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PREHISTORIC POPULATION MOVEMENTS AND ETHNICITY IN THE ANTELOPE VALLEY, WESTERN MOJAVE DESERT, CALIFORNIA

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Introduction and Chapter Organization

The chapter opens with an overview of the ethnographic details pertaining to the traditional aboriginal lifeways characterizing the Native inhabitants of the Lovejoy Spring site and those occupying the Antelope Valley and vicinity. The subsistence base, settlement pattern, kinship structure, sociopolitical organization, and patterns of long distance trade and travel are discussed. A brief overview of historic changes in aboriginal occupation patterns in the Lovejoy area is also presented.

Next, methods for the study of linguistic prehistory are presented. Linguistic data bearing on the identity of the Native Americans living at Lovejoy and vicinity are then treated. Discussion turns to the various means employed to trace the origins, movements, and possible population replacements related to the ethnolinguistic groups that occupied the region.

Last, broader regional research questions are framed concerning the cultural affiliation of the prehistoric occupants of the larger area of the southern California region and the Channel Islands. This information has relevance for the identification of the prehistoric occupants at Lovejoy. The timing of population movements is considered using archaeological (exchange patterns, types of shell beads, basketry construction, burial patterns, and rock art styles), anthropometric, and genetic information. These data are presented to provide a basis for the interpretive synthesis that is the concluding chapter of the monograph. That discussion will follow-up on the anthropological background and various theoretical perspectives presented here and shall further consider the research topics initially presented in this background chapter.

Ethnography

Ethnic Affiliation of the Aboriginal Occupants of Antelope Valley

Recent research by Earle (1990, 1997, 2004a, 2004b, 2005a, 2005b), King (2003), and Johnson and Lorenz (2006) have helped to clarify the ethnic identification of the desert groups occupying the Antelope Valley. Their work with the John Peabody Harrington notes combined with analysis of the Franciscan sacramental registries for Missions San Gabriel and San Fernando testify that the Mojave Desert dwellers in the Antelope Valley were speakers of a dialect of Serrano. Surviving vocabularies and word lists support the identification of desert groups known as Vanyume (Garces' term was *Beneme*) as related to the Serrano. It has been further verified that native groups occupying villages on the Mojave River in the vicinity of Victorville and in the region east of Barstow maintained marriage ties to downriver communities and were also Vanyume in ethnic and linguistic affiliation.

Earle (1990, 1997) supports King's revisions of earlier territorial boundaries asserting that Serrano territory included the northern slopes of the San Gabriel Mountains, the Mojave River, and Antelope Valley. It also appears from their research that both the south and north slopes of the San Gabriel Mountains were "owned" and occupied by Serrano speakers. However the southwestern Antelope Valley may have been occupied by other groups - notably the Tatavium and Kitanemuk. The former spoke a language distinct from Serrano, but the latter were a Serrano speaking people.

David Earle's research (Earle 1990, 2004a, 2004b; Padon and Love 2004) sheds further light on the political geography and ethnolinguistic affiliation of groups living in the vicinity of the Lovejoy site. Earle argues that the western Antelope Valley, where the Lovejoy site is located, was the traditional territory of both the Kitanemuk and the Haminat people who lived in the area of Lancaster and Palmdale. He also suggests that the Vanyume (Desert Serrano) lived in the vicinity of present day Victorville. Sutton argues, based largely on archaeological data, that the western end of Antelope Valley was exclusively Kitanemuk during the ethnographic present and earlier on was most likely inhabited by a "proto-Kitanemuk" group with the Tatavium occupying the area to the south (Sutton 1980: Figure 2). All these researchers seem to agree that the Lovejoy inhabitants, at least during the ethnohistoric era, spoke a Serrano language but the dialect or subgroup occupying the site vicinity is still an undecided matter.

Documentation

Early 20th century ethnographic fieldwork among the Serrano was conducted by Kroeber (1925), Gifford (1918), Strong (1929), Benedict (1924), and Harrington (1986). More recent research by Bean (1972), Bean and Smith (1978), and Bean, Vane, Lerch, and Young (1981) has helped to focus attention on key research questions in an attempt to clarify the relationship of Serrano land use patterns, territorial attributions, subsistence-settlement patterns, and social, ceremonial, and political organization.

Lovejoy Site as a Serrano Ethnohistoric Village

Based on the above discussion it appears largely confirmed that the area surrounding Lovejoy Buttes was located in Serrano territory (King 2003). King argues most forcefully for this position because he has found that the historic pattern of Mission recruitment seems to show that the Lovejoy archaeological site and the associated water source located there was perhaps the closest aboriginal settlement in the Mojave Desert for both the San Gabriel and San Fernando Missions. Therefore he believes that a historic village site within the vicinity of Lovejoy Buttes would have been recognized as the nearest "oasis" to both Missions.

