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Costanoan

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Language and Territory

The term Costanoan is a linguistic one; it designates a language family consisting of eight languages. In 1770 the Costanoan-speaking people lived in approximately 50 separate and politically autonomous nations or tribelets (fig. 1). Each tribelet had one or more permanent village sites. During various seasons of the year parties went out from the villages to temporary camps at scattered locations in the tribelet territory to engage in fishing, hunting, and collection of plant foods. The average number of persons in a tribelet was approximately 200. Tribelet population seems to have ranged from about 50 to about 500 persons. The larger tribelets usually had several permanent villages; frequently these were located in close proximity to one another.

The ethnic groups recognized by the Costanoan themselves were sets of tribelets who spoke a common language and lived in a contiguous area. Many of the tribelets within an ethnic area were distinguished from one another by slight differences of dialect. This is particularly true in the Rumsen and Awaswas ethnic areas.

The languages comprising the family and their locations in 1770 were approximately as follows. Karkin was spoken in a single tribelet on the southern edge of Carquinez Strait and appears to have had approximately 200 speakers. Chochenyo or East Bay Costanoan was spoken among the tribelets occupying the east shore of San Francisco Bay between Richmond and Mission San José, and probably also in the Livermore Valley, by about 2,000 people. Tamyen or Santa Clara Costanoan was spoken around the south end of San Francisco Bay and in the lower Santa Clara Valley and seems to have had about 1,200 speakers. Ramaytush or San Francisco Costanoan was spoken by about 1,400 people in San Mateo and San Francisco counties. Awaswas or Santa Cruz Costanoan was spoken among the people living along the ocean shore between Davenport and Aptos in Santa Cruz County; its speakers numbered about 600. Mutsun was spoken among the tribelets of the Pajaro River drainage and seems to have had about 2,700 speakers. Speakers of Rumsen numbering about 800 occupied the lower Carmel, Sur, and lower Salinas rivers. Chalon or Soledad was spoken by about 900 people on the Salinas River (Levy 1970).

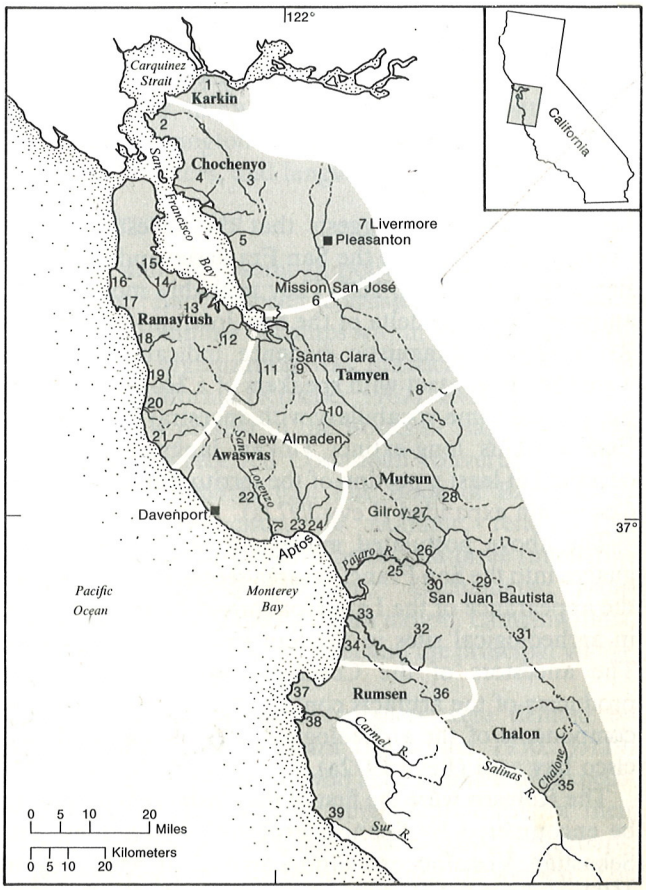


Fig. 1. Ethnic groups and tribelets (late 18th century). Tribelets: 1, *karkin* (Los Carquines); 2, *xučyun;* 3, (Palos Colorados); 4, (San Antonio); 5, *lisyan;* 6, *ʔoroyšom* (San Francisco Solano); 7, *šewnen* (El Valle); 8, (Santa Ysabel); 9, (Santa Clara); 10, (San Juan Bautista); 11, (San José Cupertino); 12, *puyšon* (Arroyo de San Francisco); 13, *lamšin* (Las Pulgas); 14, *ṣalṣon* (San Matheo); 15, *šipliškin* (San Bruno); 16, *ramay* (Cañada de las Almejas); 17, *ṣatunumno* (San Egidio); 18, *kotxen* (La Purísima); 19, *ʔolxon;* 20, *kaxaṣta* (San Antonio); 21, *čitaktak* (San Juan); 22, *ṣayant* (San Juan Capistrano); 23, *ʔuypi* (San Daniel); 24, *ʔaptoṣ* (San Lucas); 25, *ʔawsayma;* 26, *xuristak;* 27, *kulu·listak* (San Bernardino); 28, *ʔorestak;* 29; *koṭetak;* 30, *xumontwaš;* 31, *paxšin;* 32, *mutsun* (La Natividad); 33, *wačron;* 34, *kalenta ruk;* 35, *čalon;* 36, *ʔensen* (Los Sanjones); 37, *ʔačista* (San Carlos); 38, *ʔičxenta* (San José); 39, *sarxenta ruk* (R. del Sur). Names in parentheses are Spanish designations.

The eight branches of the Costanoan family were separate languages (not dialects) as different from one another as Spanish is from French. They form a language

continuum. Except for the close relationship between Awaswas and Chalon, each language was most closely related to its geographically contiguous neighbors. The ordering of languages in the continuum was approximately the following: Karkin-Ramaytush-Chochenyo-Tamyen-Awaswas-Chalon-Mutsun-Rumsen. The eight Costanoan languages form a language family since they are more similar to one another than to any outside language (Levy 1970).*

The closest linguistic relatives of the Costanoan were the Miwok languages; together they form a Miwok-Costanoan or Utian family within the Penutian stock (Callaghan 1967; Pitkin and Shipley 1958).

History

Linguistic evidence suggests that the ancestors of the Costanoan moved into the San Francisco and Monterey Bay areas about A.D. 500. They probably moved south and west from the delta of the San Joaquin-Sacramento River system. Linguistic evidence indicates that they were then in contact with speakers of a Hokan language that shared some vocabulary with ancestral Pomoan and Esselen. This long-extinct Hokan language probably occupied at least a portion of the territory into which the Costanoan expanded (Levy 1972a).

