Revisions to the Palomar Tradition Model in Southern California Prehistory

Mark Q. Sutton

Abstract

In the original model of the Palomar Tradition of southern California (Sutton 2011), two phases of the San Luis Rey Pattern (I and II) were proposed. In retrospect, these two phases have proved inadequate to fully characterize the archaeological record of southern Orange County and northern San Diego County. Consequently, an earlier phase of the San Luis Rey Pattern, herein referred to as Initial San Luis Rey, is proposed to distinguish and represent the first entry of Takic groups into the area.

Introduction

The Palomar Tradition was defined by Sutton (2011) to reflect the movement of Californian traits and Takic languages first into coastal southern Orange County and environs and then into interior southern California. Two patterns were proposed: the San Luis Rey Pattern to represent the prehistoric antecedents of the ethnographic Juaneño, Luiseño, and Cupeño (see Figure 1) and the Peninsular Pattern to represent the prehistoric antecedents of the ethnographic Cahuilla. The San Luis Rey Pattern was seen as reflecting the movement of traits south along the coast between about 1,250 and 1,000 BP, while the Peninsular Pattern was viewed as reflecting the movement of traits into inland southern California after about 1,000 BP. For both patterns Sutton (2011) posited that the Californian traits and Takic languages had moved as the result of diffusion rather than a population migration, although at least some people surely did move.

However, the first arrival of Californian traits and Takic languages into southern Orange County seems to have been the result of an actual population movement and so would have a different archaeological signature than San Luis Rey I and II, both suggested to signify the later diffusion of traits into existing La Jolla III populations. Thus, it became apparent that a different archaeological classificatory entity was needed to characterize and describe the first arrival of this Takic population. Borrowing from both True and Waugh (e.g., True et al. 1974:Figures 2 and 3; also see True and Waugh 1982:35; Waugh 1986:310), this first appearance of Takic groups into southern Orange County and northern San Diego County is placed into a new San Luis Rey phase, herein called Initial San Luis Rey.

The San Luis Rey Pattern and its phases, including the newly proposed Initial San Luis Rey, is discussed below. That discussion is preceded by a general review of southern California coastal prehistory. As it is not germane to the arguments made herein, a discussion of the Peninsular Pattern is not included (see Sutton [2011] for details).

A Review of Southern California Coastal Prehistory

A number of chronological frameworks have been developed for the prehistory of coastal southern California (e.g., Rogers 1929, 1945; Meighan 1954; Wallace 1955; True 1958, 1966, 1980; Warren 1964; Reddy 2007; Sutton and Gardner 2010; Sutton 2010a, 2011; also see Moratto 1984). The first general synthesis of southern California prehistory (Wallace 1955:2; also see Wallace 1978) proposed



Figure 1. Map showing the approximate ethnographic territories of the Juaneño, Luiseño, and Cupeño.

four "broad temporal divisions": Horizons I (Early Man), II (Milling Stone), III (Intermediate), and IV (Late Prehistoric). This general chronology was not revised until recently (Sutton 2010a), although the "Millingstone Horizon" was redefined as the Encinitas Tradition by Warren (1968; also see Sutton and Gardner 2010). Along coastal San Diego County a general chronology using Early, Middle, and Late Archaic and Late Prehistoric is often used (e.g., York 2005; Reddy 2007). Others have focused on broad environmental periods, such as the Early, Middle, and Late Holocene (e.g., Gallegos 2002; Byrd and Raab 2007), or on even finer temporal subdivisions of those general periods (e.g., Byrd et al. 2004; Byrd and Berryman 2006).

The most recent syntheses of southern California prehistory (Sutton 2010a, 2011; Sutton and Gardner 2010; also see Warren et al. 2008) proposed the use of cultural units of definition and analysis and organized the extant archaeological information into a model of traditions, patterns, and phases. This system gave priority to cultural manifestations as opposed to the temporal periods of previous systems (see Table 1). Thus, archaeological components are assigned to phases based on their cultural traits, with chronometric data being used secondarily to determine the time spans of those phases.

The cultural classification developed by Sutton and colleagues was proposed in the hope that shifting the analytical emphasis from temporal spans to cultural units would assist in the anthropological understanding of past peoples of southern California. This shift in emphasis was also intended to foster the development of hypotheses and test implications regarding cultural adaptation and processes. This new system is briefly described below and summarized in Table 2, and the traits for the various patterns and phases are presented in Table 3. Revisions to the Palomar Tradition Model in Southern California Prehistory

Time (BP)	Rogers (1945); Moriarty (1966)	Wallace (1955)	Warren (1968)	Wallace (1978)	Byrd and Raab (2007)	Sutton (2011) and this article
500 to 200		T d				San Luis Rey II
1,000 to 500	Vumon	Prehistoric	Shoshonean and Yuman	Dariad III	Late	San Luis Rey I
1,250 to 1,000	ruman	Intermediate		Period III	Holocene	Initial San Luis Rey
3,000 to 1,250						La Jolla III
4,000 to 3,000	La Jalla III	Millingstone				La Jona III
5,000 to 4,000			Encinitas			La Jolla II
6,000 to 5,000	La Jolla II		Tradition	Period II	Middle Holocene	
7,000 to 6,000	La Jolla I	Early Man				La Jolla I
8,500 to 7,000						
10,000 to 8,500	San Dieguito		San Diaguita	Daviad I	Early Holocene	San Dieguito
12,000 to 10,000	_		San Dieguito	renod I	Late Pleistocene	Paleocoastal

Table 1. Concordance of Several Sequences for the Southern California Coast.

Table 2. The Cultural Sequence along Coastal Southern California.

General Dates (BP)	Tradition	"Juaneño" Area	"Luiseño and Cupeño" Areas
500 to 200			San Luis Rey II
1,000 to 500	Palomar	Initial Sam Luis Day	San Luis Rey I
1,250 to 1,000		Initial San Luis Key	I - I-II-III
3,000 to 1,250			
5,000 to 3,000	Encinitas		La Jolla II
8,500 to 5,000			La Jolla I
10,000 to 8,500	unknown		San Dieguito
12,000 to 10,000	unknown	Paleocoastal along	the coast, Paleoindian in the interior

Note: From this article and Sutton (2011).