King (1972) indicates that historic glass trade beads (European) were previously recognized in the archaeological assemblage recovered from Lovejoy. Several (n = 3) glass beads from a collection made by Wes Surfoss from the Lovejoy site were identified (King 1972). Therefore it is possible the Lovejoy archaeological site was in fact occupied during the historic era bolstering the contention that the archaeological site may have been an ethnohistoric village. The equivalency of the Lovejoy with a particular Serrano village is still a matter of some uncertainty (David Earle and John Johnson personal communications 2006). King suggests that a Serrano clan occupying Lovejoy may be the one named after a section of the Mojave River that they also may have "owned" or controlled (King 2003).

The Antelope Valley and Lovejoy Springs: 1840-1900

During the 1840s the Takic Serrano inhabitants of the Antelope Valley abandoned their settlements due to continuing threats from Numic intruders (Earle 2005b:140). During the latter half of the 19th century the Chemehuevi and Southern Paiute migrated into non-traditional territories and were adept at leading small scale raids and scavenging parties that stole livestock, horses, and other commodities for basic subsistence. Earle reports that a late 19th century pattern of incursions and occupation into the Antelope Valley and the western Mojave Desert was fueled by the in-migration of outlying Numic-speaking groups (Earle 2005b). A number of semi-permanent settlements are documented at Barrel Springs in the Antelope Valley and in Rosamond in the western Mojave during the period from 1840 to 1900. Significantly a small-scale native attack on a government survey party occurred directly at Lovejoy Springs in 1855 where three party members were wounded (Earle 2005b; Gordon 1990:4).

Serrano Subsistence Patterns and Seasonal Movements

The economic resource base of the Desert Serrano was determined in part by the seasonal availability of key animals and plants exploited for basic subsistence (Earle 1992). Hunting activities supplemented a diet mainly emphasizing plants. Hunting excursions were both an individual affair but also incorporated

communal drives, and trap lines to snare small animals (e.g., squirrels, rodents, tortoise, and chuckwalla). Some desert hunting areas to the east in the Mojave Desert and in the vicinity of the Mojave River may have been shared with adjacent groups (e.g., Chemehuevi and/or Mojave).

Mule deer were available in the nearby San Gabriel and San Bernardino Mountains. Deer would migrate to lower elevations during the winter and would be available in the lower foothill region at that time. Pronghorn frequented the valley floor year round but were not consistently abundant and were hunted only occasionally using communal surrounds and group drives. The latter communal drive technique was also used to ensnare large numbers of jackrabbits during the fall when the rabbits were especially abundant. Mountain sheep were available in the higher mountains to the south and north of the Antelope Valley but would have been rarely procured. Waterfowl could be captured using bows and arrows and special nets. Ducks, quail, geese, and grebes would have been available in considerable numbers during their breeding seasons and in association with riparian settings.

Abundant stands of acorns, juniper, mesquite, and pinyon were available to extended gathering expeditions. These might involve several lineages collaborating under one leader's authority and would have entailed accessing the resource base of surrounding groups (Bean and Smith 1978; Benedict 1924:391-392; Drucker 1937). Cattail / bulrush seeds (*Typha* spp. and *Scirpus* spp.), various roots, shoots, bulbs, and other hard seeds were all principal plant foods. Given the large quantity of milling equipment identified at Lovejoy it is likely that the occupants processed many hard seeds using these implements. The most likely plant resources that were of significant economic importance that have been identified paleobotanically or noted in the immediate vicinity of the site were Indian rice grass (*Achnatherum hymenoides*), chia (*Salvia columbariae*), blazing star (*Mentzelia* spp.), and goosefoot (*Chenopodium* spp.)

Serrano Kinship Systems and Sociopolitical Organization

Edward W. Gifford conducted a detailed study of the marriage practices and sociopolitical organization of native southern California Indians during the time from 1916 through 1917 (Gifford 1918). Based on these studies, he developed a model of Serrano social organization (Earle 2004a, 2004b). William Duncan Strong (1929: 5-35) conducted even more extensive studies among the Serrano, Cahuilla, Luiseño, and Cupeño in 1925. His record is most significant as a very early observer of the Serrano kinship system. He indicated that the Serrano were an unusual California group possessing true *patrilineal clans*. A clan is a kin group based on descent from a common ancestor, as traced through the male or the female line. Clans are normally exogamous, marriage within the clan being regarded as incest.

Patrilineal clans are patterned such that all males, their descendants, and their wives were part of a single group. Clans may be segmented into subclans or lineages. A woman retained her own lineage name but upon marriage was incorporated into the clan of her husband. The transfer of women from one ceremonial affiliation with one clan to another, upon marriage, was characteristic of all southern California Takic groups.

King's research supports Strong's early observations and indicates that unique marriage networks existed among the Serrano and that those networks differed from both the neighboring Chumash to the west and the adjacent Kawaiisu groups to the northwest. The Chumash lacked lineage organization and their postmarital residence was commonly matrilineal. Additionally, King provides compelling evidence that the Kitanemuk Serrano exhibited a totemic moiety structure similar to other Serrano groups (*contra* Blackburn and Bean 1978). A moiety is either of two kinship groups based on unilateral descent that together make up a tribe or society. Totemic moieties are twofold divisions of society with subgroups that identify themselves as descended from a prominent religious figure (mostly animal-humans) that are part of their oral traditions. In the Serrano case, their society was divided into two parts identified with either Coyote or Wildcat. The Coyote moiety had the most important political leaders. Moiety out-marriage excluded partners from half the neighboring Serrano settlements. Hence, only settlements of opposing moieties were interrelated through marriage.