The above postulated movement of Costanoan languages into the San Francisco area seems to coincide with the appearance of the Late Horizon artifact assemblages in archeological sites in the San Francisco bay region. The ancestors of the Costanoan were probably the producers of the artifacts contained in the Late Horizon components of the archeological sites of the San Francisco bay area (Levy 1972a).

The Rumsen were the first of the Costanoan peoples to be encountered by Spanish exploring expeditions. The Sebastián Vizcaíno expedition arrived at Monterey in 1602 and recorded some description of the Rumsen. Manila galleons may have stopped occasionally at Monterey between 1602 and the founding of Monterey by the expedition of Gaspar de Portolá in 1769, but little is known of this period in Costanoan history (Broadbent 1972:46-48). Accounts of expeditions that explored Costanoan territory between 1769 and 1776 provide important information on settlement pattern, population, subsistence, and material culture.

Seven missions were established within Costanoan territory between 1770 and 1797. Analyses of mission

Expeditions in Costanoan Territory 1769-1776

Expedition	*Dates*	*Sources*
Portolá	Sept. 26-Dec. 13, 1769	Crespí 1927; Portolá 1909; Costansó 1911
Fages	Nov. 21-Dec. 4, 1770	Fages 1911
Fages-Crespí	Mar. 20-Apr. 5, 1772	Crespí 1927:275-303
Anza I	Apr. 17-22, 1774	Anza in Bolton 1930, 2:1-130, 213-243
Rivera	Nov. 23-Dec. 13, 1774	Palóu 1930
Anza II	Mar. 9-Apr. 14, 1776	Font 1930; Anza in Bolton 1930, 3:1-200
Moraga	June 17-24, 1776	Moraga 1930; Palóu 1930a

baptismal records demonstrate that the last Costanoan tribelets living an aboriginal existence had disappeared by 1810 (Cook 1943, 1957; Levy 1969, 1972). During the mission period, 1770-1835, the Costanoan people experienced cataclysmic changes in almost all areas of their life. As a result of introduced diseases and a declining birth rate the Costanoan population fell from 10,000 or more in 1770 to less than 2,000 in 1832 (Cook 1943, 1943a). The aboriginal subsistence economy was largely replaced by the agricultural economy of the missions. Many ritual and social activities were discouraged or prohibited by the missionaries at some missions.

Another profound change involved the comingling of the Costanoan with peoples of differing linguistic and cultural background during the mission period. The following peoples were brought to the seven missions in Costanoan territory: Esselen (San Carlos, Soledad), Foothill Yokuts (Soledad), Southern Valley Yokuts (Soledad, San Juan Bautista, Santa Cruz), Northern Valley Yokuts (Soledad, San Juan Bautista, Santa Cruz, Santa Clara, San José), Plains Miwok (Santa Clara, San Jose), Saclan Miwok (San Francisco), Lake Miwok (San José), Coast Miwok (San José, San Francisco), and Patwin (San Jose, San Francisco) (Levy 1969, 1972).

The mission period is documented in the books of baptisms, deaths, and marriages of the various missions; annual reports of crop production and censuses; diaries of exploratory and punitive expeditions; the replies to an *interrogatório* or questionnaire of 1812 by the missionaries at various missions; and the accounts of the various European seafarers that called at San Francisco and Monterey during this period.

The Costanoan experienced a second cataclysmic change with the secularization of the missions by the Mexican government. Most natives gradually left the missions to work as manual laborers on the ranchos that were established in the surrounding areas. During the next few decades there was a partial return to aboriginal religious practices, particularly shamanism, and some return to food collection as a means of subsistence (Harrington 1921). Several multiethnic Indian communities grew up in and around Costanoan territory composed of the people who had been living at the missions when these were secularized. Such a community at Pleasanton, for example, was composed of Chochenyo, Plains Miwok, Northern Valley Yokuts, Patwin, and Coast Miwok. There were similar communities at Monterey and San Juan Bautista and probably at other locations as well.

These communities gradually shrank in size as the young people moved away and the old people died. The only extant statements made by the Costanoans themselves about their culture were made to ethnologists in the period from 1878 to 1933. These form the basis for the culture sketch that follows.

It is difficult to estimate the exact number of persons of Costanoan descent who were living in 1973. Galvan (1968:12) estimates approximately 130 Ohlone descendants in the San Francisco bay area. Thompson (1957) located over 100 persons of probable Costanoan descent in a linguistic survey of the areas formerly inhabited by the Awaswas, Mutsun, Rumsen, and Chalon. Judging from these two partial figures, the total number of persons of Costanoan descent in 1973 was probably considerably more than 200.

The Costanoan languages were probably all extinct by 1935.

In 1971 descendants of the Costanoan united in a corporate entity, the Ohlone Indian Tribe, and received title to the Ohlone Indian Cemetery where their ancestors who died at Mission San José are buried. "No official governmental recognition has ever been given to the Costanoans: No reservation has ever been set aside for them. No special emoluments, federal funds, or aid of any kind whatsoever has been given them at any time. They have still not been paid by the federal government for lands taken from them during the Gold Rush. They are still waiting for the justice due them as the native people of this land, who owned the land and loved it and cared for it" (Galvan 1968:12).

Culture

It is extremely difficult to fix an exact point in time to which all the statements made about Costanoan culture presented below apply. Information from expeditions between 1769 and 1776 must be combined with statements of Costanoan people recorded by ethnographers in the 1920s and 1930s to produce a rounded picture of Costanoan life. Another limiting factor is that the ethnographers who recorded the statements of Costanoan people about their own culture were primarily interested in the precontact culture and not the modified version that existed during the mission period and afterward.

Some of the material in this sketch is derived from the field notes of Harrington (1921, 1929-1930). The only major publications that have been derived from Harrington's work are his culture element distribution lists (Harrington 1942), used as the principal source for the following ethnography, and his letters to C. Hart Merriam concerning his work of 1929 to 1930 (Merriam 1966-1967, 3).

Harrington's principal Chochenyo informant was Maria de los Angeles Colós, who learned what she knew of Chochenyo culture from her maternal grandmother and grandfather. Harrington's principal Mutsun informant was Ascensión Solarsano de Cervantes. Bedridden and dying of cancer, this woman spent the last months of her life telling Harrington of the social institutions, beliefs, medicinal practices, and language of her people.

