 3 | -- | -- | 3 | Surface |
| Fre-164-168 | 3 | 2 | 1 | -- | Surface |
| Fre-202 | 3 | -- | -- | 3 | Surface |
| Fre-220 | 3 | -- | -- | 3 | Surface |
| Fre-244 | 3 | -- | 1 | 2 | Surface |
| Fre-247 | 3 | 2 | 1 | -- | Surface |
| Fre-339 | 3 | 1 | 2 | -- | Surface |
| Fre-337 | 2 | -- | 2 | -- | Surface |

TABLE 5 [cont'd.]

| Site | Points Recovered | | | | Source |
|---|---|---|---|---|---|
| | Total | Type A | Type B | Type C | |
| Fre-324 | 2 | -- | 1 | 1 | Surface |
| Fre-304 | 2 | -- | 1 | 1 | Surface |
| Fre-297 | 2 | 1 | 1 | -- | Surface |
| Fre-294 | 2 | -- | -- | 2 | Surface |
| Fre-132 | 2 | -- | 1 | 1 | Surface |
| Fre-134 | 2 | -- | -- | 2 | Surface |
| Fre-147 | 2 | -- | 1 | 1 | Surface |
| Fre-155 | 2 | 1 | 1 | -- | Surface |
| Fre-159 | 2 | -- | -- | 2 | Surface |
| Fre-187 | 2 | -- | 1 | 1 | Surface |
| Fre-188 | 2 | -- | 2 | -- | Surface |
| Fre-196 | 2 | 1 | 1 | -- | Surface |
| Fre-236 | 2 | -- | -- | 2 | Surface |
| Fre-251 | 2 | 1 | 1 | -- | Surface |
| Fre-255 | 2 | 1 | -- | 1 | Surface |
| | | 5 | 5 | 9 | (19 sites, not itemized here, produced one projectile point each) |
| Fre-115 | 39 | 25 | 5 | 9 | Total of 42 points, including 3 found since report by Lathrap and Shutler published. Note that additions would place Fre-115 fifth in numerical order in list |

TABLE 6

Number and Location of Projectile Points by Depth in Excavated Sites in Huntington Lake Region

| Site | 0-6 inches | 6-12 inches | 12-18+ inches | Surface | Total Points |
|---|---|---|---|---|---|
| Fre-123 | | | | | |
| Type A | 17 | 2 | -- | 38 | 57 |
| Type B | 6 | 3 | 1 | 23 | 33 |
| Type C | 7 | 2 | 3 | 32 | 44 |
| Fre-137 | | | | | |
| Type A | 21 | 4 | -- | 13 | 38 |
| Type B | 7 | 8 | -- | 24 | 39 |
| Type C | 4 | 3 | 1 | 23 | 31 |
| Fre-169 | | | | | |
| Type A | 6 | -- | -- | 7 | 13 |
| Type B | 5 | 1 | 1 | 4 | 11 |
| Type C | 2 | 2 | -- | 7 | 11 |
| Fre-245 | | | | | |
| Type A | 24 | 2 | -- | 8 | 34 |
| Type B | 3 | 1 | -- | 1 | 5 |
| Type C | -- | -- | -- | -- | -- |

TABLE 7

Beads Found in Huntington Lake Region

| Site | Steatite Beads | Glass Trade Beads | | Description |
|---|---|---|---|---|
| | | Opaque | Clear | |
| Fre-118 | | 1 | | Shiny orange-red throughout |
| | | | 1 | 6 angled, light blue |
| | 1 | | | |
| Fre-120 | 1 | | | |
| | | ? | | White chalky material, burned? |
| | | | 1 | Blue, very small, ovoid |
| Fre-123 | 9 | | | |
| | | 1 | | White, shiny |
| | | 1 | | Yellowish, white |
| | | 1 | | Red outside, white inside |
| | | | 1 | Dark blue |
| | | | 1 | Dark blue, burned, not angled |
| Fre-137 | 9 | | | |
| | | 2 | | Cylindrical, no angles, red outside, white center |
| | | | 4 | 6 angled, dark blue, cylindrical |
| Fre-150, Fre-151 | | 2 | | As wide as long, ends rounded, white |
| | | | 1 | 6 angled, light blue |
| Fre-161 | | | 1 | Cylindrical, blue |
| Fre-199 | | | 1 | Cylindrical, blue |
| Fre-200 | | 1 | | Light gray outside, darker gray center, ovoid |
| Fre-245 | 3 | | | |
| Fre-336 | | 1 | | Irregular, ovoid, white |
| | 2 | | | |
| Totals | 25 | 10 | 11 | |