Earle has argued that community marital exogamy is a manifestation characteristic of each Serrano community village, in that each hamlet served as a base for a single localized territorial clan or sib.

Territorial village units and the localized clan groups appear to have been one and the same with post marital residence being virilocal, where a woman usually resides in her husband's village. These were semi-permanent winter village rancherias with localized clans that were exogamous. Therefore villages would have served as residential sites or headquarters for single territorial clans.

In the desert, of the western Mojave and the Antelope Valley, the Serrano villages were generally more dispersed than settlements on the coastal side of the mountains. This dispersed pattern resulted in marriages linking together very large areas. Many of the settlements had marriage ties with villages over 50 miles away and counter intuitive was the fact that the closest relationships were not with the nearest villages – but rather with settlements affiliated with opposing moieties further distant.

Strong (1929) indicated that the principal definition of the clan, as a corporate kin and political unit, was not exclusively related to the leadership of their paramount chief (or *Kika*) but what was implied was a more priestly role where the Chief was involved in the religious affairs and hosted or attended as a guest having certain key ceremonial functions. The office of *Kika* was inherited through the male line. He would interact with other clans in fiesta ritual settings. This complementary form of ceremonial observation and ritual interdependence connected a number of differing clans of opposing moieties.

Names and Titles

King's study of the mission register indicates that there were many important hereditary positions among the Serrano. Each village contained a chief, ceremonial manager, two messengers, as well as various shamans, diviners, and other ritual specialists. Boscana noted that it was the custom of the Serrano to appoint as chief or captain the oldest of the families. The Spanish assigned names to Serrano individuals that indicated their social position including: *de los Reyes* (of the Kings), *Regina* (Queen), *Sabino* (to know, Singers). Daughters of Singers were known as *Sabina*. Kingly titles were also provided to people from the leading families of the Indian villages.

Takic society appears to have had political leaders with varying powers and differing responsibilities. These positions and titles were based upon an individual's genealogy – tracing their origins either from a royal family line or from a mythical ancestor (various deities). The Serrano titles included: *Quiqua* (*kika*, *kika'y*), *Caca* (*tcaka*), *Chari*, *Nuu*, *Tamet*, *Paja* (*paha*, *paxa*), *Caroni*, *Tapi*, and possibly *Taoc*. The first six titles were reserved for men and the last three applied only to women. Each of these leaders oversaw different elements of Serrano life involving festivals, dances, and warfare. A brief overview of these titles is provided below.

Kika

Strong (1929:17-18) identified Serrano chiefs that provided for Mourning Ceremonies as *kika* or clan leaders. This was a hereditary office passing from the chief to his eldest son. It also appears that a clan's *kika* would lead collaborative multi-clan hunting and food gathering expeditions. *Kikas* were most often associated with Serrano clans of the Coyote moiety (cf. Blackburn and Bean 1978:567). A *kika*'s duties included maintenance of the sacred house, enclosure, and ritual bundle at the principal settlement. He also was obliged to host or attend as a guest at ritual celebrations.

Caca

The *caca* was another hereditary office and Harrington noted that Boscana listed this title as second in political authority. One such office holder existed for each ceremonial group and that man was known as a singer who possessed specialized knowledge – that individual was entrusted with the retention of all the myths of creation and also the sacred clan songs (Strong 1929: 18-19).

Chari

This title referred to important political leaders and was passed from fathers to sons.

Nuu

The male head of the household was given the name *Nu*. This name referred to Serrano chiefs of the Wildcat moiety and also seems to have referred to the eldest son of their chiefs as well (Harrington 1978: 84,220-221; King n.d: 47; Strong 1929: 340). Linguist Jane Hill (personal communication 2006) indicates that the title *Nu* refers to the bundle-keeper in the Takic languages.

Tamet

Hudson and Blackburn (1978: 228) noted that this title referred to a chief's son who performed the eagle dance during the annual Mourning Ceremony. *Tamet* also referred to the mythical name for the sun. *Tamet* had some association with the identification of a "sun chief" recognized at a principal ceremonial center of the Serrano.

Paxa

The *paha* was another important office and almost equal to the *kika* in recognition and prestige (Strong 1929:18). That individual has been identified as a sort of ceremonial or ritual manager that took charge of the sacred bundle containing all the ceremonial paraphernalia (Bean and Blackburn 1978: 567). These ceremonial implements included the sacred matting and feathers. The *paxa* announced when and where a ceremonial event was to occur and attended to the distribution of shell money and food at all religious functions. This office was hereditary passing from the titleholder to his most mature son. Serrano sociopolitical organization was unique in that only one moiety had a *kika* and ceremonial house while the opposite moiety possessed the bundle and *paha*. The *paha* was usually associated with the Wildcat moiety and the *kika* the Coyote.

