Protohistoric and Historic Archeology

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The state of knowledge of protohistoric and historic California archeology is limited due to a general lack of intensive archeological investigations and failure of archeologists to distinguish protohistoric archeological components from earlier components. The documentation of a sample of different ethnic groups larger than in most areas of equal size in North America is in contrast to a virtual absence of data on the archeology of some groups such as the Salinan and Esselen and extremely meager data on other groups (see fig. 1, table 1).

Archeological data show that California Indian cultures were more complex in the protohistoric period than they were after populations had been reduced by disease and their economic resources had been preempted by nonnative settlers in the historic period. The cultures present in the protohistoric period were evolved from local traditions that date back to at least as early as A.D. 1000 (in most areas much earlier). Although the boundaries of the major California Indian nationalities changed relatively little prior to historic contact, there were changes in the distributions of local populations. Changes in food processing, hunting, fishing, or gathering will not be discussed here, but rather changes in social behavior. In general, the major food-procurement techniques used were developed before the protohistoric period.

The protohistoric period is equivalent to Phase 2 of the Late Horizon in the terminology used in Central California (Bennyhoff 1961; Beardsley 1948; Bennyhoff and Heizer 1958). This identification is based on: (1) the cooccurrence of Phase 2 materials with objects associated with European trade (iron spikes and sixteenth-century Chinese porcelain) at Drakes Bay on the Marin Coast, indicating that Phase 2 began prior to 1595 (King and Upson 1973); (2) the record of names of villages that were being abandoned during the beginning of Phase 2 and the absence of names of large, early historic-period villages that archeologically date early in Phase 2 in the exploration accounts of the Santa Barbara Channel area in 1542 by Juan Rodríguez Cabrillo; and (3) radiocarbon dates associated with materials both antedating and contemporary with Phase 2, which indicate a beginning date for Phase 2 of about A.D. 1500. Phase 2 is followed by the historic period and Spanish missionization, beginning about A.D. 1770 and ending around 1834, when the final secularization decree was promulgated by Mexico and the Franciscan missions were ceasing to recruit neophytes. The use of shell-bead types diagnostic of the mission period actually starts around 1785.

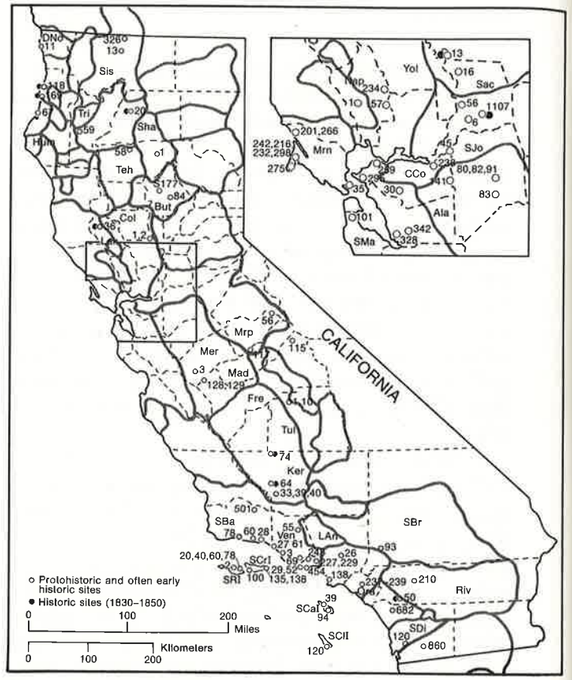


Fig. 1. Selected protohistoric and historic sites. See table 1 for explanation of site numbers.

Shell Beads

The most sensitive indicators of change over time regularly found in late archeological contexts in California are the beads and ornaments that were used in the organization of social behavior. Beads varying in materials—shell, stone, magnesite, and bone—can be further categorized by shape—disk, cylinder, tube, globular, and pendant—on the basis of the relationship among their diameters and thicknesses, rounded or squared edges, and placement of perforations. Certain types of shell beads were used over large areas of California, and regularities of changes in their form enable archeologists to identify

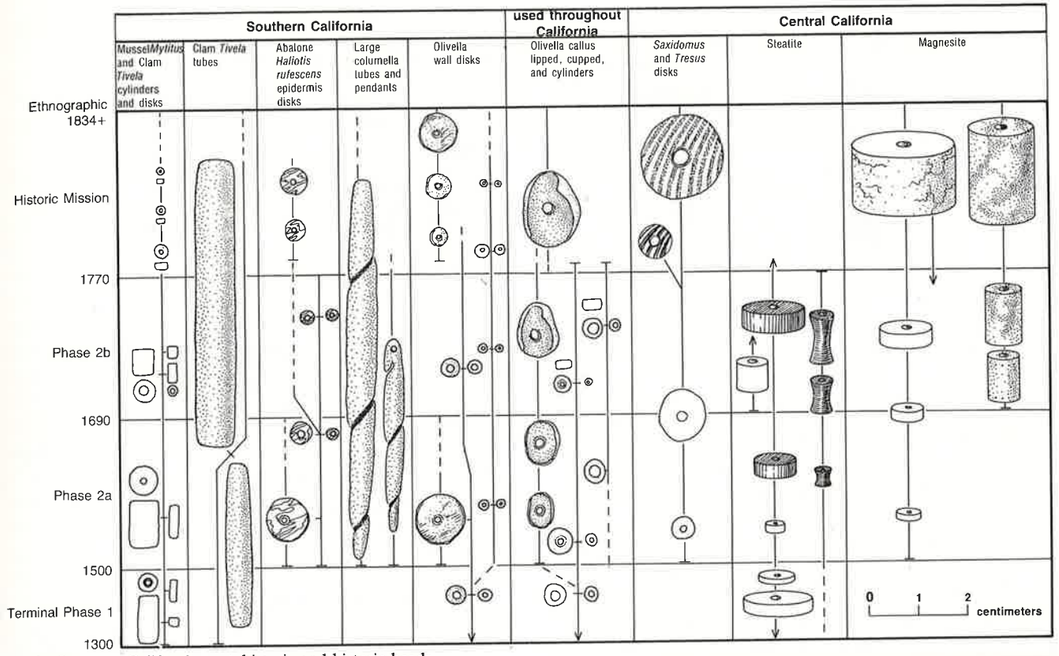


Fig. 2. Common California protohistoric and historic beads.

archeological components that are probably contemporary.