Political Organization

The basic unit of Costanoan political organization was the tribelet. Each tribelet consisted of one or more villages and a number of camps within a tribelet territory. This type of organization was practically universal in aboriginal California (Kroeber 1962). Evidence for this organization is present in the Books of Baptisms of the missions which received Costanoan converts (Merriam 1955:217-225, 1968:11-62). The Book of Baptisms of Mission San Francisco, for example, refers to a "Lamchin" nation (that is, tribelet) and three rancherias (that is, villages)—Lamchin, Cachanigtac, and Ssupichum—in or of the Lamchin nation. Lamchin, thus, was the name of both the tribelet and the principal village of the tribelet.

Territorial boundaries of tribelets were defined by physiographic features. Anza (in Bolton 1930, 3:129) found that the Costanoans who accompanied his expedition were unwilling to step beyond the limits of their territory because of the hostility of neighboring groups.

Tribelet chiefs might be either men or women. The office was inherited patrilineally, usually passing from father to son. When there were no male heirs the office went to a man's sister or daughter. Accession to the office of chief required the approval of the community. The chief was responsible for feeding visitors; providing for the impoverished; directing ceremonial activities; caring for captive grizzly bears and coyotes; and directing hunting, fishing, gathering, and warfare expeditions. In all these matters the chief acted as the leader of a council of elders (Harrington 1933:3).

The chief and council served mainly as advisors to the community. Costanoan ideas of personal freedom precluded the existence of any type of institutionalized coercive power. Obedience to a higher authority was rendered only in time of war. Duran and Fortuny (1958:274) described the attitudes of the Costanoan: "Outside of these [war leaders and shamans] they do not recognize any subordination, either civil or political, or

* Italicized Costanoan words are written in a phonemic orthography worked out by the author. All the languages have the stops *p, t, ṭ* (with allophones [ṭ] and [c̣], *č, k,* and *ʔ;* the continuants *s, s̆, x* (with allophones [h] and [x]), *m, n, l,* and *r;* the semivowels *w* and *y;* and the vowels *i, e, a, o,* and *u.* Vowel length (shown with raised dot) is phonemic. In addition, *ṣ* occurred in Mutsun, Rumsen, Awaswas, Chalon, Ramaytush, and possibly Karkin.

even domestic, but each one lives and does whatever his inclination may be, without anyone interfering with another."

A chief's envoy, mentioned in Pinart's vocabulary of Rumsen (Heizer 1952:8) argues for the presence of the office of speaker. The bearded man who delivered a speech to the members of the expedition led by Capt. Fernando Rivera y Moncada, inviting them to come to a village (Palóu 1930:439), was probably such a speaker. Speakers probably assisted the chief in collecting property to be used in ceremonies and in extending invitations to neighboring tribelets.

Kinship and Social Organization

In general the kinship and social organization of the Costanoan was very much like that of the Salinan, Chumash, Takic, and Numic groups to the south and differed markedly from that of other Penutian groups. Households were large for California, averaging 15 persons at Mission San Carlos (Broadbent 1972:62) and about 10 at a village in Gilroy Valley (Palóu 1930:404–405). Palóu (1924:64) notes that sororal polygynous marriages occurred and that the cowives and their children resided together in a polygynous household. Households consisting of patrilineally extended families were also a Costanoan practice (Harrington 1933:3).

The Costanoan were grouped in clans (Harrington 1933:3) and divided into deer and bear moieties (Harrington 1942:12).

In several matters of kinship terminology some of the Costanoan groups resemble the Salinan and Yuman peoples to the south more than they do the other Penutian peoples of central California. Children are classified in three different ways by the various Costanoan groups. The Mutsun and Rumsen, like the Yumans, possess a three-term system: man's son, man's daughter, woman's child. The Chalon, on the other hand, and their Antoniaño Salinan neighbors have a two-term system: son, daughter. The Chochenyo and Awaswas have four-term systems: man's son, woman's son, man's daughter, woman's daughter.

The Chochenyo and Rumsen have two terms for grandparents—grandmother, grandfather—like the Wintuan, some of the Yokuts, and some of the Miwok. Mutsun and Awaswas may have had the type of grandparent terminology employed by the Yumans, Numic groups, and Pomoans. Chalon possessed two terms for grandchildren—son's child, daughter's child—aligning the Chalon with the Salinan and Yumans. Both Mutsun and Awaswas have two terms for grandchild and may well have possessed the same grandchild terminology as the Chalon. The Rumsen and Chochenyo each have a single term meaning grandchild.

In both Chochenyo and Rumsen father's brother and mother's brother are terminologically equated in a single uncle term. Likewise, mother's sister and father's sister are terminologically equated. This lineal terminology has no equivalent in central or southern California. The nearest ethnic group with a lineal system is the Yurok of northwest California. Unfortunately, Costanoan cousin terms are virtually unknown.

The terminological equation of nephew-niece with various consanguineal and affinal kin throws some light on possible marriage forms among the Costanoan. The Chochenyo equate children-in-law with nephews and nieces, suggesting cross-cousin marriage. The Awaswas, Chalon, Mutsun, and Rumsen equate nephews and nieces with grandchildren, suggesting the practice of wife's brother's daughter marriage.

The Mutsun, Awaswas, and Chalon kinship terminologies appear to be the most divergent of the Costanoan groups. Rumsen and Chochenyo, on the other hand, have probably been more conservative in maintaining the original Costanoan system. The three divergent terminologies appear to have been heavily influenced by the Salinan.