Caroni and Teppi

Caroni was the mother of *Timet* that is also referred to as *Awí* or eagle. *Caroni* was a woman relation (daughter) of a Serrano chief and also the name for the wife of many chiefs (Harrington 1978: 84, 212-214). The wives of the Chiefs were given special names with the first wife identified by the Spanish name of *Coronne* and the second wife as *Teppi* (Harrington 1978:84).

Possible Overarching Serrano National Unity

In 1776, Garces describes an encounter with a clan leader (chief) living with two spouses and residing a considerable distance upstream and apart from his village. King (n.d.) hypothesizes that such a situation where a royal family was living outside the central village implies a society with centralized leadership over all kin groups and laws that maintained national unity. Further support for such an inference relies on the fact that the warlike Mojave tribe east of the Serrano and on the Colorado River numbered upwards of 3000 people. The Mojave could have easily conquered many of the smaller Serrano clans and their various villages - if there were no such overarching political organization. Furthermore the Gabrieliño on the plains and coast to the west were recognized as traditional enemies of the Serrano (Galvin 1965).

Overarching political organization and a form of Serrano national unity would have allowed for the redistribution of resources and facilitated sharing in foodstuffs including acorn crops, mesquite beans, piñon nuts, juniper berries, and various other forms of plant and animal foods. Earle (1997:66-67) documents characteristic large scale Serrano cooperative subsistence ventures consistent with this model.

Further supporting this premise is the testimony of the 1808 Palomares Expedition. They noted that five rancherias had gathered at *Guapiabit* and traveled several miles into the mountains to gather acorns. The latter rancherias included the villages of *Guapiabit*, *Atongaibit*, *Maviqjik*, *Amutscupiabit*, and one other unnamed village. This would imply a group of at least several hundred people camping together at different times of the year. Strong (1929:17-18) alludes to such large-scale collaborative subsistence ventures indicating that certain Serrano chiefs (*kikas*) providing for Mourning Ceremonies also led multi-

clan hunting and gathering excursions. Therefore the Serrano pattern of settlements apparently allowed many villages to share resources and would have been especially important in the western Mojave Desert settings with such a limited resource base.

Trade and Travel

Ethnographic data attests that a major native trade and travel corridor facilitated a long distance exchange system that existed in the vicinity of the Lovejoy site. Recent research has supported the importance of long distance trade linking coastal southern Californian Chumash tribes with inland groups including the Yokuts, Kawaiisu, Serrano, Chemehuevi, and the Mojave in California and the Walapai, Havasupai, and Hopi in Arizona (Earle 2005a). Shell bead trade was one of the mediums of exchange and was used as a kind of currency or money. This system was significant since it involved trade, travel, and exchange covering hundred of miles and was a system of exchange of native goods that linked various ethnic groups politically and economically.

This trade and travel route ran from the American Southwest (principally the Hopi territory in Arizona), along the Colorado River to the Mojave River thence through the central Mojave Desert into the Antelope Valley and east to the Pacific Coast (Davis 1961; Farmer 1935; Sample 1950). These circuits of exchange cut across political and cultural boundaries. A number of researchers have argued that such an exchange system may have been an influential factor in facilitating semi-sedentary settlement and complex sociopolitical organization for the aboriginal inhabitants of the Lovejoy area (Earle 2005a; Robinson 1977; Sutton 1980).

Davis (1961) after reviewing the available data on native California trade and exchange determined that in southern California the only Native group to travel great distances in trading expeditions were the Mojave. It appears that the Serrano developed long-standing political and social relationships with the Mojave. In fact, the Serrano were their exchange or trading partners and acted as hosts facilitating their travel through sometimes unfamiliar and potentially hostile territories.

As documented for the historic era, the Mojave brought with them for trade deer and antelope skin shirts, wool and cotton blankets, red ocher, rope, willow staves, root-gum, and ceramics (Earle 2005a). The southern California groups provided in return wild native tobacco, rabbit skin blankets, nets, turquoise, *Olivella* shell and Clam (*Tivela* spp.) shell disk beads. The Hopi were the predominant source and mainstay of this trade supplying the textiles incorporated into the westward movement of goods to the southern California coast. The exchange of cotton and wool cloth for animal skins and shell beads was an important element of this trade system, and a more minor component was the importation of Southwestern ceramic vessels (Ruby 1970)

The principal destinations for southern California shell beads were the northern Arizona Hopi settlements in Oraibi. Father Kino noted that at the time of Spanish contact there existed a well-established exchange system between the California region and southern Arizona as documented by the presence of abalone (*Haliotis*) shell among the Pima speakers (Di Peso 1956:46-47). Some of these shell products were also then traded on from the Hopi area to the pueblos at Zuni and Santa Domingo.

Spring, early summer, and fall were the months when the Mojave would travel to the coast from their homelands along the Colorado River to trade. That trip might take about two weeks. Spring was probably the most intense period for trading excursions. Strings of California shell beads were the most widely used medium of exchange throughout the American Southwest and California. *Olivella* shell beads, one of the more preferred bead forms, were exclusively made on the Channel Islands by the Chumash during the prehistoric period. Clam shell disk beads and abalone shell beads were also traded and were more popular with some groups.