The ethnographic literature is relatively complete in specifying the precise form of beads and ornaments used about 1834 (fig. 2) and after. The ways beads were worn (fig. 3) are essentially analogous to those described a century later for the Central Sierra Miwok by Barrett and Gifford (1933). For southern California, Harrington (1912–1923) and Strong (1929) described beads used. Ethnographic and historic data concerning the uses of these beads have been tested against the associations of bead types in mortuary contexts and partially confirmed. For example, different types were associated with burials of different statuses (see L.B. King 1969:56–60).

The callus (or columella) of the *Olivella biplicata* is composed of a high proportion of enamel and is very hard. Only one callus bead could be made from each shell (fig. 4), and the size of the bead was determined to a large degree by the amount of work spent in grinding it down. The beads produced from the callus are rather inconspicuous in comparison with the amount of work expended in their manufacture. Lipped olivella callus beads are found in the Chumash area either singly or in low numbers in lots or occasionally in high frequencies sewed on bags or in long strands. Used over a large area of California (fig. 5), these were evidently one of the less valuable "money" beads.

The columellae of univalves larger than *Olivella* sp. were shaped into pendants or longitudinally drilled tubes

NAA, Smithsonian.

Fig. 3. Costanoan man wearing shell necklace and shell beads attached to headdress. Lithograph (Choris 1822) based on lost watercolor by Louis Choris, 1816.

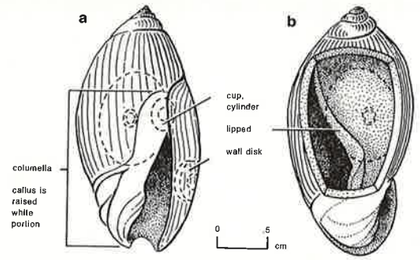


Fig. 4. Areas (a, obverse; b, reverse with cutaway) of *Olivella biplicata* used to make shell beads.

(fig. 2) to represent money forms of high value. According to Maria Solares, Harrington's main informant for the Ynezeño Chumash area, *šowow** (olivella wall disks or cups) were worth less than *ʔiḵimiš* (*Tivela* sp., *Mytilus* sp., and serpentine cylinders), *ʔape* (*Hinnites* sp. beads), *čipʰiʔ* (*Kelletia kelleti* tubes), and *čq̓ilwoy* (Harrington 1912–1923).

In the Medea Creek cemetery (LAn-243), located inland in the southeastern Chumash area, three major social groups can be deduced from differences in burial behavior. It has been suggested and partly substantiated (L.B. King 1969) that the areas of burials of the different social groups represent plots used by associations (perhaps kin groups) whose members had differential access to resources and power. Major cemetery areas at LAn-243 have been designated as eastern, central, and western. Each area contained different relative frequencies of shell beads. The eastern area of the cemetery contained the remains of people who apparently had low ascribed status. In this area the most common shell beads were those made from the columellae of univalve shells. Olivella lipped beads, olivella cylinders, olivella spoons and tubes, and small columella pendants and tubes were found almost exclusively in the eastern and western areas; and olivella cups and *Kelletia kelleti* tubes were found in all areas. These "money" beads could evidently be used by individuals of all statuses: both the highest, who were buried in the western area, and the lowest, in the eastern area. The more decorative "money" beads were frequently found in the east, but not in the central area, where other beads were used.

At the Menjoulet site (Mer-3) in the western part of the Central Yokuts area, there are also regularities in the association of beads with burials of individuals of different social statuses. Olivella lipped beads seem to have been used by individuals of low ascribed status who were buried in an outdoor plot, often as partially extended

* Madison Beeler has provided the spellings for all Chumash words in this chapter.

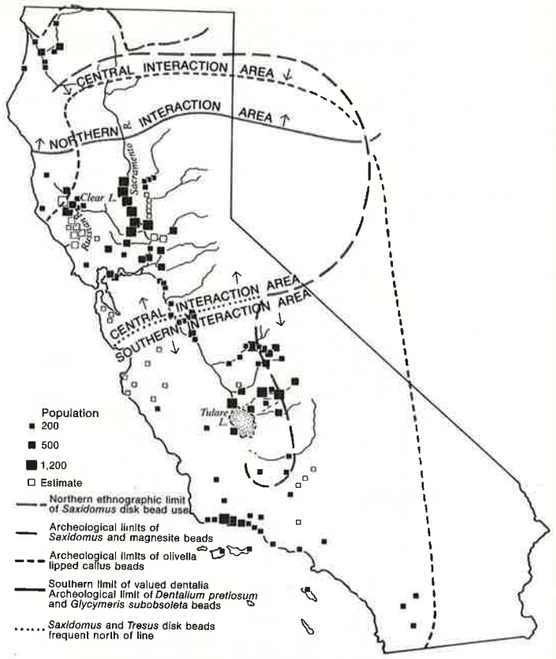


Fig. 5. Distribution of villages of over 200 people at European contact, and distribution of common Phase 2 historic beads.

inhumations, while higher-status individuals were usually buried as cremations in the floor of a community structure (dance house), with the highest-status burials clustered at the south edge of the structure (Pritchard 1970). The different proportions of lipped to steatite disk beads found in different areas of the Schwabacher site (Mad-117) (T.F. King 1968), across the valley from Mer-3 in the area held in ethnographic times by the Southern Sierra Miwok, also suggest use of different beads by individuals of different ascribed social statuses.