TABLE 8

Steatite and Pottery (Owens Valley Brown Ware) Sherds
Found in Huntington Lake Region

| Site | Steatite | Owens Valley Brown Ware | Depth |
|---|---|---|---|
| Fre-118 | 4 | 2 | Surface |
| Fre-123 | 2 | 10 | Surface |
| | | 2 | 0-6 in. |
| Fre-137 | 1 | | Surface |
| | 1 | | 0-6 in. |
| Fre-142 | 1 | 1 | Surface |
| Fre-158 | 1 | | Surface |
| Fre-161 | | 12 | Surface |
| Fre-169 | 2 | | Surface |
| Fre-198 | 1 | | Surface |
| Fre-225 | 1 | | Surface |
| Fre-245 | | 8 | Surface |
| | | 29 | 0-6 in. |
| | | 2 | 6-12 in. |
| | 1 | | 0-6 in. |
| Fre-256 | | 11 | Surface |
| Fre-291 | 9 | | Surface |
| Fre-293 | 4 | | Surface |
| Fre-296 | | 5 | Surface |
| Fre-299 | 1 | | Surface |
| Fre-334 | | 2 | Surface |
| | | 1 | 6-12 in. |
| Fre-335 | 3 | 3 | Surface |
| Fre-336 | 3 | 2 | Surface |
| HSP* | | 23 | Surface |
| Totals | 35 | 113 | |

*Hot Springs Pass site

TABLE 9

Occurrence of Artifacts and Other Archaeological Traits in Huntington Lake Region and Adjoining Sites and Regions

| | HLR Fresno Co. | Yosemite[1] Mariposa Co. | Mono[2] Co. | Hospital[3] Rock Tulare Co. | Owens[4] Valley Iny-2 | Martis[5] Complex Do-12 | Martis[6] Complex Pla-5 | Little[7] Lake Inyo Co. | Kings[6] Beach Complex Tahoe | El Portal[8] Yosemite | Greasy[9] Creek Tulare |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Projectile points | | | | | | | | | | | |
| A wt. | x | x | x | x | x | rare | - | - | x | - | x |
| B wt. | x | x | x | x | x | x | ? | ? | x | x | - |
| C wt. | x | x | x | x | x | x | x | x | - | x | x |
| Obsidian (mainly) | x | x | x | x | x | - | - | x | x | x | x |
| Other (mainly basalt) | - | - | - | - | - | x | x | - | - | - | - |
| Flake scrapers | x | x | x | x | x | x | x | x | rare | x | x |
| Drills | x | x | x | x | x | x | x | x | - | x | - |
| Steatite frags. | x | x | - | x | - | x | - | - | - | x | x |
| Steatite beads | x | x | - | x | x | - | - | - | - | - | x |
| Shell beads | - | x | x | x | x | - | - | rare | - | - | x |
| Glass trade beads | x | rare | rare | x | x | - | - | rare | - | x | - |
| Bedrock mortars | x | x | x | x | x | x | rare | - | x | x | x |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| House pits | x | x | x | x | x | - | ? | x | x | - | x |
| Manos | x | x | x | x | x | x | x | x | x | x | x |
| Knives and blades | x | x | x | x | ? | x | x | x | x | x | x |
| Portable metates | ? | x | - | x | rare | x | ? | x | ? | - | - |
| Owens Valley Brown Ware | x | - | x | x | x | - | - | x | - | - | x |
| Boatstones | - | - | - | - | - | x | - | x | - | - | - |
| Arrow straightener | x | - | x | - | - | - | - | - | - | - | - |

Sources:
1. Bennyhoff, 1956
2. Meighan, 1955
3. von Werlhof, 1960
4. H. S. Riddell, 1951
5. Elsasser, 1960
6. Heizer and Elsasser, 1953
7. Harrington, 1957
8. Fitzwater and Van Vlissengen, 1960
9. Pendergast and Meighan, 1959

x = Trait present

- = Trait absent

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|---|---|
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| UC | University of California |
| -AR | Anthropological Records |
| -AS-R | Archaeological Survey Report |
| -PAAE | Publications in American Archaeology and Ethnology |


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## EXPLANATION OF ILLUSTRATIONS

Map 1. Archaeological Sites in Huntington Lake and Surrounding Regions

Plate 1. A: Type A projectile points

| | | |
|---|---|---|
| a-c. | Subtype | A1 |
| d-g. | | A2 |
| h-j. | | A3 |
| k-n. | | A4a |
| o-r. | | A4b |
| s-u. | | A5 |
| v. | | A7 |
| w. | | A9 |
| x-a'. | | A11 |
| b'. | | A12 |