Initial Peopling of Southern California

Previous scholars commonly believed that the first people into North America were Paleoindians who entered mainland North America on foot, utilizing terrestrial resources and spreading out across the continent. These Paleoindians would have had a terrestrial adaptation; considerable evidence of this has been found, although the record in California is meager.

A growing body of evidence suggests that at least some people entered the New World by moving south along the coast. A number of very early sites are known along the coasts and islands of central and southern California, apparently reflecting a

ast.
ŭ
ornia
alifo
C L
ther
Sou
the
of
ons
aditi
Ē
tura
Cul
oric
hist
Pre
s of
ase
ЧЪ
anc
erns
atte
је F
of th
aits
Ξ.
ole 3
Tab

Tradition	Pattern	Phase	Dates (BP)	Material Culture Traits	Other Traits	Linguistic Implications
	Ethnohistoric Per	iod	after 200	addition of Euroamerican material culture and domesticated species	fewer villages but closer to Euroamer- ican settlements, eventual move to missions	Juaneño, Luiseño, and
		San Luis Rey II	ca. 500–200	addition of Tizon Brown Ware pottery and ceramic figurines; ceramic pipes; San Luis Rey rock art	beginnings of consolidation of villages; loss of territory in the interior valleys to the Cahuilla; pit cremations	Cupeño
Palomar	San Luis Rey	San Luis Rey I	ca. 1,000–500	rapid transition from La Jollan tech- nology with adoption of "California" material culture; increased use of mor- tars and pestles; adoption of Universe effigies; Rancho Bernardo rock art	diffusion of Initial San Luis Rey traits into existing La Jolla groups; use of existing settlements but change in location and function of special pur- pose sites; adoption of <i>Chingichngish</i> religion; some cremations	diffusion of proto-Cupan to local La Jolla (Yuman) groups followed by its break-up into pro- to-Juaneño, proto-Lu- iseño, and proto-Cupeño
		Initial San Luis Rey	ca. 1,250–500	appearance of "Californian" material culture; bow and arrow (e.g., Cot- tonwood points), bone awls, stone/ shell ornaments, and perhaps ceramic pipes; Obsidian Butte glass; obvious middens; Universe effigies	initial migration of people into south- ern Orange County from the Los Ange- les Basin; establishment of settlements in new locations; focus on terrestrial re- sources; inhumation; eventual adoption of Chingichngish religion	arrival of proto-Cupan
	Peninsular			the inland pattern, not discussed he	re (see Sutton 2011)	
		La Jolla III	ca. 4,000–1,300	cores, scraper planes/scrapers, cobble tools, bone tools	flexed inhumations with rare crema- tions, sites moved to lower elevations	Proto-Yuman languages
Encimitas	La Jolla	La Jolla II	ca. 5,000–4,000	continued use of manos and metates, and the adoption of mortars and pestles, increase in number and point types, late discoidals, scraper planes	shellfish and fish important, increased use of terrestrial mammals, flexed inhu- mations (some beneath metates), "true" cemeteries, trade with Channel Islands	Proto-Yuman languages
		La Jolla I	ca. 8,500–5,000	abundant manos and metates (initial appearance), scrapers, Pinto-like points, discoidals, cobble tools, tarring pebbles	shellfish and plants more important than game and fish (marine mammals exploited), no cremations, mostly loosely flexed inhumations	Hokan linguistic group
	Pauma			the inland pattern, not discussed he	re (see Sutton 2011)	
unknown	San Dieguito	I	ca. 10,000–8,500	stemmed points (e.g., Lake Mojave), crescents, many scrapers, a few milling tools, and use of volcanics for flaked stone tools	hunting important, general use of ter- restrial resources, gradual addition of hard seeds and marine resources	Hokan linguistic group
unknown	Paleoindian	I		Clovis and other fluted points	primarily an interior adaptation, pre- sumed focus on megafauna, few data	unknown, possibly Hokan
unknown	Paleocoastal	I	La. 12,000-10,000	unknown	a maritime adaptation, shellfish, near	unknown, possibly Hoban

Note: Partly adapted from Sutton and Gardner (2010) and Sutton (2011).

Paleocoastal population whose adaptation and technology were separate from those of terrestrial Paleoindians and possibly indicating a separate migration.

Paleoindian Period

In interior California the Paleoindian Complex so far identified is generally known as Clovis, and it is thought to date between 12,000 and 10,000 BP (e.g., Erlandson et al. 2007). The Clovis Complex is marked by the characteristic fluted projectile point of the same name. Fluted points have an uneven distribution in California, and none have been discovered along coastal southern California. These Paleoindian groups were probably small with highly mobile populations, and they lived in small temporary camps located near permanent water sources. The nature of Clovis subsistence systems is unknown.

Other Paleoindian peoples, called Paleocoastal (ca. 12,000 to 10,000 BP; see Moratto 1984:104–109), had a maritime focus (e.g., exploitation of shellfish, fish, and marine mammals). They presumably used boats, although the earliest evidence of boat building technology in the area is dated at only about 8,000 BP (Cassidy et al. 2004:109; also see Erlandson and Moss 1996:295). Sites dating to Paleocoastal times (see Erlandson et al. 2007) along coastal central and southern California include Daisy Cave (Erlandson et al. 1996), Arlington Springs (Johnson et al. 2002), Cross Creek (Jones et al. 2002), and Eel Point (Cassidy et al. 2004).

The San Dieguito Complex

The San Dieguito Complex was first defined at the Harris site (CA-SDI-149), a multicomponent site located on the San Dieguito River. The site was tested by Malcolm Rogers in 1938 and 1939 and again by UCLA researchers in 1959 (Warren and True 1961; Warren 1966, 1967). The San Dieguito component identified by Rogers was marked by the presence of stemmed (e.g., Lake Mojave, Silver Lake) projectile points, crescents, many scrapers, a small number of milling tools, and the general use of volcanics for flaked stone tools. Rogers' San Dieguito component dated to between 9080 ± 350 and 8540 ± 400 RCYBP. Most researchers believe that the San Dieguito Complex originated ca. 10,000 BP in the deserts to the east (e.g., Lake Mojave in the Mojave Desert) and moved to the coast as conditions deteriorated (Warren et al. 1961:28; Warren and Pavesic 1963:420; Kowta 1969:68; also see Osborne 1958:48).