Olivella callus beads were evidently accessible to everyone regardless of ascribed status in most areas of California (fig. 5). These "money" beads apparently could be used by anyone in trade, in exchange for goods.

Disk beads made from stones and the walls of shells, and cylinder beads, were used differently from beads already discussed, which included or were made from the columellae of univalves. Like the olivella "money" beads, these beads had value resulting from costs of manufacture; however, they were not considered as "money" beads but rather as "decorative" beads. They were used to validate high social statuses and were involved in interactions in which there were lags between the giving of beads and return flow of goods or services rather than no lags as was the case of "money" beads.

Beads found in both the western and central areas at Medea Creek in some frequency were small *Haliotis*

rufescens epidermis disks, *Olivella* sp. disks (medium range), *Mytilus* sp. disks, cylinders of *Mytilus* sp. and *Tivela* sp., and tube beads of *Tivela* sp. and *Mytilus* sp. Burials in the central area of the LAn-243 cemetery have been interpreted as those of individuals who were allowed to attain positions of high social status by birth rather than by obtaining wealth in the commercial economy. These positions were probably often associated with religious control functions. It was evidently in the interest of members of this group to invest in beads that validated status. Centering in the western area of the cemetery and infrequent in the other areas were medium-sized *Haliotis rufescens* epidermis disks strung with medium-sized *Olivella* sp. wall disks, medium-sized *Olivella* sp. wall disks with oblique incisions interspersed with plain disks, small *Olivella* sp. wall disks, *Hinnites* sp. beads, and globular *Tivela* sp. beads. These items were probably mainly reserved for those of high birth or the extremely wealthy.

At the Menjoulet site *Tivela* sp. cylinders and tubes were associated with cremations in the "dance house," and other "decorative" and "money" beads were found mainly with the burials at the south edge of the structure. *Tivela* sp. and *Mytilus* sp. cylindrical beads were called *ʔiḵimiš* by Maria Solares and other Chumash informants. They were said to be more valuable than *mučuču?* (small olivella wall disks). Informants also said *ʔiḵimiš* were used only as ornaments. *mučuču?* were described as being used to decorate the carrying strap of a cradle and to decorate a band that passed over one shoulder and under the opposite arm. One of these broad bands is said to have been worn by chiefs at fiestas. Both *ʔiḵimiš* and *mučuču?* were said to have been used for bracelets (Harrington 1912–1923). There is a historic reference to the use of what were probably cylindrical beads in a ceremony recognizing leadership. At the mouth of Sespe Creek in the area of the eastern interior Chumash, the first Spanish land expedition in 1769 was met by seven chiefs who came with a retinue of men with unstrung bows, all together 500 Indians. In addition to a generous present of food, the Spaniards received other gifts: "The chiefs, having learned who was in charge, offered to the commander, to us [the priests], and to the officers, several necklaces of little stones [shells and possibly stone], white [*Tivela* sp. cylinders], black [serpentine or *Mytilus* sp. cylinders], and red [*Haliotis rufescens* epidermis?], whose texture was similar to coral" (Palóu 1926, 2:143).

In summary, it is possible to differentiate two categories of shell beads according to use. One type consists of "money" beads, which could be obtained by selling goods (food or manufactured products), and which could be used by anyone regardless of the status position they were born into. The other category of shell beads was used either by those who were allowed to obtain, or by those who inherited, positions of rank. Both categories were composed of beads that differed in value according to the amount of labor required for their manufacture. In areas where regular olivella currency was less used than among the Chumash of the Santa Barbara Channel region, beads that for the Chumash served decorative or status functions evidently often took on moneylike functions. For example, the clamshell disks and cylinders of *Tivela stultorum* that occur in some frequency north of the Chumash up to the Costanoan area were most commonly used as currency south of Monterey, especially by Southern Yokuts groups. In California north of Monterey (except in the Tolowa region) currency functions were served by disk beads of *Saxidomus* sp. and *Tresus* sp. (According to James A. Bennyhoff, personal communication 1972, Gifford 1947:32 misidentified *Tresus* sp. as *Saxidomus gigantea,* Washington clam.) Next to those of olivella callus, these clam beads were the hardest, most durable form of shell bead that was commonly used in California.

In Northern California, there was a decline in the proportion of use of olivella callus money in relation to clam disk beads, especially in comparison with the Santa Barbara Channel area. This relationship follows from a hypothesized relationship between degree of environmental diversity and the degree of efficiency of a monetized economy in contrast to a politically controlled economy (King 1971). That is, monetized economies are more efficient in decreasing the influence of fluctuations in available food supplies where there are many variable resources (both geographically and seasonally). Political regulation is more efficient for decreasing the influence of fluctuations when there are relatively few important variable resources.

It is probably because of this relationship that farther north along the Pacific coast societies used beads that require less labor in manufacture and that control of exchange was mainly through political manipulations. In comparison with the Northwest Coast and the Southern California coast, Central California can be viewed as having an economic system that was in a sense both political and monetized, with neither aspect so developed as in the case of groups to the north and south. The ethnographic economies of Central California have been described by Chagnon (1970) and Vayda (1966). Ethnographic and historical description of the economic system of the Chumash has been presented by King (1971).