Linguistic Prehistory: Methods

Comparative and historical linguistics methods are used to reveal the historical connections among languages. The resultant “genetic” classifications point to language homelands and provide indications for

the direction of population movements in the past. Glottochronology is a means of estimating rates of lexical change and the elapsed time since related languages diverged (Hymes 1960; Swadesh 1954).

Glottochronology was originally developed by Morris Swadesh and his colleagues in the 1950's (Gudschinsky 1956; Swadesh 1959). Its basic assumption is that certain common words are part of a "basic vocabulary" are thought to be replaced at a slow, but fairly constant rate of change. The rate constant was originally derived from the study of replacement rates for written Indo-European languages (Diebold 1987). The technique has been controversial and its basic assumptions often questioned. Yet despite these caveats, there seems little dispute that historical linguistics can demonstrate relationships among languages and provide a measure of the degrees of similarity (Foster 1996; Moratto 1984).

Although glottochronology can not supply unequivocal absolute dates for divergence of languages, it can provide a means for useful relative dating and that can be of great value to archaeologists. If prehistorians can posit a language-society-culture connection, then it may be possible to further refine the actual dating of prehistoric population movements through archaeological research. The true role of historical linguistics and glottochronology is to provide the "dendogram" which can then be evaluated and tested independently with archaeological and DNA data.

Linguistic Landscape: Genetic Classification and Geographic Distribution

Most linguists believe that two principal Native American linguistic groups occupied southern California and were affiliated with either the Hokan or Uto-Aztecan linguistic groups. The Hokan linguistic stock is widely distributed in both California and Baja California. Judging from its internal diversity of speech forms and scattered, discontinuous distribution, some researchers believe it is a very ancient language group (Kroeber 1925; Heizer and Elsasser 1980:18). Some of the original Hokan groups are no longer deemed to be Hokan (e.g., Chumash) but the Hokan Stock as a genetic unit is still recognized as a significant construct in allowing study of the historical relationships of these languages, although Hokan is not yet considered a valid genetic unit (Mithun 1999:304).

Uto-Aztecan is one of the best-studied linguistic stocks in North American (Foster 1996:90). It is widely distributed from Central America to southern Idaho (Foster 1996; Fowler 1972). Most Great Basin and southern Californian Uto-Aztecan languages belong to the northern branch. Northern Uto-Aztecan is composed of two subfamilies, Numic and Takic and two single languages (linguistic isolates), Tubatulabal (now considered by some as Takic) and Hopi (Foster 1996). The internal diversity of the Numic subfamily is more shallow than Takic with a maximum depth of 1500 to 2000 years (Golla 2007). Three branches of Numic (Western, Central, and Southern) each consisting of a dialect chain in which two languages are represented. The greatest internal diversity and the largest number of closely spaced languages are in eastern California - where the far southern Sierra and southwest Great Basin converge. Such a distribution indicates a Numic homeland and also that there occurred a recent (within the last 1000 years) northeast expansion out of this area and into the Great Basin (Bettinger and Baumhoff 1982; Lamb 1958)

The Takic grouping is composed of eight contiguous languages located in southern California and situated from the southern Channel Islands and the coastal plains inland to the common border of California with Arizona near the Colorado River. The largest of the inland Takic language groupings were the Serrano, Kitanemuk, and Vanyume languages, which belong to the Serran subgroup. The section of southern California from Malibu south to San Diego and the inland areas to the east were inhabited by groups who spoke languages representing the Takic branch of Uto-Aztecan. These included from north to south Gabrielino, Fernandeno, Luiseño, Juaneño, Cupeño, and Cahuilla.

Takic languages separate the Hokan languages into two discontinuous groups. This variation in language distribution led Kroeber (1925) to hypothesize that the Takic languages represented an intrusion of Uto-Aztecan people from the eastern California deserts into southern California to the coast and then into the southern Channel Islands at some point in prehistory (cf. Bright and Bright 1976). Kroeber recognized a linguistic wedge of sufficient specialization that he posited a minimum of 1500 years since the Takic first began to populate coastal California (Kroeber 1925:578).

Historical Linguistics: Linguistic Time Depth, Homelands, and Population Movements

The Uto-Aztecan homeland has usually been placed in the American Southwest or northern Mexico somewhere within an area between southeastern California, central Arizona, and northwestern Mexico (Hale 1958; Fowler 1972; Swadesh 1954, 1959) and has a time depth estimated through glottochronology beginning about 3000 BC (5000 BP) or earlier. Based on linguistic distribution, the eight or nine coequal branches converge near the Arizona-Sonora border and hence the proto-Uto-Aztecan homeland might logically have emanated from a confluence there with an expansion to the northwest and south.

If this scenario were accurate then the earliest manifestations of the proto-Uto-Aztecan in-migration might be associated with components of the Pinto complex dating from ca. 5000 to 2000 BC or earlier. That very early expansion westward from the American Southwest or northern Mexico may have been fueled by the xeric conditions of the Altithermal (cf. Moratto 1984:551, 559, 567; Warren 1984:410-430).