B: Type B projectile points

| | | |
|---|---|---|
| a-c. | Subtype | B1 |
| d-f. | | B2 |
| g-i. | | B3 |
| j,k.* | | B4 |
| l,m. | | B5 |
| n,o. | | B6 |
| p-r. | | B7 |
| s. | | B8 |
| t. | | B9 |
| u-w. | | B10 |
| x-z | | B11 |

C: Type C projectile points

| | | |
|---|---|---|
| a,b. | Subtype | C1 |
| c-f. | | C2 |
| g-i. | | C3 |
| j-l. | | C4 |
| m-p. | | C5 |
| q,r. | | C6 |
| s,t. | | C7 |
| u-w. | | C8 |
| x-a'. | | C9 |

---

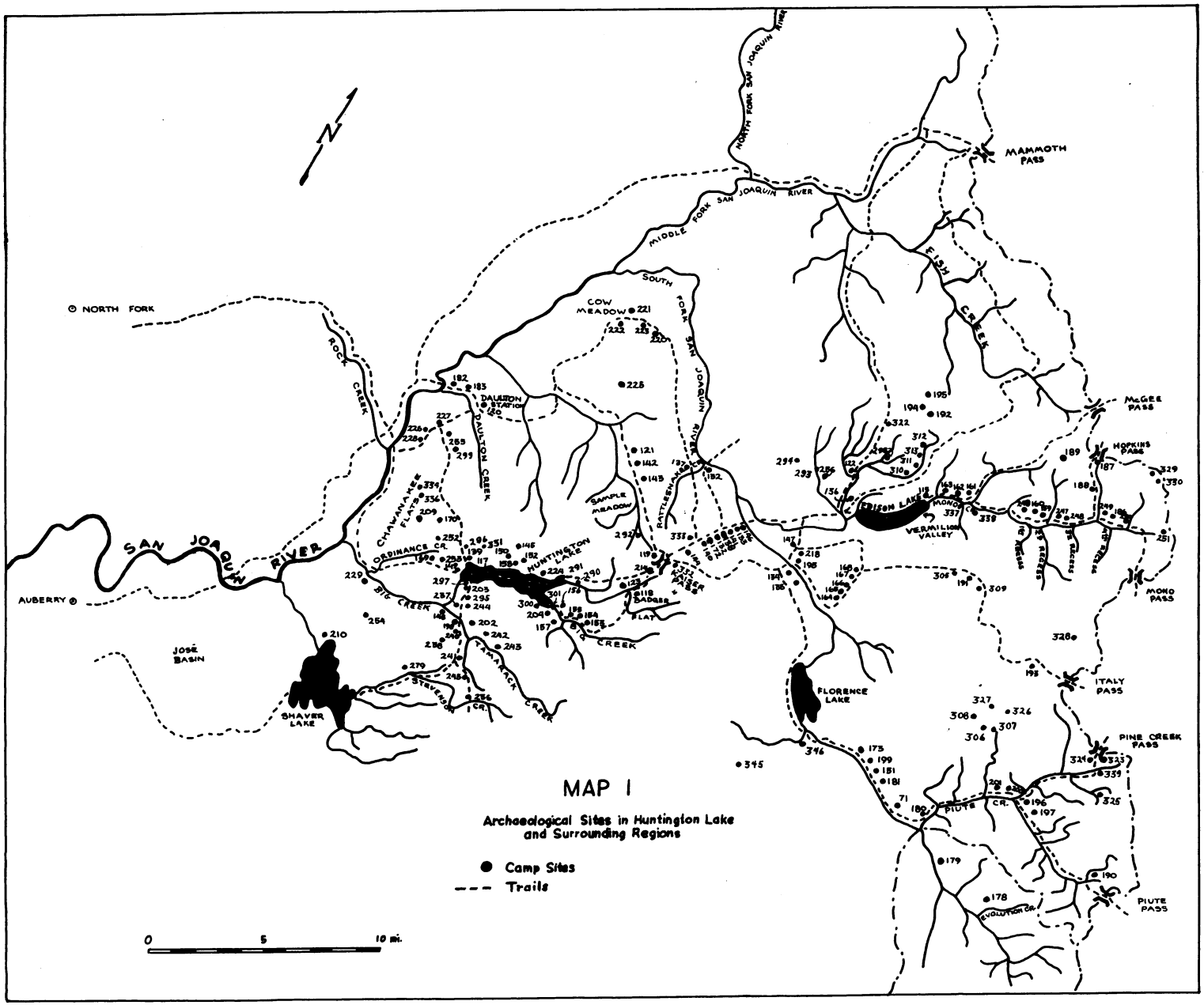
* Specimen under 1Bk is classified elsewhere as "Unique."