San Dieguito components are known along the southern California coast, including the Irvine site, or CA-ORA-64, in Orange County (Drover et al. 1983; Macko 1998) and the Agua Hedionda site, or CA-SDI-210, in northern San Diego County (Moriarty 1967). San Dieguito components have also been identified at several inland sites, including CA-RIV-2798 at Lake Elsinore (Grenda 1997) and at the Lake Perris sites CA-RIV-6069 (Horne and McDougall 2008) and CA-RIV-5086/H (McDougall 2001).

The connection between the San Dieguito Complex and the later La Jolla Pattern of the Encinitas Tradition is unclear (see Warren et al. 2008:85-86). It is possible that San Dieguito arrived from the deserts early on and transitioned into La Jolla sometime around 7,500 BP, with a change in economic focus from hunting to seed gathering (as evidenced by millingstones) and shellfish exploitation (Moriarty 1967; Warren 1967; Kaldenberg 1982; Chartkoff and Chartkoff 1984; Koerper et al. 1991; Warren et al. 2008). Another possibility is that San Dieguito came from the deserts first and was replaced by La Jolla (Encinitas) groups moving south from the Los Angeles area (Smith 1987:68-69). In the first model the La Jolla Pattern could have developed in situ from a San Dieguito foundation (Gallegos 1987:30; Koerper et al. 1991; but see Warren et al. 2008:85) with San Dieguito groups adding millingstone technology to their inventory as changing conditions made small seeds more economical.

The Encinitas Tradition

The Millingstone Horizon initially proposed by Wallace (1955) was subsequently renamed the Encinitas Tradition (Warren 1968; Sutton and Gardner 2010), combining the various regional expressions of the Millingstone Horizon into a single tradition. Warren (1968:6) defined the ecological adaptation of the Encinitas Tradition as reflecting a well-developed plant collecting economy with projectile points and faunal remains being rare. In the San Diego area the Encinitas Tradition is represented by the La Jolla Pattern along the coast and the Pauma Pattern in the interior.

The La Jolla Pattern

By about 8,500 BP the Encinitas Tradition along the San Diego coast is represented by the La Jolla Pattern for which three phases (La Jolla I, II, and III) have been defined (see Sutton and Gardner 2010). Many researchers in San Diego County, however, prefer to collapse the time between San Dieguito and the introduction of small projectile points and pottery (roughly between 8,500 and 1,300 BP) into "a massive, chronologically undifferentiated cultural unit" (Warren et al. 2008:30), while some (e.g., Gallegos 2002) use the terms Early, Middle, and Late Holocene and/or Early Period and Late Period to encompass this span of time. Warren (2008:36, Table 4) defined four chronological periods (I through IV) for western San Diego County and offered several "cultural assemblages" for each, including San Dieguito and La Jolla.

Generally speaking, the La Jolla Pattern in coastal San Diego County is characterized by a major reliance on shellfish, fishing in rocky nearshore areas and kelp beds, heavy exploitation of lagoons, seed gathering, and some terrestrial hunting (Sutton and Gardner 2010). Animal bones tend to be rare at La Jolla sites, reinforcing the original idea that hunting was not very important during the Encinitas Tradition. However, it is possible that hunting may have been more significant than is currently thought. Gallegos and Kyle (1991:iii) suggested that this paucity of bone might be due to poor preservation. Perhaps it was due to the "schlepp effect" (e.g., Daly 1969:149), and Sutton (1993) suggested the possibility that the bone may have been processed (e.g., on metates) and so not recovered in the 1/4-inch screen so often used. La Jolla sites are typically located on terraces around lagoons or bays (e.g., Moratto 1984; Gallegos 1992; Masters and Gallegos 1997; Byrd and Raab 2007; Warren et al. 2008:78). Warren (1964; also see Warren 1967:234–236) suggested that La Jolla groups employed a Central-Based Wandering pattern (e.g., Beardsley et al. 1956:138).

The Pauma Pattern

In inland San Diego County the Encinitas Tradition is represented by the Pauma Pattern, named for the Pauma Valley where it was first identified (True 1958:255; also see Warren et al. 1961; True 1980; True and Beemer 1982; Sutton and Gardner 2010). Pauma assemblages are quite different from San Dieguito assemblages (True 1980:37) but are similar to those of the La Jolla Pattern, with the exception of shellfish remains, which occur only rarely at inland sites (True 1980:37; also see Warren et al. 2008:71). Pauma components are known from various areas in San Diego County (e.g., San Luis Rey River, Valley Center, Escondido, San Marcos, Green Valley, and Santa Margarita River) and exhibit "generally similar aggregates of artifacts ... in generally similar environmental contexts" (True and Beemer 1982:233). Indeed, an examination of the geographic distribution of the Pauma Pattern shows a tendency for Pauma sites to occur in montane settings.

Pauma components in northern interior San Diego County are characterized by a high frequency of shaped manos, a predominance of basin metates over slab metates, and cobble tools, as well as occasional scrapers, discoidals, and stone balls (see Sutton and Gardner 2010:Table 2; also see McCown 1955; True 1958, 1980; Warren et al. 1961; True and Beemer 1982; True and Pankey 1985). Flaked stone artifacts (e.g., knives, points) are relatively uncommon, and bedrock mortars, pottery, and small triangular projectile points are "conspicuous by their absence" (True and Beemer 1982:233; also see True 1958, 1980; Warren et al. 1961; True and Pankey 1985). As noted above, archaeological assemblages of the Pauma and La Jolla patterns are similar, indicating "some as yet undefined but close relationship ... between the two" (True 1980:370), possibly even that Pauma is an inland variant of La Jolla (Warren et al. 1961, 2008:71).