Bead forms changed during the historic and protohistoric periods. Phase 2 of the late time period begins with the development of new bead types in all areas of California. Olivella callus cupped beads differentiated into large, lipped and small, cupped or cylinder beads. In Southern California, there was a development of numerous other types of olivella callus as well as columella beads made from other species of shell. In general, it can be postulated that the potential for successful participation in the money economy was made more open to people of all social groups (kin groups, villages, and nationalities) and that the California money economy

reached its heights of development. The changes in the olivella lipped beads following their development from round (Phase 2a) to oval thin-lipped (terminal Phase 2a) to oval full-lipped (Phase 2b) and large, lipped with frequent unlipped variants (historic) seems to represent an increasing differentiation from cupped beads with an accompanying decrease in their value. These changes are significant in establishing the chronology of Phase 2 throughout California.

In Southern California, some shell materials were first used for tube (columellae and *Hinnites multirugosus* hinges) and cylinder (*Mytilus californianus*) beads. There was also an expansion of the diameter ranges of all disk beads in early Phase 2a, followed by a reduction by Phase 2b to diameters similar to disk beads of late Phase 1. Phase 2b was followed by an increase in diameters again in the mission period. It is tempting to hypothesize that at the beginning of Phase 2a, there was a period of rapid human population growth with increased potential for the members of at least some sectors of the society to attain higher status.

It is mainly the costs of drilling holes and rounding the circumferences that determine the value of beads. Numerous small-diameter beads woven into beadwork patterns or strung in parallel strands are no more visible than relatively few large bulky beads. Accordingly, periods of increases in diameter of "decorative" beads can be interpreted as having been times in which there was a greater potential to attain particular social statuses than periods when the cost of obtaining sufficient beads to validate or show status would be prohibitive.

It is interesting to observe the changing pattern of types and uses of Central California shell beads in the light of the above discussion. Phase 2 began here with the development of a number of new types of beads using new materials. *Saxidomus* sp. shells, *Tresus* sp. shells, and magnesite (a stone quarried near the boundary between Lake Miwoks and Pomoans and baked in the process of manufacture) were first used in Phase 2; and the clam disk beads were the most common type used over most of California north of the San Francisco Bay area. Early use of *Saxidomus* sp. and *Tresus* sp. beads was accompanied by the phasing out of earlier rectangular olivella wall beads used in the Central California area and by an increase in cylindrical or tubular steatite beads. In general, throughout Phase 2 and into the historic period, Central California "decorative" bead diameters increased. Using the hypothesized relationship between bead diameters and attained social status suggested for Southern California, it would appear that in Central California there was an increase in potential for status attainment throughout the protohistoric and historic periods. With European contact the population was significantly reduced by disease, increasing the potential to obtain some status positions. If this postulated development for Central California also explains the similar development in Southern California and the Yokuts area in the mission period, then ethnographic data collected in the early part of the twentieth century and later part of the nineteenth reflect much less clearly stratified societies than typified the protohistoric period.

Protohistoric Bead Use Areas

The population and village location data for figure 5 are derived from written accounts by early Spanish expeditions and by early European settlers and military personnel, but this information is in many areas partially substantiated by archeological data (for example, Cook and Heizer 1968). The inhabitants of large villages and towns in at least parts of the state north of the Tulare Lake area were often living together only seasonally. Most of the large villages and towns south of there, except possibly those in the Ipai area, were occupied virtually throughout the year during the protohistoric period. All the large villages and towns were important as interaction centers and probably dominated the control of intervillage trade in their particular areas. The cluster of large settlements in the Sacramento River, Russian River, and Clear Lake areas can be viewed as the centers of an interaction network in which *Saxidomus* sp. and magnesite beads were frequently used in the protohistoric and historic periods.

The clusters of large village communities in the Tulare Lake drainage and the Santa Barbara Channel were involved in a Southern California area in which olivella wall disks and clam tubes and cylinders were exchanged and shown. All the more common types of Southern California (fig. 2) were used as well throughout the San Joaquin Valley.

The limits of these large interaction networks occurred in areas of lower population density and smaller villages. In these boundary zones, only the most common and low-valued forms of beads were usually owned. In the area where *Saxidomus* sp. beads were frequently used, *Tresus* sp. beads, which are thinner and smooth surfaced, were evidently less valued; they are found in the San Francisco Bay and San Joaquin delta areas in high proportions, along with olivella lipped beads. Olivella lipped beads always increase in proportion to other bead types outside the larger population centers, except in the northern part of California where their use was relatively infrequent.

Archeological evidence indicates that the common beads used in the large interaction areas of Southern and Central California were manufactured from traded or local shells or stone in coastal, Coast Range, Central Valley, and Sierra Nevada foothill areas. The amount of residue from manufacturing at different villages varies widely from the extremes in the bead-manufacturing villages of the Santa Barbara Channel Islands to occasional bead blanks found in some Central Valley villages.