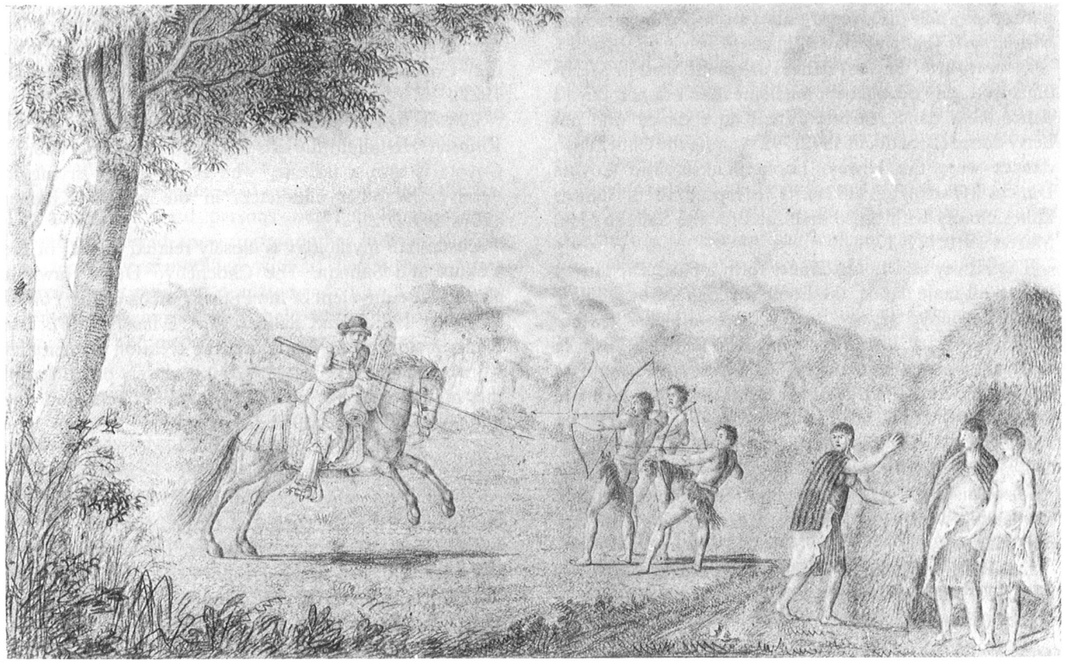
Warfare and Trade

Warfare is commonly mentioned in the historical materials relating to the Costanoan. Wars were waged both among the various Costanoan tribelets and with Esselen (Broadbent 1972:73), Salinan (J.A. Mason 1912:181), and Northern Valley Yokuts (Langsdorff 1968:195) tribelets. Infringement of territorial rights seems to have been the most frequent cause of war. Warfare was conducted either by surprise attack or by prearranged meeting (Broadbent 1972:73).

Captives were usually killed; only young women were spared (Duran and Fortuny 1958:274). The heads of enemies killed in battle were placed on a pike and displayed by the victors in their villages (Kroeber 1908a:25). Raiding parties burned the villages of their enemies (Palóu 1930a:402). The bow and arrow were the chief weapons of war (Font 1930:328); no shields or armor were used (fig. 2).

The Plains Miwok, Sierra Miwok, and Yokuts were probably the main trading partners of the Costanoan. The Costanoan supplied mussels, abalone shells, salt, and dried abalone to the Yokuts and olivella shells to the Sierra Miwok (Davis 1961:23). Some linguistic evidence for trade also exists. The Plains Miwok, who probably obtained all their bows in trade (Powers 1877:352), have borrowed the word for bow from either the Chochenyo or the Tamyen. The Plains Miwok word for salt is also a loanword from Costanoan. One of the Esselen words for salmon may be a borrowing from the Chalon Costanoan. The Rumsen and Chalon languages share the word for rabbitskin blankets with Salinan.

The only definitely known import of the Costanoans was piñon nuts, which were obtained from the Yokuts (Davis 1961:23). Linguistic evidence suggests that the



Museo Naval, Madrid.

Fig. 2. Costanoans fighting a mounted Spanish soldier. A thatched house is to the right. The women are wearing tule front aprons, buckskin rear aprons, and otter skin robes. Pencil drawing probably by Tomás de Suria, 1791.

Chochenyo obtained clamshell disk beads from the east. The Chochenyo word for clam disk beads is similar to the Plains Miwok, Sierra Miwok, Nisenan, and Konkow terms and may be a loanword from a Miwok language.

Religion

Prayers and offerings played an important part in the religious life of the Costanoan. Prayers offered to the sun were accompanied by the blowing of smoke toward the sky (Palóu 1930:425). Offerings consisted of seeds, tobacco, or shell beads. The Chochenyo made offerings of shell beads to appease a spirit who inhabited a whirlpool in San Francisco Bay (Harrington 1921). Small feathered sticks were used as charms to promote good luck in hunting or fishing ventures. Offerings were frequently attached to the tops of poles. Among the items mentioned as being offered in this fashion are tobacco leaves (Kroeber 1908a:25), feathers (Abella and Lucio 1924:148, 151–152), strips of rabbitskin (Font 1930:368), feather headdresses (Harrington 1921), and capes made of grass (Palóu 1930:440). The capes seem to constitute a mortuary offering but "pole offerings" were probably not limited to this context.

Dreams played an important role in Costanoan religion (Duran and Fortuny 1958). A person's dreams probably served as an important guide in directing his or her future actions. The known omens included twitching of leg muscles, which meant that one would go somewhere. A bird entering a house, a bird hovering in one's path, or a dog howling near a house were bad omens. The call of the great horned owl (*Bubo virginianus*) foreboded death (Harrington 1921).

• SHAMANISM Shamans controlled the weather and could cause the rain to start or stop. They cured disease by cutting the skin of the patient, sucking out disease objects, and exhibiting the disease objects to the onlookers. Herbs were also used by the shamans in curing of disease and shamans were hired whenever people were seriously ill (Duran and Fortuny 1958). Diagnosis of disease was accomplished by the singing and dancing of the shaman. Shamans also conducted performances to insure good crops of acorns, an abundance of fish, or the stranding of whales (Palóu 1924:62). Much of the shaman's power depended upon performance of dances and ceremonies.

Witchcraft was largely the province of grizzly bear doctors. Rumsen grizzly bear doctors wore bear skins and had bear teeth and claws filled with poison with which they killed their victims (Merriam 1966–1967, 3:373). The Chochenyo believed that bear doctors killed their own mothers, fathers, and siblings. They were rarely

pardoned when discovered and were killed by shooting with arrows (Harrington 1921).

• CEREMONIES Several dances are mentioned in Merriam's Rumsen vocabularly: medicine man's dance, devil's dance, bear dance, coyote dance, dove dance, and puberty dance (Broadbent 1972:79). Among the Chochenyo dances were the Hiwey, Loole, Kuksu, and Coyote Dances (Harrington 1921). The repertoire of dances tallies closely with those described for the Salinan (J.A. Mason 1912:177–179).

The Hiwey and Loole dances form a pair. The Hiwey was an all-male dance; the Loole was danced by women. The Chochenyo Hiwey doctor wore a flicker feather headdress and a skirt of crow or raven feathers. His face and arms were painted and he had a live snake wound on his forearm and down feathers sprinkled on his face. He sang, yelled, and danced leaping through the fire. Embracing the trunk of a tree he talked to the "devil" causing the earth to tremble. The Hiwey doctor cured all kinds of disease. Little is known of the Loole except that the dancers wore a headdress of flicker feathers (Harrington 1921).

Dances were held in brush dance enclosures (Font 1930:326; Merriam 1966–1967, 3:373) or large assembly houses (Crespí 1927:219).