The Palomar Tradition

Sometime between about 1,250 and 1,000 years ago, Encinitas Tradition groups north of central San Diego County (La Jolla along the coast and Greven Knoll [see Sutton and Gardner 2010] in the interior) were replaced by a new archaeological entity, generally subsumed under the Late Period. The changes seen in the archaeological record include new technologies, new settlement systems, new economic foci, and transformations in artifact types. The Late Period in this area had traditionally been presumed to represent the entry of the Takic groups that occupied the region in ethnographic times. Sutton (2011) named this broad cultural assemblage the Palomar Tradition.

Within the Palomar Tradition, Sutton (2011) also proposed two regional expressions, the San Luis Rey and Peninsular patterns, each with several phases. The Palomar Tradition incorporated the idea (Sutton 2009) that, in general, people of Yuman biological background adopted "Californian" traits, including Takic languages, late in time. Sutton (2011:1) hoped that the "concept of the Palomar Tradition, patterns, and phases [would] illuminate a much more dynamic prehistory than was possible by the use of the simple temporal designation of Late Period." People of the San Luis Rey Pattern occupied the region of southern Orange County and northern San Diego County, with people of the Peninsular Pattern well to the east; thus, it is the former pattern that is discussed here.

A Proposed Revision to the San Luis Rey Pattern

Sometime about 1,250 BP, Californian material culture and the proto-Cupan language diffused south from the Los Angeles Basin into southern Orange County and far northern San Diego County, areas occupied by the ethnographic Juaneño and Luiseño. This new cultural entity was identified as the San Luis Rey Pattern (a detailed discussion of this pattern was provided by Sutton [2011] and much of the following derives from that source).

The impetus for the adoption of this new cultural tradition by existing groups is not at all clear (see Sutton 2011). At least two possibilities present themselves, new technology and environmental change, perhaps acting in tandem. Considering technology first, the entry of the bow and arrow into the region should have had a significant impact on a number of cultural systems, including subsistence and settlement. It seems possible that some level of increased interpersonal violence had accompanied the introduction of the bow and arrow, but direct evidence is lacking. If new languages diffused into the region at about the same time (e.g., Sutton 2009), it seems possible that a small number of people carrying a new set of technologies could have had a significant impact on existing groups, particularly those thought to be as conservative as Encinitas Tradition groups (e.g., Sutton and Gardner 2010).

Second, it is possible that environmental change prompted the movement of traits from the coast inland and from the north to the south. For example, biotic change associated with the Medieval Climatic Anomaly (see Stine 1994; Jones et al. 1999) could have resulted in the replacement of Encinitas economies by more specialized ones that emphasized acorns impacting milling technologies and settlement patterns. Additional environmental permutation, such as the Little Ice Age (Koerper et al. 1985), could have resulted in further adaptive changes. Lastly, the arrival of Euroamericans dramatically altered the cultural environment, requiring drastic adaptations.

Sutton (2011) distinguished two San Luis Rey phases (I and II). While a preceding San Luis Rey phase had been proposed (variously called "Early San Luis Rey" [True at al. 1974:Figure 1], "proto-San Luis Rey I" [True and Waugh 1982:Figure 2], or "Initial San Luis Rey" [Waugh 1986:300, 310]), Sutton (2011:9) argued that the assemblage described for this "initial" San Luis Rey phase was actually late Encinitas in character.

However, it is now recognized that an additional and earlier phase of San Luis Rey is needed to adequately describe the archaeological record of the region. This "new" phase differentiates the initial (ca. 1,250 BP) entry of Takic groups into southern Orange County and far northern San Diego County. Thus, the "Initial San Luis Rey" phase is adopted herein to account for this new biological population and cultural assemblage. The Initial San Luis Rey phase replaces and incorporates the early portion of San Luis Rey I as was defined by Sutton (2011). The approximate geographic extent of the three San Luis Rey phases is illustrated in Figures 2–4.

Initial San Luis Rey

The Initial San Luis Rey phase represents the actual southward migration of Takic people (Sutton 2009) that had diverged from Angeles IV groups (see Sutton 2010a) in the Los Angeles Basin to the north, groups that moved south to occupy southern Orange County and northern San Diego County sometime around 1,250 BP (Figure 2). Initial San Luis Rey groups spoke proto-Cupan that had diverged from proto-Gabrielino, eventually to become the Juaneño. They also





PCAS Quarterly 51(2)

Revisions to the Palomar Tradition Model in Southern California Prehistory



Figure 3. Proposed geographic extent of the Initial San Luis Rey and San Luis Rey I phases.

Figure 4. Proposed geographic extent of the San Luis Rey II phase.



PCAS Quarterly 51(2)

were of a different physical type (Western Mono rather than Californian) (see Gifford 1926a, 1926b; Sutton 2009) and would have had a different DNA signature. Initial San Luis Rey would have been geographically constricted to southern Orange County and far northern San Diego County (effectively ethnographic Juaneño territory), and the phase would have lasted until the introduction of pottery at about 500 BP.

Initial San Luis Rey groups replaced existing Encinitas (e.g., La Jolla III) populations and brought with them "Californian" traits, including bow and arrow technology, Cottonwood Triangular projectile points, bone awls, shaft straighteners, larger quantities of steatite artifacts, and greater numbers of shell beads, although pottery and ceramic figurines were absent (cf. Sutton 2011). It is not clear whether ceramic pipes were present. In addition, there appears to have been a shift in economic emphasis to terrestrial resources with seasonal use of the coastal zone primarily to harvest bean clam (Donax sp.) (e.g., Rosenthal et al. 2001). Also of note is the appearance of the dark and greasy middens so typical of "Californian" sites. After the establishment of the Initial San Luis Rey phase, the Chingichngish religion would have been adopted (probably from the Gabrielino to the north [Kroeber 1925:640]), and the Universe effigies would have appeared (see Koerper and Chace 2009).

Initial San Luis Rey groups also brought a new settlement pattern. They established villages in new locations; in other words, Initial San Luis Rey components would not overlie La Jolla components. These settlements may have included CA-ORA-855, the location of the ethnohistoric Juaneño village of Putuidem in the San Juan Capistrano area (see Koerper and Mason 2000), and CA-ORA-22 along lower San Mateo Creek (e.g., York 2009:20–21, 24–28), the location of the ethnohistoric Juaneño village of Panhe. Initial San Luis Rey groups did not move farther south. Other aspects of their settlement and subsistence patterns remain unclear. The components of Initial San Luis Rey should date a bit earlier than San Luis Rey I components farther south (see below). Further, the Initial San Luis Rey mortuary pattern should be inhumation, and the interred individuals should exhibit a dolichocephalic (ca. < 78) cranial index (see Sutton 2009:40–46) and have Takic (e.g., Gabrielino) DNA.