Plate 2. A: Type C projectile points [cont'd.]

| | |
|---|---|
| a. | Subtype C10 |
| b-d. | C11a |
| e,f. | C11b |
| g-i. | C12 |
| j-m. | C13 |
| n,o. | C14 |
| p,q. | C15 |
| r-t. | C16 |
| u,v. | C17 |

B: Drills, a-l
Blade, m

C: Unique projectile points, a-g




## MAP 1

**Archaeological Sites in Huntington Lake and Surrounding Regions**

● Camp Sites

--- Trails

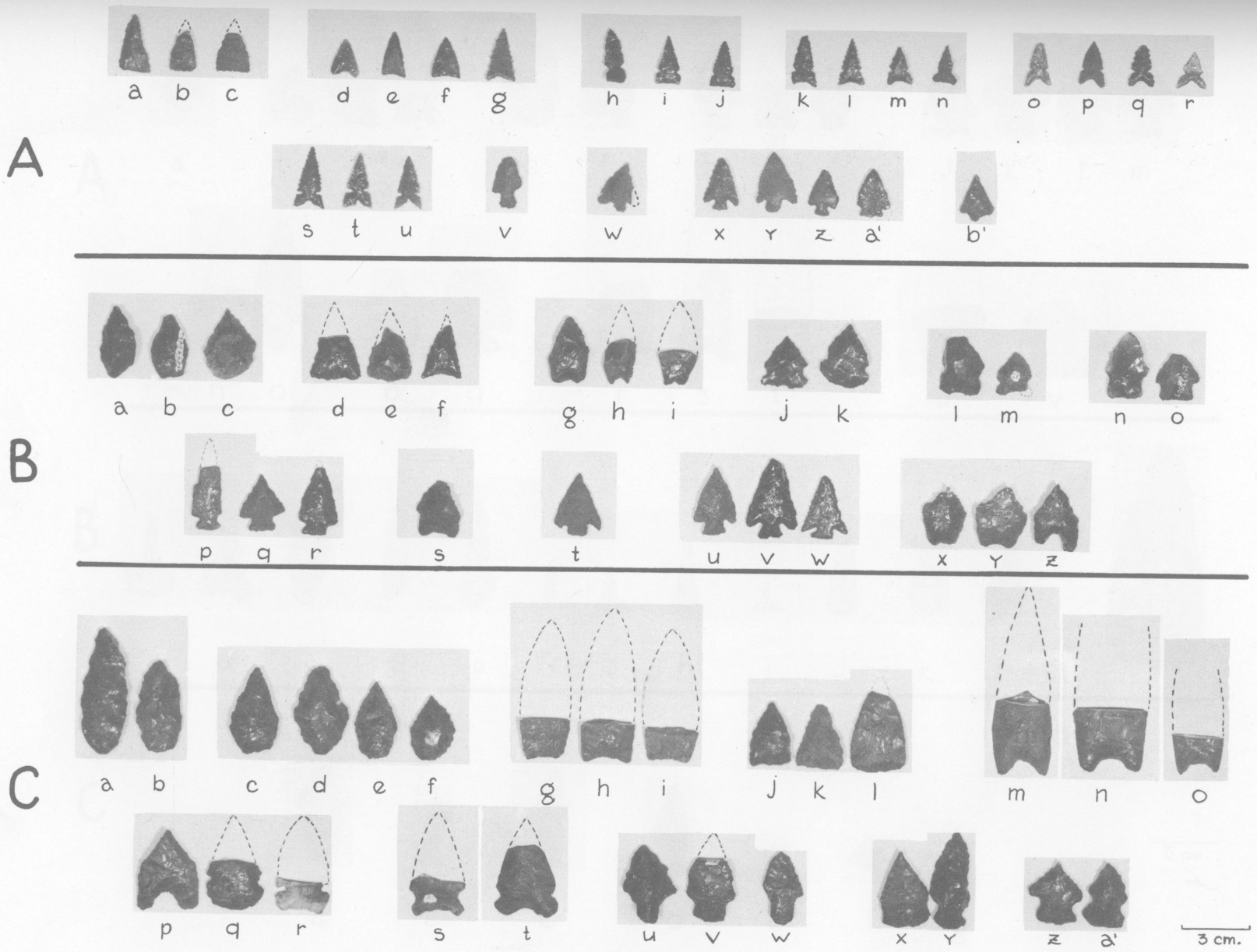

A
a b c
d e f g
h i j
k l m n
o p q r
s t u
v
w
x y z a'
b'
B
a b c
d e f
g h i
j k
l m
n o
p q r
s
t
u v w
x y z
C
a b
c d e f
g h i
j k l
m n o
p q r
s t
u v w
x y
z a'
3 cm.