Music

Stylistically Costanoan music falls into the California-Yuman musical area. The music of this area is characterized by the use of a relaxed, nonpulsating vocal technique and the presence of the "rise," a type of form and melodic movement (Nettl 1954:2, 18–19).

Music was usually, if not always, connected with ritual and myth. Songs were employed as hunting or love charms, in dances and ceremonies, and in the telling of myths (Broadbent 1972:79).

The wind instruments of the Costanoan were whistles and flutes. Whistles were made of single bird-bone tubes. A wooden whistle is mentioned in Henshaw's (Heizer 1955:171) vocabulary of Rumsen. Flutes were made of alder (*Alnus* sp.) and were blown from the end (Broadbent 1972:78).

The percussion instruments of the Costanoan were rattles. The split-stick rattle was a piece of laurel (*Umbellularia californica*) wood (Broadbent 1972:78) with a single longitudinal cut; it was played by striking against the palm of the hand (Font 1930:366). Cocoon rattles were made by attaching cocoons to a wooden handle. The Costanoan did not use the log foot drum of north-central California (Broadbent 1972:79).

The only stringed instrument was a musical bow, which was played by plucking the string with the fingers.

Mythology

The culture hero of Chochenyo mythology was Duck Hawk, the grandson of Coyote. He traveled the country killing monsters and made the earth a safe place for humans to live. Coyote advised Duck Hawk in all that he did; Coyote was the chief of the animals (Harrington 1921).

Coyote figures prominently in the mythology of the Rumsen. He taught the arts of subsistence to the people. Coyote is also a trickster who is constantly trying to deceive the other characters in the myths (Kroeber 1907a:199–202).

Costanoan mythology is closely related to that of the Yokuts and Salinan. The Chochenyo Duck Hawk is clearly the equivalent of the Prairie Falcon of the Yokuts (Kroeber 1907a) and Salinan (J.A. Mason 1918). The Rumsen story of the flood and the creation of men and women (Kroeber 1907a:199–200) is closely paralleled in the mythologies of the Yawelmani Yokuts and the Salinan (J.A. Mason 1912:187).

Life Cycle

As soon as a child was born the midwife tied the umbilical cord with string and bathed the baby in cold water to remove the vernix caseosa. The mother bathed in the ocean or in a stream (Rollin 1959:114). For several days following birth the mother and child lay together on a mattress of leaves in a pit lined with rocks that had been heated in the fire (Amorós 1950:472, 482).

During the next few weeks the mother followed a special diet. Drinking of cold water; eating of meat, fish, and salt; and lifting of heavy objects were all taboo for her. During this period the ears of the baby were pierced. Babies were normally nursed for 18 to 20 months (Rollin 1959:115), during which time the parents abstained from sexual relations.

Upon reaching puberty girls began to observe the customary menstrual practices. During menstruation meat, fish, salt, and cold water were all taboo. The woman was confined in a corner of the dwelling.

Upon reaching puberty boys were initiated into a datura society. Datura was administered to the boys in order to produce visions.

Costanoan marriage was relatively informal. The only economic exchange taking place at the time of marriage was a gift (usually of minor value) to the bride's kin from the groom and his kin (Broadbent 1972:66; Duran and Fortuny 1958:271). After marriage the couple went to live in the groom's father's house (Harrington 1933:3). In the event of divorce the children remained with their mother (Palóu 1924:64).

A corpse was buried or cremated on the day of death. Inhumation was the practice of the Chalon and probably also of the Rumsen (Jayme 1929:26; Broadbent 1972:72). The Chochenyo and Ramaytush usually cremated the dead, but inhumation occurred when there were no kinsmen to gather wood for the pyre (Harrington 1921; Kroeber 1925:469; Duran and Fortuny 1958:273). Widows and perhaps other female kin cut their hair with

knives or burned it off with live coals, smeared their faces and heads with ashes or asphalt, and beat themselves on the head and breast with pestles (Broadbent 1972:72). In some instances the beating resulted in death (Harrington 1921). Most or all of a person's belongings were buried with him or destroyed. A widow remained in confinement for a year after the husband's death.

The dead were believed to go to a land across the sea. The names of dead persons were not spoken until formally bestowed anew upon another individual. Kinship terms were modified with a special suffix when reference was made to deceased individuals. Mourning ceremonies were probably held annually for all the people who had died during the year.

Subsistence

The Costanoan insured a sustained yield of plant and animal foods by careful management of the land. Controlled burning of extensive areas of land was carried out each fall to promote the growth of seed-bearing annuals (Crespí 1927:57–273; Galvan 1968). This annual burning retarded the growth of chaparral species and prevented the accumulation of large quantities of dead plant material, which would have posed a serious fire hazard. The judicious use of burning also increased the available grazing areas for deer, elk, and antelope and facilitated the gathering of acorns that ripened after the burning took place.

Acorns were probably the most important of the plant foods used by the Costanoan. Four species of oak stand out as relatively important. Coast live oak (*Quercus agrifolia*) and valley oak (*Quercus lobata*) were probably most important in terms of the quantities of acorns produced. Tanbark oak (*Lithocarpus densiflora*) was considered superior to the other species because of the whiter meal that it produced. California black oak (*Quercus kelloggii*) was also used.

Straight poles were used to knock acorns loose from the limbs of live oaks. The acorns were ground to produce meal that was leached to remove the bitter tannin. Acorns were consumed either as mush or in the form of acorn bread. The Chochenyo made acorn bread by wrapping balls of thickened mush in alder leaves and baking them.

The nuts of buckeye (*Aesculus californica*) were also leached to remove bitterness and made into mush, but they were considered an inferior food. The nuts of the California laurel (*Umbellularia californica*) were eaten either raw or cooked. Hazelnuts (*Corylus cornuta* var. *californica*) were also eaten (Palóu 1924:63).

The seeds of a number of plants were roasted by tossing them with live coals in basketry trays. Among the species used were dock (*Rumex* sp.), tarweed (*Madia* sp.), chia (*Salvia columbariae*), and digger pine (*Pinus sabiniana*). The seeds of the holly-leaf cherry (*Prunus ilicifolia*) were ground to produce a meal that was eaten.

Berries eaten included blackberries (*Rubus ursinus*), elderberries (*Sambucus* sp.), strawberries (*Fragaria* sp.), manzanita berries (*Arctostaphylos* sp.) gooseberries (*Ribes* sp., subgenus *Grossularia*), madrone berries (*Arbutus menziesii*), and wild grapes (*Vitis californica*). Toyon berries (*Heteromeles arbutifolia*) were always cooked by the Chochenyo.