San Luis Rey I

San Luis Rey I reflects the diffusion and adoption of Initial San Luis Rey traits, including "Californian" material culture and proto-Cupan languages, by existing Encinitas (La Jolla) populations to the south and east of southern Orange County beginning at approximately 1,000 BP (Figure 3). San Luis Rey I would have been geographically distributed in northern San Diego County and southwestern Riverside County (effectively ethnographic Luiseño territory) and would have lasted until the introduction of pottery at about 500 BP. In this model, San Luis Rey I reflects a diffusion of language and material culture rather than a population movement, although it seems likely that at least a small number of people moved along with the language. Thus, San Luis Rey I groups would have been largely biological Yumans (Encinitas groups) that adopted the material culture and language of their neighbors to the north, the Initial San Luis Rey people.

The adoption of "Californian" material culture (diffused in from Initial San Luis Rey groups) by San Luis Rey I groups after about 1,000 BP resulted in a rapid transition from their previous La Jollan technology that had focused on milling and shellfish collecting. These new traits include the bow and arrow, Cottonwood Triangular points, bone awls, shaft straighteners, and increased use of shell beads (Sutton 2011). Pottery and ceramic figurines were not present, and it is uncertain whether ceramic pipes were present. Dark and greasy middens appeared, and the Rancho Bernardo style of rock art was adopted. An increase in the use of mortars and pestles is also noteworthy. Settlements would have been "dispersed," and a "forager-like" pattern would have been used.

Given that San Luis Rey I material and linguistic traits were adopted by existing Encinitas (La Jolla) populations, one would expect that the earliest San Luis Rey I components would lie on top of existing La Jolla components. The San Luis Rey components at the major site in the Santa Margarita Canyon (CA-SDI-10,156/12,599/H) that would later be identified as the ethnohistoric Luiseño village of Topomai are underlain by a La Jolla component (Strudwick et al. 1996; York et al. 2002), and may include a La Jolla I component. Further, San Luis Rey I (and San Luis Rey II) burial populations should exhibit a mesocephalic to brachycephalic cranial index (> 80) and have Yuman DNA (see Sutton 2009:40–46).

The mechanism of this diffusion is also unclear but might possibly involve intermarriage over an extended period of time or some sort of elite dominance, whereby an incoming group gains political control and imposes its language (e.g., Johnson and Lorenz 2006:35); perhaps this was related to the spread of the Chingichngish religion. Thus, the San Luis Rey Pattern could be viewed as the intersection of Californian material culture, proto-Cupan languages (e.g., Luiseño and Cupeño), and Yuman biology (e.g., Sutton 2009, 2011).

San Luis Rey II

After about 500 BP, a number of changes occurred, and both the Initial San Luis Rey and San Luis Rey I groups became San Luis Rey II (Figure 4). Technological changes included the adoption of Tizon Brown pottery, ceramic figurines and pipes, and a significant increase in bedrock mortars. Cremation appears to have become a significant mortuary treatment that may also be associated with the adoption of the Chingichngish religion. Acorns and large game became more important, while the reliance on coastal resources declined. From the San Luis Rey I settlement-subsistence system with its "dispersed" settlements and its "forager-like" subsistence system, there emerged in San Luis Rey II a system characterized by larger and more sedentary winter and summer villages near permanent water sources and by a "collector-like" subsistence system. Thus, the San Luis Rey II settlement–subsistence adaptation is similar to that of the ethnographically and ethnohistorically documented Luiseño settlements.

The Takic Expansion

Byrd (2011:37, emphasis in original) noted that one of the "primary, if not the *most* important, unresolved issues facing scholars in the northern San Diego area" is an understanding of the expansion of Takic (a branch of Northern Uto-Aztecan [NUA]) languages into southern California, specifically the origin and timing of the arrival of Juaneño, Luiseño, and Cupeño. The long-standing model is that Takic groups came from the deserts to the north and east and entered southern California at some point in time. Such a model "has long been an accepted part of archaeological reconstructions and indeed recognized as a fundamental development that shaped the past" (Byrd 2011:37).

A number of ideas have been put forth regarding the timing of the Takic expansion. Kroeber (1925:578–579) suggested that it occurred between about 1,000 and 1,500 years ago, a date that has been correlated with the beginning of the Late Prehistoric Period (e.g., Meighan 1954; True 1966). Other ideas include a date of about 2,000 BP (Golla 2007), 3,000 BP (Kowta 1969:50; Moratto 1984:552–56), and even as early as 5,500 to 4,500 BP (Kennett et al. 2007; but see Sutton and Koerper 2009). A fundamental assumption of all these models is that the Takic expansion was a migration of people.

Most recently, it has been argued (Sutton 2009; also see Sutton 2010b) that a proto-Takic group diverged

from NUA by about 4,000 BP and that by about 3,500 BP some of these people (the proto-Gab/Cupan subbranch of NUA) migrated south to occupy the Los Angeles/Orange county region of coastal southern California, replacing the previous inhabitants and becoming the Gabrielino. Sutton (2009) argued that sometime between about 1,500 and 1,000 BP some proto-Gabrielino people moved south into southern Orange County to become the Juaneño and that Takic languages (proto-Cupan) then diffused to the south and east and were adopted by existing Yuman peoples, who then developed into the Luiseño and Cupeño (and the Serrano and Cahuilla). In this model, Luiseño and Cupeño peoples would be biologically Yuman but linguistically Takic. In other words, the Luiseño and Cupeño peoples were not recent immigrants but had been resident in their territories for many thousands of years.