Glottochronological estimates and genetic linguistic classification suggest that Takic and Numic-Tubatulabal languages diverged from a common ancestor language group some 3000 to 4500 years ago. The coastal Chumash languages appear to have borrowed heavily from the Uto-Aztecan Takic languages and so this scenario gains greater plausibility.

Alternative Models

Linguists, archaeologists, and biological anthropologists have each gathered independent data identifying two language groups, prehistoric cultural traditions, and physical types for southern California and the Channel Islands. These data have frequently been interpreted as bolstering the proposition that the earliest occupants of mainland southern California groups and the Channel Islands were replaced by populations affiliated with the Takic language classification. These populations, it is suggested, in-migrated from the eastern California deserts into southern California and the southern Channel Islands.

Archaeology

Archaeologists early on noted a change in southern California burial patterns with later burials more often cremated than those in the north (Alliot 1916; McKusick and Warren 1959; Meighan and Eberhart 1953). However due to the often conflicting nature of the evidence, archaeologists have debated the character and timing of this proposed population replacement since it first was proposed. The differing dates for the timing of the hypothesized population replacement fall within three groups (cf. Martz 1994). Some are associated with an early replacement around 5000 to 6000 BP (Howard and Raab 1993; Raab and Howard 1999; Vellanoweth 1995), others assert that Takic groups arrived during an intermediate age between 2500 and 4000 BP (C. King 2000; Kowta 1969; Lauter 1982; Moratto 1984; Rozaire 1959), and another camp avers that replacement was a late occurrence around 1500 BP (Rogers 1993; Titus 1987; Titus and Walker 2000; Wallace 1955).

Early Entry

The earliest possible evidence for a population incursion and replacement is pegged to the period from 5,000 to 6,000 BP. That suggestion is based on the distinctive form and distribution of a style of *Olivella* shell bead. Howard and Raab (1993) have proposed an “interaction sphere” based on the presence of what are known as Class N, *Olivella* grooved rectangular beads (Bennyhoff and Hughes 1987). The data on the frequency and distribution of this notable bead form suggests to these researchers that the southern Channel Islands and adjacent coastal mainland areas were cultural distinct from the Santa Barbara Channel area by at least by 5000 BP (Howard and Raab 1993:7-8). Raab and Howard (2000) suggest that the presence of such bead forms might manifest the in-migration of Takic groups into southern California.

Intermediate Entry

Archaeologist, Chester King (Northwest Economic Associates [NWA] and King 2003:1), has argued that southern California data indicates extensive cultural continuity in areas where Takic languages were

represented. That stability in linguistic and ethnic affiliation he posits as appearing from at least the beginning of the Middle Period Phase 2 (ca. 800 BC or 2750 BP) and probably Phase 1 (1400 BC or 3350 BP) uninterrupted through the time of European colonization. That would imply a period of *in situ* development and ethnic/linguistic continuity of about 3000 to 3500 years from about the time of 1000/1500 B.C through the historic era.

King notes (personal communication 2006) that the word for hereditary ritual leader, *paha*, was in fact borrowed by the Chumash from the Takic language group. Different Takic languages bear striking similarities in the names for various hereditary titles throughout southern California. This similarity in nomenclature over such a wide area and across a number of distinct Takic languages might suggest that many features of Serrano sociopolitical organization were quite ancient and could have been present when the Takic languages began to be spoken in Southern California. Therefore the hypothesized in-migration of Takic groups into southern California, at the beginning of the Middle Period (ca. 800 BC), may have ushered in a distinctive blend of hereditary political offices and inherited kin titles.

Archaeologists Michael Moratto (1984:560) and Makota Kowta (1969:50) also argue for an ancestral presence of Takic speakers represented by the Gabrielino, Tatavium, and Northern Serrano, within their respective territories, by ca. 1000 BC (3000 BP). They base their suggestion on discontinuities in exchange and mortuary patterns, and basketry construction methods.

Trade patterns on Santa Catalina Island, use of steatite (soapstone) and the cremation of the dead as practiced by the Takic Gabrielino are similar to the southern Channel Islands. However this pattern is notably dissimilar from that recognized in the Santa Barbara Channel area. Rozaire (1959) and Lauter (1982) agree that S-twined basketry construction techniques occur during this time but differ radically from Z-twining noted in the Santa Barbara Channel. Rozaire (1959) specifically posits that the former pattern is representative of the arrival of Takic groups to the southern Channel Islands between 4,000 and 2500 BP.

Late Entry

Malcolm Rogers posited a late arrival for the Takic people based on his work on San Nicolas Island (Rogers 1993). That pattern he believed dates to ca. 1500 BP and was signaled by the introduction of cremation, obsidian points, milling slabs, and the sweat house. An early Canalino component was signaled at eight sites represented by house pits, dog burials, abalone (*Haliotis*) fishhooks, substantial archaeofaunal material from fish, black abalone, and mussel refuse overlain by cremations.

Language and Genetics

No automatic correlation exists between biology and language, yet biological evidence has often been found to be the most direct source of information concerning prehistoric population distributions and movements. Some research has demonstrated a link between language and genetics in particular human groups in other instances there is no correlation. In most research related to population replacement the linguistic differences act as a guide for the formulation of hypotheses and the biological and archaeological dates are considered the primary evidence to test such hypotheses.