Roots eaten included two species of wild onion (*Allium* sp.), cattail roots (*Typha latifolia*), an herb called chuchupate (*Lomatium californicum*), amole (*Chlorogalum pomeridianum*), wild carrots (*Daucus pusillus*), and a number of unidentified species.

Young shoots of three varieties of clover (*Trifolium* sp.), chuchupate, and thistle were eaten. The pollen of common tule (*Scirpus acutus*) was made into balls and baked. Cider was made from the berries of manzanita (Harrington 1921; Merriam 1966–1967, 3).

Large animals eaten by the Costanoan included black-tailed deer, Roosevelt elk, antelope, grizzly bear, mountain lion, sea lion, and whale. The most important method of hunting deer was stalking by individual hunters. The hunter wore a deer's head as a disguise and imitated a feeding deer in order to approach his prey. The flesh of stranded whales and sea lions was roasted in earth ovens and was highly prized for its fat content (Palóu 1924:62–63).

Other mammals eaten included dog, wildcat, skunk, raccoon, brush rabbit, cottontail, jackrabbit, tree squirrel, ground squirrel, woodrat, mouse, and mole. Rabbits were hunted communally with nets and straight rabbit clubs. Mice were captured by deadfall traps. Woodrats were secured by burning their nests and ground squirrels were driven from their burrows by blowing smoke into the burrows with a feather fan.

Waterfowl were the most important birds in the Costanoan diet. The species eaten by the Chochenyo were the Canada goose (*Branta canadensis*), snow goose (*Chen caerulescens*), white-fronted goose (*Anser albifrons*), American widgeon (*Anas americana*), pintail (*Anas acuta*), mallard (*Anas platyrhynchos*), green-winged teal (*Anas crecca carolinensis*), shoveler (*Anas clypeata*), and American coot (*Fulica americana*). Ducks and geese were captured in nets with decoys of tules or stuffed bird skins used to lure them into position (Harrington 1921).

Other birds eaten included mourning dove (*Zenaida macroura*), robin (*Turdus migratorius*), California quail (*Lophortyx californicus*), and hawks. Eagles, owls, ravens, and buzzards were not eaten. Cagelike traps of twigs were used to capture quail; bolas consisting of two pieces of bone tied to a string were used in hunting birds.

The most important fish were steelhead (*Salmo gairdnerii*), salmon (*Oncorhynchus* sp.), sturgeon (*Acipenser* sp.), and lampreys (*Entosphenus tridentatus* and possibly *Lampetra ayresi*). Many other species are mentioned in the vocabularies but are not specified as eaten; among the identifiable varieties are sardine, shark, swordfish, and

trout. Salmon, steelhead, and lampreys seem to have been very important to the Costanoans living on the San Lorenzo and Carmel rivers. Sturgeon and salmon were caught in the Carquinez Strait area in seine nets (Font 1930:370–372). Dip nets were used by the Chochenyo to catch an unidentified species of fish (Harrington 1921). One very efficient method of catching fish was attracting them to bonfires at night and spearing them. Basketry fish traps were also employed (Crespí 1927:280). Fish poisoning with amole and *yerba del pescado* (probably turkey mullein, *Eremocarpus setigerus*) (Harrington 1921) and hook and line fishing were also practiced.

All varieties of reptiles appear to have been eaten but frogs and toads were not.

Insects eaten included yellow jacket larvae, grasshoppers, and caterpillars. Honey and wasp larvae were obtained by killing the bees and wasps with smoke blown into the nest with a fan of hawk feathers (Harrington 1921). Mollusks were of considerable importance in the coastal areas of Costanoan territory. Mussels, abalone, octopus, and a number of unidentified aquatic species were used for food.

Structures

The most common type of dwelling was apparently a domed structure thatched with tule, grass, wild alfalfa, ferns, or carrizo (fig. 2). The thatch was held on a framework of poles with pole binders tied with willow withes. The doorway was rectangular, and the fireplace was located in the middle of the house. The Ramaytush and the Rumsen also made conical houses of split redwood or redwood bark (Kroeber 1925:468; Crespí 1927:219). When dwellings became flea-infested they were burned (Broadbent 1972:62).

A small sweathouse was constructed by excavating a pit in the bank of a stream and building the remainder of the structure against the bank. Rumsen sweathouses accommodated six to eight persons (Broadbent 1972:62). Both men and women sweated in the sweathouse but the children were excluded (Harrington 1921).

Dance enclosures were circular or oval in shape and consisted of a woven fence of brush or laurel branches about four and one-half feet high. There was a single doorway and a small opening opposite it (Font 1930:326; Merriam 1966–1967, 3:373).

An assembly house on Gazos Creek impressed the members of the Portolá expedition. It was a domed structure (probably thatched) and was large enough to accommodate all 200 inhabitants of the village (Crespí 1927:219).

The Rumsen and the Awaswas located their permanent settlements away from the ocean shore and situated them on high ground (Broadbent 1972:63; Williams 1890:47).

Assembly houses or dance plazas were located in the center of the village with dwellings around the periphery (Crespí 1927:219; Font 1930:368). Sweathouses were located along a stream bank near the villages.

Technology

Tule balsas were the watercraft of the Costanoan; they were propelled with a double-bladed paddle (fig. 3) (Heizer and Massey 1953). Stone anchors are mentioned by Font (1930:370). Balsas were used for transportation and for fishing and duck hunting.

Both sinew-backed and self-bows were made by the Costanoan. Bowstrings were made of either sinew or vegetable fiber. Arrows had three-feather radial fletching attached with asphalt, a cane shaft, and a hardwood foreshaft. Arrowheads were made of stone or bone; for some types of arrows the foreshaft served as the only head. Nets were used in hunting quail, ducks, and



Coll. Sir John Galvin, Dublin.
Fig. 3. Tule balsa with men using double-bladed paddles. Figure in middle wears blanket of woolen cloth woven at the mission. Watercolor by Louis Choris, 1816.

rabbits. Quivers of fox skin were used by the Chochenyo (Harrington 1921).

Rocks and minerals provided the raw material for many stone tools. A wide variety of sedimentary and metamorphic rocks were used in implements such as manos, metates, mortars, net sinkers, anchors, and pipes. Minerals used in the manufacture of chipped-stone tools included chert and obsidian. Chert was quarried at a number of localities in Costanoan territory and obsidian was obtained in trade.