Conclusions

The San Luis Rey Pattern within the Palomar Tradition was offered by Sutton (2011) to characterize the diffusion of Californian traits and Takic languages into existing Yuman populations in portions of southern California. However, the two proposed phases of San Luis Rey (I and II) did not adequately characterize the original arrival of the new population into southern Orange County from the north, people who carried Californian traits and Takic languages that later diffused south and east. Thus, a new phase of the San Luis Rey Pattern, Initial San Luis Rey, is proposed to account for that original migration. Initial San Luis Rey groups would have been a new biological type, bringing new material culture, a new language, new settlement patterns, and a new subsistence pattern.

Acknowledgments

I greatly appreciate the assistance and encouragement of Henry C. Koerper in producing this article. I also appreciate the thoughts and comments of Jill K. Gardner, Matt Boxt, and an anonymous reviewer.

References Cited

- Beardsley, Richard K., Preston Holder, Alex D. Krieger, Betty J. Meggers, John B. Rinaldo, and Paul Kutsche
- 1956 Functional and Evolutionary Implications of Community Patterning. In *Seminars in Archaeology*, edited by Robert Wauchope, pp. 130–157. Memoirs of the Society for American Archaeology No. 11. Salt Lake City.

Byrd, Brian F.

2011 Archaeological Regional Research Design for MCB Camp Pendleton, San Diego County, California. Report prepared by Far Western Anthropological Research Group, Davis, California. On file, South Coastal Information Center, San Diego State University, San Diego.

Byrd, Brian F., and Stan Berryman

- Approaching Prehistory in the Future on MCB Camp Pendleton, Southern California. In Proceedings of the Society for California Archaeology 19:229–232. Chico, California.
- Byrd, Brian F., and L. Mark Raab
- 2007 Prehistory of the Southern Bight: Models for a New Millennium. In California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn A. Klar, pp. 215–227. AltaMira Press, Lanham, Maryland.

Byrd, Brian F., Kevin Pope, and Seetha N. Reddy

 2004 Results of NSF-Funded Archaeological and Paleoenvironmental Investigations at San Elijo Lagoon, San Diego County, California.
 Report prepared by ASM Affiliates, Carlsbad, California. On file, South Coast Information Center, San Diego State University, San Diego. Cassidy, Jim, L. Mark Raab, and Nina A. Kononenko

2004 Boats, Bones, and Biface Bias: The Early Holocene Mariners of Eel Point, San Clemente Island, California. *American Antiquity* 69(1):109–130.

Chartkoff, Joseph L., and Kerry Kona Chartkoff

1984 *The Archaeology of California*. Stanford University Press, Stanford, California.

Daly, Patricia

- 1969 Approaches to Faunal Analysis in Archaeology. *American Antiquity* 34(2):146–153.
- Drover, Christopher E., Henry C. Koerper, and Paul E. Langenwalter II
- 1983 Early Holocene Human Adaptation on the Southern California Coast: A Summary Report of Investigations at the Irvine Site (CA-ORA-64), Newport Bay, Orange County, California. *Pacific Coast Archaeological Society Quarterly* 19(3&4):1–84.
- Erlandson, Jon M., Douglas J. Kennett, B. Lynn Ingram, Daniel A. Guthrie, Don P. Morris, Mark A. Tveskov, G. James West, and Philip L. Walker
- An Archaeological and Paleontological Chronology for Daisy Cave (CA-SMI-261), San Miguel Island, California. *Radiocarbon* 38(2):355–373.

Erlandson, Jon M., and Madonna L. Moss

1996 The Pleistocene-Holocene Transition Along the Pacific Coast of North America. In *Humans at the End of the Ice Age: The* Archaeology of the Pleistocene-Holocene Transition, edited by Lawrence Guy Straus, Berit Valentin Eriksen, Jon M. Erlandson, and David R. Yesner, pp. 277–301. Plenum Press, New York.

- Erlandson, Jon M., Torben C. Rick, Terry L. Jones, and Judith F. Porcasi
- 2007 One If by Land, Two If by Sea: Who Were the First Californians? In California Prehistory: Colonization, Culture, and Complexity, edited by Terry L. Jones and Kathryn A. Klar, pp. 53–62. AltaMira Press, Lanham, Maryland.

Gallegos, Dennis R.

- 1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In San Dieguito-La Jolla: Chronology and Controversy, edited by Dennis R. Gallegos, pp. 23–34. San Diego County Archaeological Society Research Paper No. 1. San Diego.
- 1992 Patterns and Implications of Coastal Settlement in San Diego County: 9000 to 1300
 Years Ago. In *Essays on the Prehistory of Maritime California*, edited by Terry L.
 Jones, pp. 205–216. Center for Archaeological Research at Davis, Publication No. 10, University of California, Davis.
- 2002 Southern California in Transition: Late Holocene Occupation of Southern San Diego County. In *Catalysts to Complexity: Late Holocene Societies of the California Coast*, edited by Jon M. Erlandson and Terry L. Jones, pp. 27–39. Perspectives in California Archaeology, Vol. 6. Cotsen Institute of Archaeology, University of California, Los Angeles.

Gallegos, Dennis R., and Carolyn Kyle

1991 Archaeological Survey for Camp Pendleton Family Housing Area. Report prepared by Gallegos and Associates, Carlsbad, California. On file, South Coast Information Center, San Diego State University, San Diego.

Gifford, Edward W.

- 1926a Californian Anthropometry. University of California Publications in American Archaeology and Ethnology Vol. 22, No. 2. University of California Press, Berkeley.
- 1926b Californian Indian Physical Types. *Natural History* 26:50–60.

Golla, Victor

2007 Linguistic Prehistory. In *California Prehistory: Colonization, Culture, and Complexity*, edited by Terry L. Jones and Kathryn A. Klar, pp. 71–82. AltaMira Press. Lanham, Maryland.

Grenda, Donn R.

1997 Continuity & Change: 8,500 Years of Lacustrine Adaptation on the Shores of Lake Elsinore. Technical Series 59. Statistical Research, Inc., Tucson.

Horne, Melinda C., and Dennis P. McDougall

 2008 CA-RIV-6069: Early Archaic Settlement and Subsistence in the San Jacinto Valley, Western Riverside County, California. Report prepared by Applied Earthworks, Hemet, California. On file, Eastern Information Center, University of California, Riverside.