Anthropometry

Physical anthropologists and osteologists have remarked on the different facial and cranial shape of the later occupants of the southern California region. The biological relationships of these people can be evaluated by an analysis of their hereditary features. Recent research (Kerr 2004) has used craniofacial morphology and congenital skeletal features as a means of evaluating the linguistic hypotheses. Kerr (2004) has considered 730 individuals from the southern Channel Islands and comparative collections in mainland southern California and the Great Basin. This research supports proposals of a population turnover dating from 2500 to 3000 BP.

Genetics

Recent groundbreaking research using mitochondrial DNA (mtDNA) analysis in both contemporary Indian populations and on skeletal remains of ancient prehistoric burials has made it possible to study past migrations among California Indians (Johnson and Lorenz 2006). Genetic patterns have been documented that appear, in some cases, to correlate with language changes. Similarities and differences among contemporary Natives and the examination of ancient skeletal remains provide data relevant to questions of linguistic and genetic continuities. Examining ancient DNA extracted from prehistoric human remains for evidence of such continuity can be used to evaluate models of population stability, replacement, and expansion (cf. Eschleman 2002).

The mtDNA of modern Native Americans has been shown to fall into one of at least five haplogroups (A, B, C, D, or X) whose frequencies differ among various ethnolinguistic/tribal groupings. The Takic groups of southern California have a large proportion of Haplogroup C that predominates as the prominent mitochondrial DNA lineage (Johnson and Lorenz 2006: Table 2). Desert Serrano (also called Vanyume), Takic groups that lived within the general vicinity of our study area, have been found to possess unique haplotypes.

A contemporary California Indian descendant, a Vanyume individual, was traced back to an original 18th century ancestral group using California mission records and ethnohistoric sources (Johnson and Lorenz 2007). The earliest female ancestor of this individual was a woman baptized at Mission San Fernando who had been born about AD 1750 in the village of *Topipabit*, located along the Mojave River near the Victorville Narrows. This contemporary Vanyume woman had mtDNA haplotyped as C10 with four mutations not shared with any of the other Haplogroup C lineages (O'Rourke 2005). Recently DNA samples obtained from the teeth of two Late Period (ca. AD 1000-1200) burials from a prehistoric cemetery (CA-LAn-949) near Palmdale (also known as Anaverde) have yielded the same HVSI sequence as this Vanyume individual (Kemp et al. 2005). Since this is the case, such a situation demonstrates a remarkable genetic connection and prehistoric presence for this desert Serrano lineage in the Western Mojave over the last 800 to 1000 years. CA-LAn-949 is located just 20 miles west of Lovejoy at the base of the Sierra Pelona Mountains on the edge of the western fringe of the Antelope Valley.

Archaeological Evidence for Prehistoric Trade and Travel

As mentioned previously the Lovejoy site is situated in the vicinity of a major trade and travel corridor linking coastal California with the American Southwest. Evidence that the Lovejoy inhabitants participated in such trade is manifested in the discovery of a robust inventory of exotic artifacts including a large assemblage of shell beads and ornaments from the southern California coast and ceramics from the eastern Mojave Desert and into Arizona.

Archaeological studies in the American Southwest have identified coastal California shell beads in their prehistoric deposits (Bennyhoff and Hughes 1987; Lindsay et al. 1968). Most of the shell bead assemblages from Arizona sites are dominated by shell beads originating in Baja California. However, a significant minority of this material originated in the traditional aboriginal territory of the Chumash in southern California coastal climes. This material, although rarely numerous, comprises from 10 to 20 per cent of the total shell bead assemblages within these sites (Vokes 1984, 1998, 2001).

In certain exceptional instances large numbers (hundreds of individual artifacts) of California shell beads occur in mortuary contexts in Arizona (Vokes 1998). The latter discoveries appear to be most often abalone (*Haliotis cracherodii*) rather than the purple olive (*Olivella biplicata*) shell beads. Although excavations at Indian Hill in the Anza Borrego Desert (McDonald 1992; Wilke et al. 1986), halfway between coastal California and the Gulf of California, provide evidence that there was a brisk trade in *Olivella biplicata* shell beads from coastal southern California, into the interior California Deserts and that these imports were most likely also intended for recipients in the American Southwest.

California shell exports (raw shell and beads of *Olivella biplicata* and *Haliotis cracherodii*) recovered from Arizona archaeological sites have been dated mostly to the Late Archaic and Early Agricultural Periods

when peak periods of exotic California shell beads appear. These artifacts then reappear in reduced numbers again in archaeological assemblages during the later prehistoric and historic eras. It can be posited that the greatest volume of long distance trade from California to the American Southwest may have been from about 1000 BC to AD 100. Several archaeological studies note that during later prehistoric times (ca. AD 1100-1300) *Olivella* and *Haliotis* shell beads were being traded deep into the Mojave Desert including those recovered from Oro Grande and Afton Canyon in the eastern Mojave and lower Colorado deserts (Rector 1979). This trade appears to have continued even later in time.