Minerals were also used as coloring agents in body paints. White pigment was obtained from a type of clay. Hematite and cinnabar provided red pigment. Hematite was quarried in the Oakland hills and cinnabar was mined at New Almaden. The Costanoan had excavated a tunnel between 50 and 100 feet long by the middle of the nineteenth century. Wars were fought between Awaswas and Tamyen groups over the right to use the deposits. The cinnabar of New Almaden was known over much of northern California, and parties from as far away as the Columbia River journeyed to Costanoan territory to obtain it (Heizer and Treganza 1972; Harrington 1921).

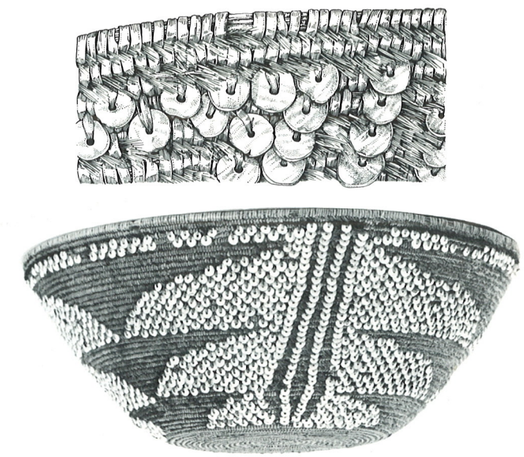
Cordage was made from the fibers of milkweed (*Asclepias fascicularis*), Indian hemp (*Apocynum cannabinum*), or nettle (*Urtica* sp.). It was made by both men and women by rolling the fibers on the thigh.

Blankets were woven of strips of sea otter (fig. 2), rabbit, or duck skin. Tule mats and animal skins served as bedding (Harrington 1921; Broadbent 1972:62).

Acorns, buckeye nuts, and seeds were ground in several different types of mortars. Stone mortars included bedrock mortars, portable stone mortars, metates, and hopper mortars. Wooden mortars were hollowed in the side of logs. Small mortars were used for paint and medicine. Pestles were made of stone or wood.

Most Costanoan basketry was twined rather than coiled. The materials employed in making baskets were willow (*Salix* sp.), rush (*Juncus* sp.), tule (*Scirpus* sp.), and the roots of "cut-grass." Baskets were ornamented with abalone pendants, quail plumes, and woodpecker scalps (fig. 4) (Broadbent 1972:63; Harrington 1921; Merriam 1966–1967, 3:374, 381).

Many types of baskets were used in the collection, preparation, and storage of food. Seed beaters were used to remove seeds from plants. Basketry traps were employed in the catching of fish. Collected food was carried on the back in conical burden baskets; a small basketry bottle was used for carrying water. The hopper portion of the hopper mortar was basketry. Seeds and acorns were winnowed, parched, and sifted with baskets. Baskets were sometimes used in the leaching of acorn and buckeye meal. All boiling was done in basketry utensils. Dippers and mush bowls were also baskets. Water jugs, cradles, and food storage containers were all made of



Dept. of Anthr., Smithsonian: 313234.
Fig. 4. Coiled basket covered on outer surface with olivella shell beads, black quail feathers, and red acorn woodpecker feathers, probably 18th century. Diameter 30 cm.

basketry (Broadbent 1972:63; Merriam 1966–1967, 3:393–394).

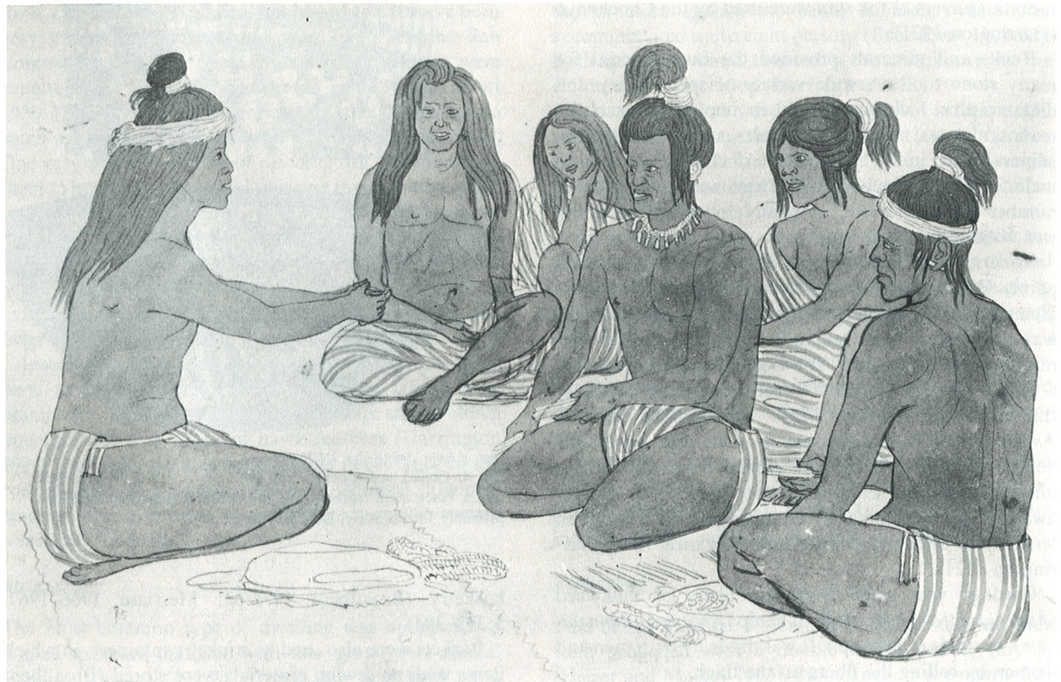
Baskets were also used as trinket containers, in which items such as sewing materials were stored (Broadbent 1972:63). Awls were made of bone or wood (J.A. Mason 1916:434).

Other household utensils included soaproot brushes used in preparing meal from acorns, a paddle for stirring food, and shell spoons. Rib bones and split cobbles were used in fleshing skins; skins were dressed with brains and wood ashes on an inclined post.

Clothing and Adornment

Costanoan men and boys usually went naked. Women wore aprons. The small front apron was made of netting or braided tule or grass. The larger rear apron was made of buckskin (fig. 2) or sea-otter skins. In cold weather both men and women wore robes that were fastened under the chin with a piece of cord. Robes were made of rabbit skin, sea-otter skin, duck feathers, or buckskin. Men sometimes covered their bodies with mud to keep warm in cold weather. The Costanoan went barefoot and wore no hats (Harrington 1921; Broadbent 1972:57).