Table 1. Sites and Sources

Site Number	*Site Name*	*Source*
Ala-328	Coyote Hills (Newark)	Davis and Treganza 1959
Ala-342	Warm Springs	King 1968
But-84	Tie-Wiah	Ritter 1968
But-S177	Porter Rockshelter	Pritchard et al. 1966
CCo-30	Alamo	Fredrickson 1968
CCo-141	Palm Tract (Orwood Mound 2)	Lillard, Heizer, and Fenenga 1939
CCo-238	Hotchkiss	Lillard, Heizer, and Fenenga 1939
CCo-259	Fernandez	Davis 1960
CCo-295	Ellis Landing	Nelson 1910
Col-1	Miller Mound	Lillard, Heizer, and Fenenga 1939
Col-2	Howell's Point Mound	Lillard, Heizer, and Fenenga 1939
DNo-11	Point Saint George	Gould 1966a
Fre-115	Vermillion Valley	Lathrap and Shutler 1955
Fre-128	Little Panoche Reservoir	Olsen and Payen 1968
Fre-129	Little Panoche Reservoir	Olsen and Payen 1968
Hum-67	Gunther Island	Heizer and Elsasser 1964
Hum-118	Patrick's Point	Elsasser and Heizer 1966
Hum-169	Tsurai	Elsasser and Heizer 1966
Ker-33, 39, 40	Buena Vista Hills	Wedel 1941
Ker-64	Elk Hills	Walker 1947
Ker-74		Riddell 1951
Lak-36	Rattlesnake Island (Elem)	M.R. Harrington 1948
LAn-26	Sheldon Reservoir	Walker 1952a
LAn-52	Arroyo Sequit	Burnett 1944
LAn-454	Point Dume	Burnett 1944
LAn-29	Lechuza Canyon	Burnett 1944
LAn-138	Malaga Cove	Walker 1952a
LAn-227, 229	Century Ranch	King, Blackburn, and Chandonet 1968
LAn-243	Medea Creek	L.B. King 1969
Mad-117	Schwabacher	T.F. King 1968
Mer-3	Menjoulet	Pritchard 1970
Mrn-35	Tiburon	Gifford 1947
Mrn-201, 266	Tom's Point, McClure Mound	Beardsley 1954
Mrn-232	Estero Mound	Beardsley 1954
Mrn-242	Cauley Mound	Beardsley 1954
Mrn-275	Mendoza Mound	Beardsley 1954
Mrn-216, 298	Limantour Sandspit	King and Upson 1973
Mrp-56	Yosemite Village	Rasson 1966
Nap-1	Goddard Mound	Heizer 1953
Nap-57	Wooden Valley	Heizer 1953
Nap-234	Capell Valley	E. Robinson 1964
Ora-237-239	Santiago Canyon	Hudson 1969
Riv-50	Temecula and Vail	McCown 1955
Riv-210	Snow Creek	Michels 1963–1964
Sac-1	Cantrell Mound	Schenck and Dawson 1929
Sac-6	Johnson Mound	Schenck and Dawson 1929
Sac-16	Bennett Mound	Gifford 1947
Sac-56	Mosher Mound	Gifford 1947
Sac-107	Windmiller Mound	Lillard, Heizer, and Fenenga 1939

Table 1. Sites and Sources *(Continued)*

Site Number	*Site Name*	*Source*
SBa-28	Burton Mound	Harrington 1928
SBa-60	Goleta	McKusick 1960-1961
SBa-78	Dos Pueblos	Harrison 1965
SBa-501	Salisbury Potrero	Grant 1964
SBr-93	Las Flores Ranch	Smith and Moseley 1962
SCaI-39	Isthmus Cove	Finnerty, Decker, and Leonard 1970
SCaI-94	Miner's Camp	Meighan and Rootenberg 1957
SC1I-120	Big Dog Cave	McKusick and Warren 1958-1959
SCrI-100	Posa Landing	Gifford 1947
SCrI-135, 138	Smuggler's Cove	Gifford 1947
SDi-120	San Vicente	McCown 1945
SDi-682	Rancho San Luis Rey	True 1966
SDi-860	Dripping Springs	True 1970
Sha-20	McCloud River	Smith and Weymouth 1952
Sis-13		Wallace and Taylor 1952
Sis-326	Iron Gate	Leonhardy 1967
SJo-80	Stockton Channel Mound	Schenck and Dawson 1929
SJo-82	Walker Slough Mound	Schenck and Dawson 1929
SJo-83	Ott Mound	Schenck and Dawson 1929
SJo-91	Walker Slough Island Mound	Schenck and Dawson 1929
SMa-101		Oliphant 1971
SRI-2	Skull Gulch	Orr 1968
SRI-40	Canada Verde Flats	Jones 1956; Gifford 1947
SRI-60	Ranch House Jones 1, 2	Jones 1956; Gifford 1947
SRI-20	Ranch House Jones 11	Jones 1956; Gifford 1947
SRI-78	Ranch House Jones 3	Jones 1956; Gifford 1947
Teh-1	Kingsley Cave	Baumhoff 1955
Teh-58	Red Bluff	Treganza 1954b
Tri-59	Trinity Reservoir	Treganza 1958a, 1959a
Tul-1	Greasey Creek	Pendergast and Meighan 1958-1959
Tul-10	Slick Rock	Fenenga 1952
Ven-3	Ventura (*šišolop*)	Greenwood and Browne 1969
Ven-27	Pitas Point	King et al. 1970
Ven-55	Mutah Flat	Eberhart and Babcock 1963
Ven-61	Soule Ranch	Susia 1961-1962
Ven-69	Conejo Rockshelter	Glassow 1965
Yol-13	Mustang Mound	Gifford 1947

Ethnographic Areas

The large interaction areas can be divided into a number of subareas based on different relative frequencies of beads, the presence of local types of beads, differences in *Haliotis* sp. ornaments, and differences in other traded objects. The definition of these areas and their correlation with ethnographic groups has been one of the most clearly defined problems guiding much of the research done with material from the protohistoric period.

The California Indian groups in this volume are identified and named on the basis of language. Linguistic relationships have been used as the most objective criteria for defining social groups variously described as tribes, nationalities, and cultures. Forbes (1966), Brown (1967), and Bennyhoff (1961:64) have shown that there is a correlation of types of personal names, for instance, by suffix, in mission registers with tribal groups. Bennyhoff (1961) and True (1966) have noted that certain aspects of archeological data, especially those related to mortuary practices, can be used to define the boundaries of historic and ethnographic groups.

Historic Village Abandonment

Although the protohistoric period has been arbitrarily considered to end around 1770 when the Spanish first migrated into the southern littoral area, it actually ended at different times in different areas of the state, ranging from 1769 to about 1850.