Johnson, John R., and Joseph G. Lorenz

- 2006 Genetics, Linguistics, and Prehistoric Migrations: An Analysis of California Indian Mitochondrial DNA Lineages. *Journal of California and Great Basin Anthropology* 26(1):33–64.
- Johnson, John R., Thomas W. Stafford, Jr., Henry O. Ajie, and Don P. Morris
- Arlington Springs Revisited. In *Proceedings* of the California Islands Symposium. 2 vols.
 Edited by David R. Browne, Kathryn L.
 Mitchell, and Henry W. Chaney, pp. 541–545.

Santa Barbara Museum of Natural History, Santa Barbara, California.

- Jones, Terry L., Richard T. Fitzgerald, Douglas J. Kennett, Charles H. Miksicek, John L. Fagan, John Sharp, and Jon M. Erlandson
- 2002 The Cross Creek Site (CA-SLO-1797) and Its Implications for New World Colonization. *American Antiquity* 67(2):213–230.
- Jones, Terry L., Gary M. Brown, L. Mark Raab, Janet L. McVickar, W. Geoffrey Spaulding, Douglas J. Kennett, Andrew L. York, and Phillip L. Walker
- 1999 Environmental Imperatives Reconsidered: Demographic Crises in Western North America During the Medieval Climatic Anomaly. *Current Anthropology* 40(2):137–170.

Kaldenberg, Russell L.

- 1982 Rancho Park North: A San Dieguito/La Jolla Shellfish Processing Site in Coastal Southern California. Imperial Valley College Museum Society Occasional Paper 6. El Centro, California.
- Kennett, Douglas J., Brendan J. Culleton, James P. Kennett, Jon M. Erlandson, and Kevin G. Cannariato
- 2007 Middle Holocene Climate Change and Human Population Dispersal in Western North America. In *Climate Change and Cultural Dynamics: A Global Perspective on Mid-Holocene Transitions*, edited by David G. Anderson, Kirk A. Maasch, and Daniel H. Sandweiss, pp. 531–557. Elsevier Press, New York.

Koerper, Henry C., and Paul G. Chace

2009 The Southern California Universe Effigy. *Pacific Coast Archaeological Society Quarterly* 41(4):1–26.

Koerper, Henry C., and Roger D. Mason

2000 Results of Data Recovery at CA-ORA-855, San Juan Capistrano, Orange County, California. Report prepared by the Chambers Group, Irvine, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Koerper, Henry C., John S. Killingley, and R. E. Taylor

- 1985 The Little Ice Age and Coastal Southern California Human Economy. *Journal of California and Great Basin Anthropology* 7(1):99–103.
- Koerper, Henry C., Paul E. Langenwalter II, and Adella B. Schroth
- 1991 Early Holocene Adaptations and the Transition Phase Problem: Evidence from the Allan O. Kelly Site, Agua Hedionda Lagoon. In *Hunter-Gatherers of Early Holocene Coastal California*, edited by Jon M. Erlandson and Roger H. Colten, pp. 43–62. Perspectives in California Archaeology, Vol. 1. Cotsen Institute of Archaeology, University of California, Los Angeles.

Kowta, Makoto

1969 The Sayles Complex: A Late Millingstone Assemblage from Cajon Pass and the Ecological Implications of Its Scraper Planes. University of California Publications in Anthropology, Vol. 6. Berkeley.

Kroeber, Alfred L.

 Handbook of the Indians of California.
 Smithsonian Institution Bureau of American Ethnology Bulletin 78. Government Printing Office, Washington, D.C.

McCown, Benjamin E.

1955 Temeku: A Page from the History of the Luiseño Indians. Archaeological Survey Association of Southern California, Paper No. 3. Los Angeles, California.

McDougall, Dennis P.

 2001 CA-RIV-5086/H. In Final Report of Archaeological Investigations, Volume II, Chapter 9: Archaic and Late Prehistoric Occupation Sites, edited by Melinda C. Horne and Susan E. Rapp, pp. 831–871. Report prepared by Applied Earthworks, Hemet, California. On file, Eastern Information Center, University of California, Riverside.

Macko, Michael E.

1998 Neolithic Newport: Executive Summary: Results of Implementing Mitigation Measures Specified in the Operation Plan and Research Design for the Proposed Newporter North Residential Development at ORA-64. Report prepared by Macko, Inc., Huntington Beach, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Masters, Patricia M., and Dennis R. Gallegos

1997 Environmental Change and Coastal Adaptations in San Diego County During the Middle Holocene. In Archaeology of the California Coast During the Middle Holocene, edited by Jon M. Erlandson and Michael A. Glassow, pp. 11–21. Perspectives in California Archaeology, Vol. 4. Cotsen Institute of Archaeology, University of California, Los Angeles.

Meighan, Clement W.

1954 A Late Complex in Southern California Prehistory. Southwestern Journal of Anthropology 10(2):215–227.

Moratto, Michael J.

1984 *California Archaeology*. Academic Press, Orlando, Florida.

PCAS Quarterly 51(2)

Moriarty III, James R.

1967 Transitional Pre-desert Phase in San Diego County, California. *Science* 155:553–556.

Osborne, Douglas

1958 Western American Prehistory–An Hypothesis. *American Antiquity* 24(1):47–52.

Reddy, Seetha N.

 2007 A Programmatic Approach for National Register Eligibility Determinations of Prehistoric Sites within the Southern Coast Archeological Region, California. Department of Defense Legacy Resource Management Program, Project 05-251. Report prepared by ASM Affiliates, Carlsbad, California. On file, South Coast Information Center, San Diego State University, San Diego.

Rogers, Malcolm J.

- 1929 The Stone Art of the San Dieguito Plateau. *American Anthropologist* 31(3):454–467.
- 1945 An Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1(2):167–198.
- Rosenthal, Jeffrey S., William R. Hildebrandt, and Jerome King
- 2001 Donax Don't Tell: Reassessing Late Holocene Land Use in Northern San Diego County. Journal of California and Great Basin Anthropology 23(2):179–214.

Smith, Brian F.