The hair was worn either long or cropped to four or five inches. Women wore their hair with bangs cut in front and the remainder of the hair hanging freely. Men with long hair either braided it or tied it on top the head with a buckskin thong (fig. 5). While some men wore long, flowing beards, most removed facial hair with wooden tweezers or a pair of mussel shells. Chochenyo men sometimes removed facial hair with a hot coal (Broadbent 1972:57; Harrington 1921).



Coll. Sir John Galvin, Dublin.
Fig. 5. San Francisco mission Indians at a gambling game. Men wear hair tied with thongs. Note the strings of shell beads being wagered and the wooden gaming sticks. Watercolor by Louis Choris, 1816.

Tattoos were registered on the face, forehead, and arms (fig. 6). Paints worn in nonritual contexts were applied to the face and body. Grass, flowers, feather ornaments, and earrings were worn in the pierced ears. A bone ornament was worn in the pierced nasal septum by some men. Necklaces of olivella shells and abalone pendants were also worn. Other ornaments were made of feathers and beads (Harrington 1921; J.A. Mason 1916:433–435; Heizer 1955:162).

Games

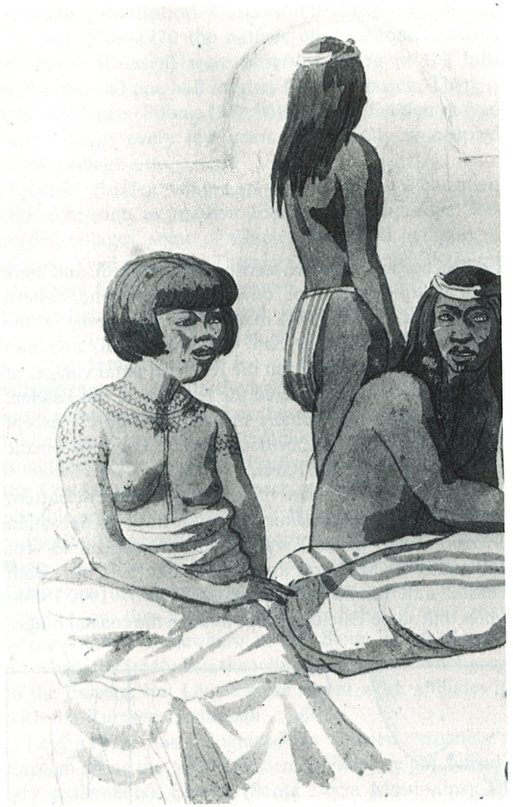
Games and gambling were favorite amusements of the Costanoan. A ball race was played in which a wooden ball was kicked along a course. Shinny was another favorite game, in which a wooden puck was struck with curved sticks. Other games included the hoop-and-pole game, a dice game with half-round wooden sticks, and the hand game (fig. 5).

Synonymy

Costanoan is derived from the Spanish word *Costaños* meaning 'coast people'. Two other terms were used earlier to designate the Costanoan languages, Olhonean and Mutsun. Olhonean is ultimately derived from the name of a tribelet, *?olxon,* located on or near San Gregorio Creek in San Mateo County. The name Olhone first appeared in print in Beechey's account of his 1826 visit to San Francisco; he spells it Alchone and Olchone and makes the statement that the Olchone inhabited the seacoast between San Francisco and Monterey (Beechey 1968:76, 78). The Oljon tribelet contributed converts to San Francisco Mission between 1786 and 1790 (Merriam 1968:19). The San Francisco Mission records locate Oljon on the coast south of the Cotegen tribelet, which held Purísima Creek. Mutsun was the name of a village at a place called Natividad (probably La Natividad land grant) in the hills between the Salinas and Pajaro rivers (Merriam 1968:15, 19, 33).

No native name for the Costanoan people as a whole existed in aboriginal times, since the Costanoan were neither a single ethnic group nor a political entity.

The only previous set of names used to designate the Costanoan languages was devised by Kroeber and based upon identification of linguistic groups with particular missions in the historic period. Kroeber (1925) used the names Monterey, Soledad, San Juan Bautista, Santa Cruz, and San Francisco to refer to the groups here



Coll. Sir John Galvin, Dublin.
Fig. 6. Neophytes at San Francisco Mission. Woman is tattooed on chin and upper body. Detail from watercolor by Louis Choris, 1816.

designated respectively as Rumsen, Chalon, Mutsun, Awaswas, and Ramaytush. Under the rubric of Santa Clara Costanoan Kroeber included the speech of the Costanoans at Missions San José and Santa Clara (peoples here designated as Chochenyo and Tamyen). Kroeber assigned the northern portion of Chochenyo territory and the adjacent Karkin and Saclan lands to a group called Saclan. Beeler's (1955, 1961) linguistic studies of vocabularies collected by Arroyo de la Cuesta have demonstrated that Saclan is a Miwok language and that Karkin must be recognized as a separate and distinct language within the Costanoan family.

Etymologically the names Karkin, Tamyen, Mutsun, Chalon, and Rumsen are simply names of tribelets and villages whose usage has been extended to embrace larger linguistic and cultural entities that were aboriginally unnamed. Chochenyo is the Mutsun name for the people living north of Santa Cruz (Merriam 1966–1967). Ramaytush is the name used for the inhabitants of San Francisco peninsula by the Chochenyo of the east bay. Ramay was the tribelet that held the northern end of the peninsula. Awaswas is the Mutsun name for the Santa Cruz people (Merriam 1966–1967).

Sources

Primary sources of ethnographic information on the Costanoan fall into five major categories: accounts of the exploring expeditions that traversed Costanoan territory from 1769 to 1776, replies of missionaries to the *interrogatório* of 1812, accounts of seafarers who visited the seven missions in Costanoan territory, ethnographic data collected by anthropologists between 1900 and 1935, and statements of the Costanoan themselves. The explorers' accounts contain a good deal of ethnographic information that can be located in time and space with a relatively high degree of certainty. The replies of missionaries to the *interrogatório* (Abella and Lucio 1924; Amorós 1950; Duran and Fortuny 1958; Jayme 1929) and the accounts of seafarers (Langsdorff 1968; Lapérouse 1959; Beechey 1968), on the other hand, fail to ascribe the ethnographic practices observed to specific ethnic groups (Costanoan, Esselen, Miwok, Yokuts, or Patwin). Small amounts of ethnographic material were collected by Kroeber (1907a) and Merriam (1968). The most extensive single body of Costanoan ethnographic and linguistic material is the field notes of Harrington (1921, 1929–1930). The only publication that has presented this material is Harrington's (1942) Central California Coast culture element distributions. Two brief accounts of Costanoan history (Galvan 1968; Williams 1890) contain the point of view of the Costanoan themselves.