The abandonment of most protohistoric sites along the littoral area between San Diego and San Francisco was caused by the introduction of pastoral-agricultural technologies and often the presence of imposed Spanish religious and political institutions. In most of the areas where there were Roman Catholic (Franciscan) missions, many of the native villages were abandoned as their occupants died or were incorporated into new villages associated with the missions. The dates of last recorded baptisms from Indian villages located in the littoral zone correspond with the sequence of historic-period artifacts found among the remains of villages that were missionized. For instance, villages from which Indians were last baptized in 1804 have no artifacts made only after 1804, and those abandoned in 1834 have no artifacts unique to the succeeding period. Archeological data therefore help confirm the detailed picture of village abandonment that can be interpreted from baptismal registers.

In some cases, Indians left villages that had been occupied at the end of the protohistoric period in order to work on ranches or to practice agriculture. Indians were often later baptized from these ranches, villages, and autonomous semiagricultural villages. A description of the association of an Indian village with ranching was made by Father Vincente de Maria in 1795. At the location later used for San Fernando Mission he described a village.

> In this place we came to a rancheria near the dwelling of said Reyes (alcade of the pueblo of Los Angeles)—with enough Indians. They take care of the field of corn, beans, and melons, belonging to said Reyes, which with that of the Indians could be covered with two fanegas of wheat. These Indians are the cowherds, cattlemen, irrigators, bird-catchers, foremen, horsemen etc. To this locality belong, and they acknowledge it the gentiles of other rancherias, such as the Taapa [eastern Chumash], Tacuyama [San Francisquito Tataviam?], Tucuenga [Tujunga or Cabuenga, San Fernando Valley Indians], Juyunga [Huam-El Escorpion: half Chumash, half San Fernando Valley Indians], Mapipinga [San Fernando Valley?] and others, who have not affiliated with Mission San Gabriel (Engelhardt 1927:5).

Prior to their secularization, the missions had baptized all the Indians in the littoral zone between San Diego and Bodega Bay as well as from a number of villages in the western half of the San Joaquin Valley. After secularization, some Indians were given small land grants; others moved to villages associated with large ranches, where they worked as laborers; and others moved on to unclaimed land. On the upper half of the San Luis Rey River, Indians were living in their native villages, although baptized at the Pala chapel associated with San Luis Rey Mission. These are Indians who did not abandon their native sites.

In 1833 a major malaria epidemic caused the abandonment of many large villages. Archeological data from the Plains Miwok area (Bennyhoff 1961) substantiates the abandonment of many villages, probably partly caused by the epidemic. From secularization in 1834 until the gold rush of 1849, boundaries between autonomous Indian villages and Mexican-controlled areas of California remained fairly stable except on the northern frontier—in the Pomoan, Wappo, Lake Miwok, Patwin, Nisenan, and Plains Maidu areas. In these areas Indians were incorporated into large ranching operations by men such as John Sutter, Mariano Guadalupe Vallejo, and John Bidwell. These Indians often maintained themselves in their native villages, although some moved in order to take better advantage of new opportunities or were moved because it was in the interests of ranchers. In a few cases semimilitary expeditions are said to have destroyed whole villages and massacred their inhabitants.

It was not until after 1849 that the area north of Clear Lake, north of the town of Chico, the Sierra Nevada Mountains, and the Cahuilla and Tipai areas could be said to become historic. The initial effects of the gold rush on the Indian populations in gold-bearing areas often resulted in changes of village locations and village extinction. The first was usually the result of the exploitation of Indians and the second was the result of homicide.

After the United States government claimed possession of California, Indians were often relocated so that land could be made available for nonnative settlers. Where Indians were living on land of little interest to American citizens in the last half of the nineteenth century, they were often able to maintain their communities as measured by continuity in cemetery use, and in some cases they retained land rights.

Protohistoric Village Changes

The narrative of the Cabrillo expedition of 1542 lists the names of certain villages in the Santa Barbara Channel and on Santa Catalina Island. Many of these villages are named in the baptismal records of missions. The names of a number of the largest villages present in the historic period do not occur in the Cabrillo narrative lists; conversely, the names of other villages on the Cabrillo lists do not represent historic-period villages. Moreover, ethnohistoric information collected by Harrington (1912-1923) from Fernando Librado (b. 1805, interviewed around 1913, Indian name Kitsepawit), a highly accurate and learned informant, shows that villages were moved and new ones were founded in the historic period. The largest missionized coastal villages, especially those not included in the 1542 lists, were described by Librado

as having been composed of subpopulations who spoke different major Chumash dialects, particularly inland and island dialects.

Archeological data support the hypothesis of population movement. Large sites such as SBa-78 (*mikiw*, larger of the two villages at Dos Pueblos), SBa-60 (*šaxpilil*, largest of the historic Goleta Slough area towns), and Ven-3 (*šišolop* 'port', at Ventura) all have artifacts characteristic of Phase 2. SBa-60 and Ven-3 were evidently first founded during Phase 2. Artifacts from Ven-3 indicate the village was probably founded in the middle or earlier part of Phase 2a, about 1500-1600. The protohistoric (1542) village of Misnagua (Ven-27, fig. 6), at Pitas Point six miles north of Ven-3 on the coast, was abandoned in early Phase 2a at the time of the establishment of Ven-3. Historically and ethnographically Pitas Point was the location of a fish camp used by Indians from Ven-3 as well as a landing place for traders from the islands. The Pitas Point village contained 6 to 10 circular houses ranging between 30 and 40 feet in diameter; it was much smaller than Ven-3, which included 30 houses of the same size in 1769 (Palóu 1926, 2). Inland from Ven-27 and Ven-3 are a number of village sites in the Ojai Valley region. The Soule Ranch site (Ven-61) and sites in the Las Casitas Reservoir area all seem to have been virtually abandoned during Phase 2a.