It is apparent that southern California *Haliotis* beads and unmodified shell are also present in Hohokam assemblages (ca. AD 1 – Historic) and are documented at the time of Spanish contact during the ethnohistoric era (DiPeso 1956; Earle 2005a). This trade is important since it appears to have influenced the ability of Native populations to occupy the Lovejoy site on a semi-permanent basis, in larger numbers, and with a surprising degree of sociopolitical complexity than would have been expected given the natural resources in the immediately vicinity of the site.

Rock Art Paintings

The identification of rock art painting sites, their spatial distribution, and style areas can be used as an additional means to posit the ethnolinguistic attribution of the aboriginal occupants of the Lovejoy site. Recent studies (Knight 1993; Earle 2004c) attribute rock art sites located in the vicinity of Lovejoy as representative of the Southern California Rectilinear Abstract Style Area (Hedges 1973). This style of rock painting is believed to have been represented almost exclusively among Takic-speaking groups - such as the Serrano, Cahuilla, Gabrielino, and Luiseño. Much of this genre of pictograph is found in locations that are fairly exposed to weathering, suggesting that at least some examples of this style can be associated with ethnographically-known groups. There is a correspondence in characteristics between archaeologically observed pictographic rock art in these Takic areas of native southern California and ethnographic accounts of the creation of this painted rock art. Research and native testimony suggests that this rock art was associated with religious rites held at native villages that included both the boy's and girl's puberty / coming-of-age ceremonies (DuBois 1908:96; Kroeber 1908: 174-176; Sparkman 1908:209-210, 224-225; Strong 1929:227).

One pictograph site has been identified in the western portion of the Lovejoy site, in an area of rocky outcrops on the south side of a low butte (Earle 2004c). These pictographs were reported to have existed in the 1920s. The authors have not seen any illustrations or photographs of these pictographs and they are said to have weathered away. We might suggest that these paintings were most likely affiliated with the Southern California Rectilinear Abstract Style and that the location of the Lovejoy site and the presence of these paintings is further evidence bolstering the contention that the inhabitants were of Takic affiliation.

Cupules

Within the prominent rock outcroppings or buttes within the Lovejoy site complex were a series of pitted rock depressions commonly known as cupules. Pitted Rock Petroglyphs are widely found in California and the Great Basin. These involve boulder or other rock surfaces in which circular depressions have been carved or pecked, creating a pattern of pits in the stone's surface. Rock surfaces in which cupules have been carved may be horizontal, vertical, or angled in orientation. In southern California these are usually, although not always, on isolated boulders lying in open areas in association with camping or village sites, rather than constituting parts of large rock formations. Over 500 sites with cupule rock features have been recorded for Southern California (Meighan 2000:17).

A variety of interpretations can be found in the literature regarding the purpose of cupules. Minor (1975) suggested an association between cupule boulders, ringing rocks, and the girls' initiation ceremony among the Luiseño. For the Southern California area, the ubiquity of this type of petroglyph when taken together with the scarcity of ethnographic testimony about it raises the question of whether it may predate ethnographically recorded protohistoric cultural practices and represent an older pattern of cultural different non-Takic religious practices. True and Baumhoff (1981) argued that there was no ethnographic evidence from the southern California region suggesting an association between cupules and girls' initiation or any

other reported community rituals. True and Baumhoff further suggested that pitted Rock petroglyphs dated not from the Protohistoric era or the Luiseño culture (Takic patterns) but from a much earlier cultural phase or substrate involving possibly Hokan-affiliated cultures (True and Baumhoff 1981:265-266).

Chapter Summary

Ethnographic, historic and archaeological data indicate that the most likely occupants of the Lovejoy site (Antelope Valley) during the pre-contact era were Serrano populations affiliated with the Takic branch of Utoaztecan languages. Study of Mission sacramental registers supports the ethnic affiliation of the Lovejoy inhabitants as Serrano. Other data also bolster the possibility that the Lovejoy site can be identified with one of the named ethnohistoric Serrano villages, but the identity of that settlement is unclear. Anthropologists concur that the Serrano had a complex corporate kinship and political structure with a pattern of exogamous totemic moieties (patrilineal clans) having hereditary offices. These clans were linked through marriage networks into multiclan subsistence organizations that were traced across large geographic areas. It is possible that there existed an overarching political structure and a tendency towards centralized leadership uniting Serrano society as a whole.

Linguists, archaeologists, and biological anthropologists identify two language groups, prehistoric cultural traditions, and physical types for southern California and the Channel Islands. They agree that at some time in the prehistoric past Takic groups in-migrated into southern California displacing earlier Hokan populations. Archaeologists with differing perspectives have proposed several alternative dates for this population replacement that are early (5-6000 BP), intermediate (2500-4000 BP), or relatively recent (1500 BP) in time. Anthropometric research supports an intermediate age for the in-migration and population replacement. Genetic data, mtDNA, also confirm a minimum of a millennium of time depth for *in situ* development of the Vanyume Serrano lineage in the vicinity of the Lovejoy site.

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