PLATE 1

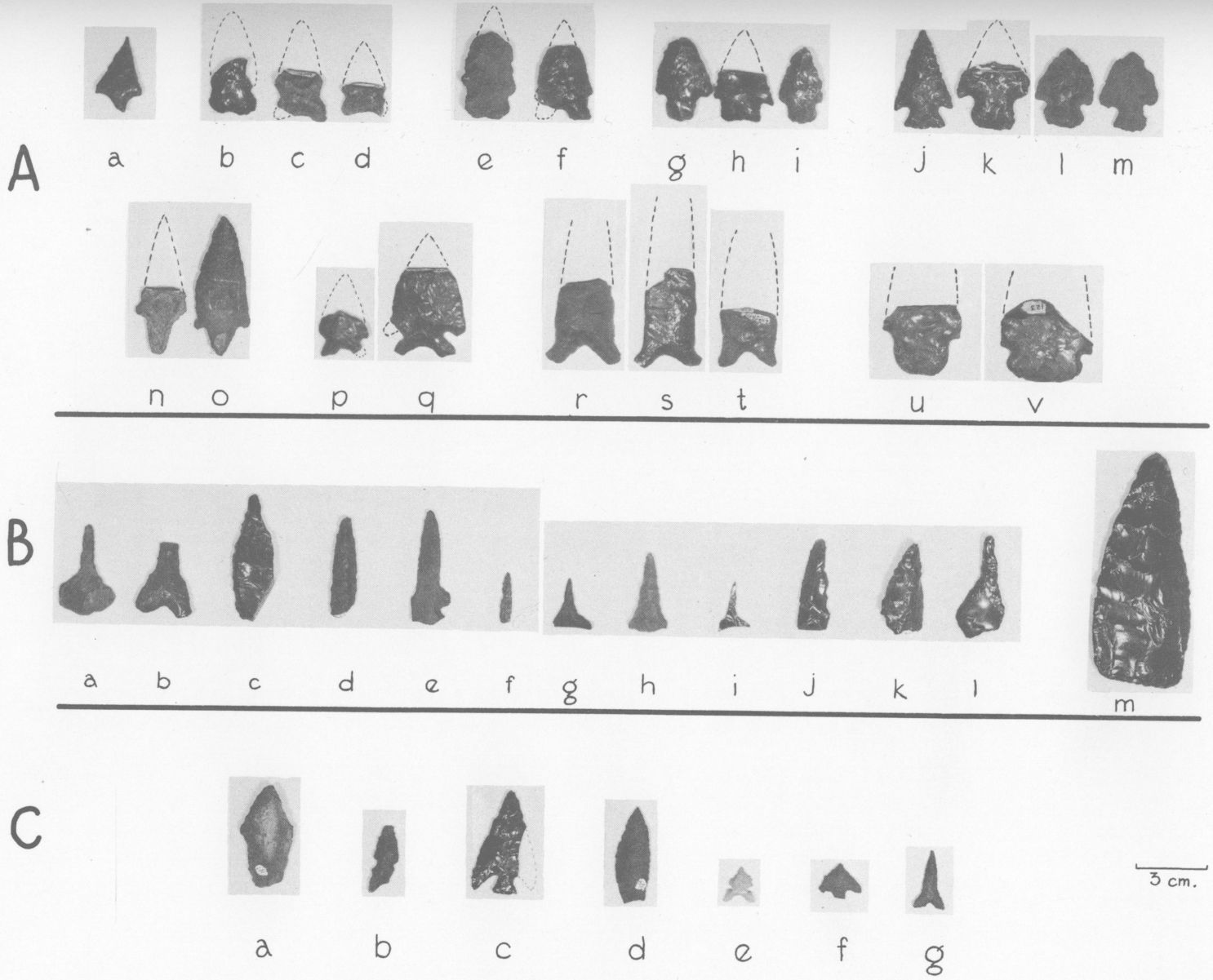



PLATE 2