It appears that prior to the beginning of Phase 2 numerous small villages were dispersed to relate to local food resources. During Phase 2a these villages were depopulated as large multiethnic, that is, multitribal, coastal villages were founded at locations determined more by trade networks than by local resources. Excavations at some of the most impressive "late" time period sites on the Channel Islands support this supposition. SCri-100 (Posa Landing) was, according to burial-lot data, probably abandoned during about the middle of Phase 2a (1500-1600). At SRI-2 (Skull Gulch) two burial plots, probably family plots, were last used at the very beginning of Phase 2a. One other plot was used throughout Phase 2. This village was recorded by Cabrillo as "Nicalque" (which he also named Santa Rosa Island) and appears in mission records as a moderate-size island village called Nia-cila. Cabrillo in 1542 recorded fewer island villages than those known to have contributed mission converts after 1770, whereas he recorded as many or more villages for sections of the mainland coast; thus, it appears that as mainland populations formed larger villages by grouping together, island populations were dispersing to found new island villages as well as migrating to large mainland villages. This contention is also supported by the burial lots recovered from SRI-40 and SRI-60 (Jones 1956), which all date from about 1600 to the historic period, that is, not earlier than the middle of Phase 2.

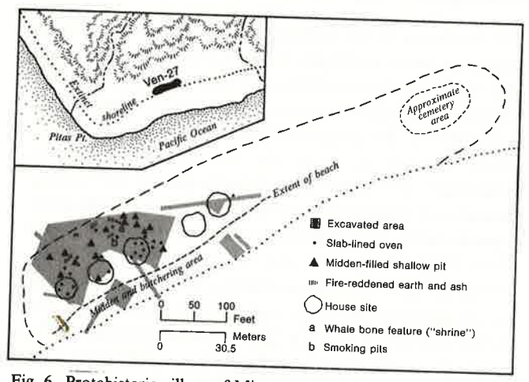


Fig. 6. Protohistoric village of Misnagua (Ven-27).

In the San Francisco Bay region there is also archeological evidence for redistribution of populations. The large bay-shore shellmounds on the east bay in Alameda and Contra Costa counties, which were village locations during Phase 1, were apparently abandoned during Phase 2a. Little excavation has been done in sites other than the large shellmounds. One site (Ala-342), located away from the bay shore at the foot of the hills on the east side of the bay, produced materials diagnostic of the missing time segment. Early Spanish diaries record a number of small villages along the foothills of the east bay area, and mission records contain baptisms from the area of redwoods behind Oakland. The Ala-342 site differed from the large bay shellmounds by the presence of large quantities of burned rock and baked clay associated with large earth ovens used for the preparation of soaproot bulbs (*Chlorogalum pomeridianum*) as food and by large storage pits. It is tempting to hypothesize that it was the development of improved methods of processing soaproot, historically reported by Font (1933) in 1776 to be the staple food of east San Francisco Bay Indians, that resulted in relocation of populations with availability of firewood determining new village locations. The continual growth of population due to increased food supply during early Phase 2 would explain the reoccupation of bay shore shellmounds in Phase 2b.

In the Chowchilla River area in the Sierra Nevada foothills (Mad-117) at the beginning of Phase 2 there appears to be an increase in population that was reflected by the occupation of many new sites by small groups of people as well as by an increase in the size and complexity of large central villages. Similar changes occurred in many areas of the Sierran foothills (Moratto 1971:24-38).

The quantity of archeological data produced in almost every area of the state during the protohistoric period certainly indicates a marked population increase. It appears that as populations increased, the cultures increased in complexity as measured by (1) large specialized structures—dance houses and sweathouses, (2) complexity and quantity of artifacts that were used in the organization of social behavior, and (3) degree of hierar-

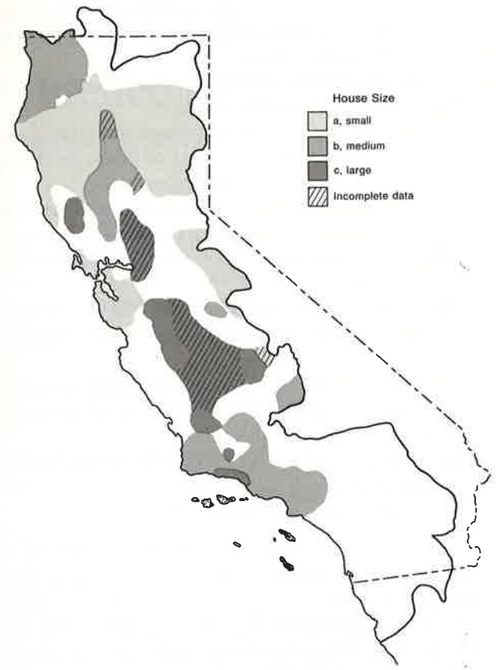


Fig. 7. Protohistoric house sizes based on archeological and early historic data. a, most houses in village less than 15 feet diameter; one or more large houses up to 30 feet diameter; b, most houses in village 15-20 feet diameter, in Northwest area 15 by 20 foot rectangle; one or more large houses up to 60 feet diameter; c, most houses in village 25-50 feet diameter; one or more large houses up to 150 feet diameter.

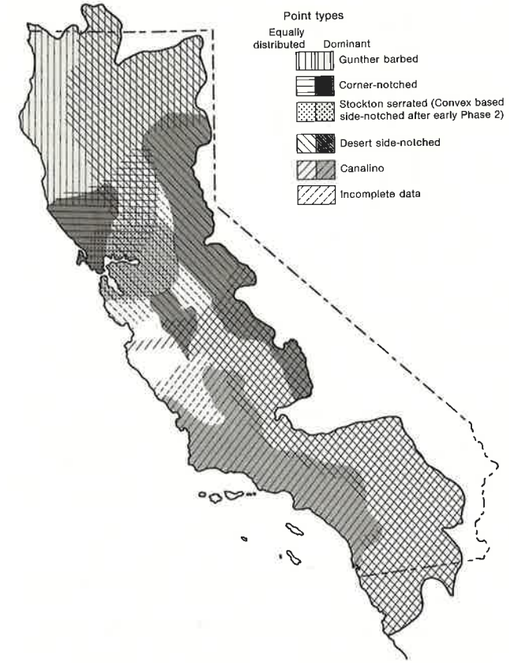


Fig. 8. Distribution of common protohistoric projectile points.

chical ordering of sites by size as compared with earlier periods, that is, an increase in the range of site size, both smaller and larger.