1987 A Reinterpretation of the Transitional Phase. In San Dieguito-La Jolla: Chronology and Controversy, edited by Dennis R. Gallegos, pp. 61–71. San Diego County Archaeological Society Research Papers, No. 1. San Diego. Stine, Scott

- 1994 Extreme and Persistent Drought in California and Patagonia During Medieval Time. *Nature* 369:546–549.
- Strudwick, Ivan H., W. McCawley, B. L. Sturm, and S. Conkling
- 1996 Volume I, Results of Archaeological Significance Testing at Site CA-SDI-10,156/12,599/H, MCAS Camp Pendleton, California. Prepared by Gallegos and Associates, Carlsbad, California. On file, South Coast Information Center, San Diego State University, San Diego.

Sutton, Mark Q.

- 1993 On the Subsistence Ecology of the "Late Inland Millingstone Horizon" in Southern California. Journal of California and Great Basin Anthropology 15(1):134–140.
- 2009 People and Language: Defining the Takic Expansion into Southern California. Pacific Coast Archaeological Society Quarterly 41(2&3):31–93.
- 2010a The Del Rey Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(2):1–54.
- 2010b A Reevaluation of Early Northern Uto-Aztecan Prehistory in Alta California. *California Archaeology* 2(1):3–30.
- 2011 The Palomar Tradition and Its Place in the Prehistory of Southern California. *Pacific Coast Archaeological Society Quarterly* 44(4):1–74.

Sutton, Mark Q., and Jill K. Gardner

2010 Reconceptualizing the Encinitas Tradition of Southern California. *Pacific Coast Archaeological Society Quarterly* 42(4):1–64. Sutton, Mark Q., and Henry C. Koerper

2009 The Middle Holocene Western Nexus: An Interaction Sphere Between Southern California and the Northwestern Great Basin. *Pacific Coast Archaeological Society Quarterly* 41(2 and 3):1–29.

True, Delbert L.

- 1958 An Early Complex in San Diego County, California. *American Antiquity* 23(3):255–263.
- 1966 Archaeological Differentiation of Shoshonean and Yuman Speaking Groups in Southern California. Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.
- 1980 The Pauma Complex in Northern San Diego County: 1978. *Journal of New World Archaeology* 3(4):1–39.

True, D. L., and Eleanor Beemer

- 1982 Two Milling Stone Inventories from Northern San Diego County, California. Journal of California and Great Basin Anthropology 4(2):233–261.
- True, D. L., Clement W. Meighan, and Harvey Crew
- 1974 Archaeological Investigations at Molpa, San Diego County, California. University of California Publications in Anthropology, Vol. 11. Berkeley.

True, D. L., and Rosemary Pankey

1985 Radiocarbon Dates for the Pauma Complex Component at the Pankey Site, Northern San Diego County, California. *Journal of California and Great Basin Anthropology* 7(2):240–244.

True, D. L., and Georgie Waugh

1982 Proposed Settlement Shifts During San Luis Rey Times, Northern San Diego County. Journal of California and Great Basin Anthropology 4(1):34–54.

Wallace, William J.

- 1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3):214–230.
- 1978 Post-Pleistocene Archeology, 9000 to 2000 B.C. In *California*, edited by Robert F. Heizer, pp. 25–36. Handbook of North American Indians, Vol. 8, William G. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Warren, Claude N.

1964 Cultural Change and Continuity on the San Diego Coast. Ph.D. dissertation, Department of Anthropology, University of California, Los Angeles.

 1966 The San Dieguito Type Site: Malcolm J.
 Rogers' 1938 Excavation on the San Dieguito River. San Diego Museum Papers No. 5. San Diego Museum of Man, San Diego.

- 1967 The San Dieguito Complex, A Review and Hypothesis. *American Antiquity* 32(4):168– 185.
- 1968 Cultural Tradition and Ecological Adaptation on the Southern California Coast. In Archaic Prehistory in the Western United States, edited by Cynthia Irwin-Williams, pp. 1–14. Eastern New Mexico University Contributions in Anthropology No. 1. Portales.

Warren, Claude N., and Max G. Pavesic

1963 Shell Midden Analysis of Site SDI-603 and Ecological Implications for Cultural Development of Batiquitos Lagoon, San Diego County, California. Archaeological Survey Annual Report 1962–63 5:407–438. Department of Anthropology and Sociology, University of California, Los Angeles.

17

- Warren, Claude N., Gretchen Siegler, and Frank Dittner
- 2008 Paleoindian and Early Archaic Periods. In Prehistoric and Historic Archaeology of Metropolitan San Diego: An Historic Properties Background Study, by ASM Affiliates, Inc., pp. 13–107. Report prepared by ASM Affiliates, Carlsbad, California. On file, South Coastal Information Center, San Diego State University, San Diego.
- Warren, Claude N., and D. L. True
- 1961 The San Dieguito Complex and Its Place in California Prehistory. *Archaeological Survey Annual Report 1960–1961* 3:246–338. Department of Anthropology and Sociology, University of California, Los Angeles.
- Warren, Claude N., D. L. True, and Ardith A. Eudey
- 1961 Early Gathering Complexes of Western San Diego County: Results and Interpretations of an Archaeological Survey. Archaeological Survey Annual Report 1960–1961 3:1–106.
 Department of Anthropology and Sociology, University of California, Los Angeles.

Waugh, Georgie

1986 Intensification and Land-Use: Archaeological Indication of Transition and Transformation in a Late Prehistoric Complex in Southern California. Ph.D. dissertation, Department of Anthropology, University of California, Davis.

York, Andrew L.

- 2005 An Archaeological Research Context for the Lower Santa Margarita River, Marine Corps Base Camp Pendleton, California. Report prepared by EDAW, San Diego. On file, South Coast Information Center, San Diego State University, San Diego.
- 2009 An Archaeological Research Context for the San Mateo Creek Drainage, Marine Corps Base Camp Pendleton, California. Report prepared by EDAW, San Diego. On file, South Coast Information Center, San Diego State University, San Diego.

York, Andrew L., Alex Kirkish, and Stephen L. Harvey

 2002 Final Report: Data Recovery at CA-SDI-10,156/12,599H: Archaeological Investigations in Support of the Levee/Bridge Construction Project, Marine Corps Base Camp Pendleton, California. Report prepared by EDAW, San Diego. On file, South Coast Information Center, San Diego State University, San Diego.