House Size

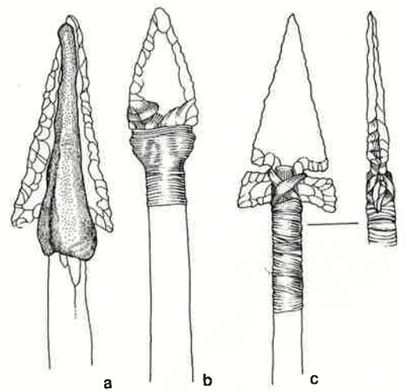
During the protohistoric period, California Indian communities varied in their organization in a number of ways. Differences in house sizes (fig. 7) reflect differences in the size of households and in the kinds of activities performed together or separately inside residential houses rather than in community structures such as dance houses, sweathouses, or outdoor work areas. Small residential houses were mainly used in areas where there were relatively few resources; however, large houses have been occasionally found in such areas. The causes of variation in house size are as yet poorly understood.

Projectile Points

Stone arrow points were described historically and ethnographically as being used in all areas of California (fig. 8). These chipped-stone points can be divided into types on the basis of (1) configuration of base, (2) the presence and location of notches, and (3) treatment of blade edges. Differences in the forms of California projectile points have often been assumed to be the result of differences in ideological traditions, but the evidence on figure 8 does not substantiate this assumption. Microscopic analysis of Stockton serrated points has resulted in the suggestion that this type of point was at least occasionally used for purposes besides tipping arrows (Nance 1970:81-82). Edge wear was interpreted as indicating use in both light slicing and whittling motions. Projectile base forms may be related to hafting requirements (fig. 9) for points that have multiple uses—for example, piercing, cutting, whittling, warfare, game hunting. However, other types of protohistoric projectile points have not been systematically examined for wear or patterns of breaking due to use.

The most common points used in the protohistoric period can be classified into the following types (fig. 10).

(1) Gunther barbed, basally notched so as to make the lower corners into barbs. The edges of the stem are usually parallel-sided or contracting.
(2) Desert side-notched, concave-based side-notched points. These were evidently used in California



Dept. of Anthr., Smithsonian: a, 19709; b, 2807; c, 15699.
Fig. 9. Hafting techniques. a, split wooden shaft, sinew wrapping covered with asphaltum; b, split wooden shaft, sinew wrapping; c, split wooden shaft, sinew wrapping.

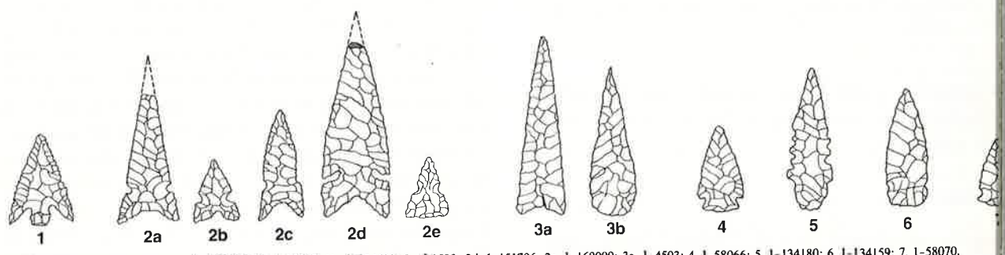
only during Phase 2 (see Baumhoff and Byrne 1959).

(a) general subtype, side-notched with concave base.
(b) Sierra subtype, concave-based with notch in center of base.
(c) Delta subtype, deeply concave base, usua made of stone other than obsidian.
(d) Redding subtype.
(e) Panoche side-notched (Olsen and Payen 19

(3) Unnotched Canalino points.
(a) concave-based (Cottonwood triangular), co mon from the later part of Phase 2a throu 2b; found as a rare type earlier.
(b) convex-based, precedes in the southern C fornia coast area the concave-based type; m common type of point in Phase 1 and ea Phase 2a.

(4) corner-notched, found during Phase 1 in m areas where side-notched points were commo Phase 2.
(5) Stockton serrated, a number of notches along b edges; common in Phase 1 contexts as well as e Phase 2, but rare thereafter.
(6) convex-based side-notched, followed the Stock serrated type in the Delta area.
(7) straight-based side-notched.

The distributions of point types across territory through time are correlated with changes in popula distribution. These changes were the result of shift activity and consequent differing needs for demogra organization. This suggests that different frequencie projectile point types reflect differences in the way ar points were most commonly used.



Lowie Mus., U. of Calif., Berkeley: 1, 1-151797; 2a, 1-57847; 2b, 1-134698; 2c, L1528; 2d, 1-151796; 2e, 1-169000; 3a, 1-4503; 4, 1-58066; 5, 1-134180; 6, 1-134159; 7, 1-58070.
Fig. 10. Arrow point types. 1, Gunther barbed; 2a, Desert side-notched, general subtype; 2b, Desert side-notched, Sierra subtype; 2c, Deser side-notched, Delta subtype; 2d, Desert side-notched, Redding subtype; 2e, Panoche side-notched; 3a, unnotched Canalino, concave-based; unnotched Canalino, convex-based, idealized; 4, corner-notched; 5, Stockton serrated; 6, convex-based side-notched; 7, straight-based side-notched.