

ON THE AETIOLOGY OF THE ATULKU

HENRY C. KOERPER

Recent scholarship (e.g., Koerper 2006a, 2006b) proposes that the portable cosmos of southern California included artifact types with sex-based symbolic communications whose aetiologies initiated from the kinetics and/or morphologies associated with either food-procurement or food-processing equipment. The operations and associative thought believed to have transformed the shapes and imageries of these mundane tools into sacred objects and their meanings allow description and identification of a process of culture change - "sexualization-sacralization." This study proposes that the atulku, or crescent-shaped ground stone artifact employed in Diegueño and some Shoshonean puberty rites, may be a fit to the "sexualization-sacralization" model. It also raises the question of whether crescent-shaped objects documented beyond San Diego County might have carried sex-based communications comparable to the symbology of the atulku.

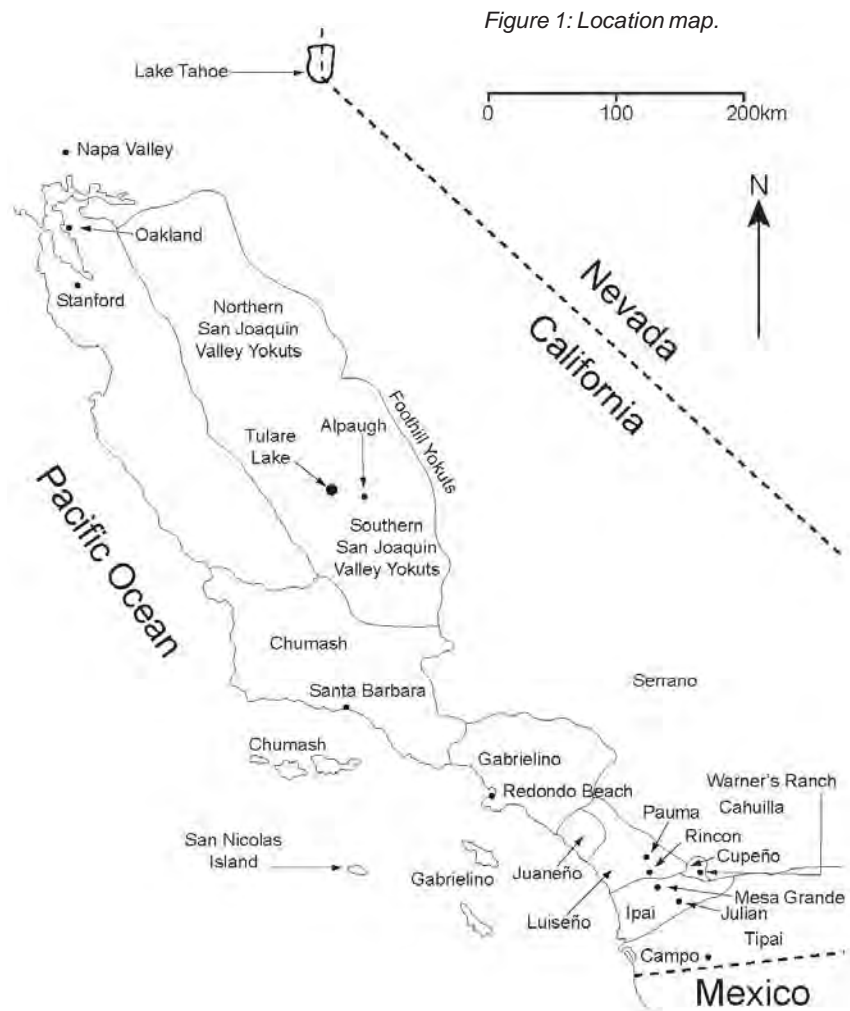
Many objects of the southern California portable cosmos carried sex-based symbolism, with imageries and forms likely to have evolved through a "sexualization-sacralization" process (Koerper 2006a, 2006b). The starting point in this process involves imageries derived from the kinetics and/or shapes associated with either food-procurement or food-processing technologies. The *atulku*¹, or crescent-shaped ground stone vulvar representation associated with girls' puberty ceremonies in Native San Diego County, is most probably a permutation spun from the profane bowl mortar and/or its descendant sacred alter ego, and if so the *atulku* would count as another fit to the sexualization-sacralization hypothesis.

Heretofore, the aetiology of *atulku* symbology and morphology has been a neglected subject in the dialogue of regional prehistory. This study addresses the subject, beginning with a review of relevant ethnographic and archaeological data. Next, discussions of sexualization-sacralization and of the sympathetic principle in the magico-religious mind set are presented to explore the associative thought that may have underlain evolvement of the *atulku* as vulvar symbol. Further discussions raise the issues of whether artifacts discovered outside of Luiseño/Cupeño and Diegueño territories and having crescentic morphologies communicated similar symbolic content, or functioned in similar ceremonial venues, or shared an historical legacy, one perhaps reaching into hoary antiquity. Also broached is an intriguing question regarding polyvalence, a question inspired by the observation that both plastic and graphic crescent-shaped representations, identified respectfully as vulvar and moon symbols, figure into the girls' puberty ceremonies practiced historically within the major geographic focus of this article; this implies the possibility of nested concepts.

ETHNOGRAPHIC AND ARCHAEOLOGICAL BACKGROUND

Roastings

In 1889, Horatio Rust (1906) witnessed a Tipai girls' puberty ceremony at Campo in San Diego County (Figure 1)². This so-called "roasting" of girls was already familiar to the ethnographer, for Rust



(1893) had earlier documented a very similar set of rituals at Agua Caliente (Warner's Ranch) (Figure 1) in what was either Luiseño or Cupeño territory (see Bean and Smith 1978:588). Such initiations into womanhood are frequently referred to as "roastings," since the central behavioral motif involved placement of girls in a pit dug into the earth, where they were subjected to steam rising up through green herbs on which they lay covered with blankets. Roastings are described elsewhere in varying detail for the Luiseño (DuBois 1905:625, 1908a:93–96, Plate 17, Figure 2; Hyde and Elliot 1994:268–271; Kroeber 1906:32, 1908a:174–176, 1925:673–675; Oxendine 1980; Sparkman 1908:224; Strong 1929:297–299; see also Harrington 1978:167), the Cupeño (Hill and Nolasquez 1973:67–71, 157, 196), the Juaneño (Boscana 1978:48–49; Harrington 1934:21–22, 1978:167), and the Diegueño (e.g., Kroeber 1925:716; Waterman 1910:285–290, Plate 21, Figure 1; see also McGowan 1982:15–16). Roasting is also reported for the Gabrielino (Harrington 1942:36), and a Kitanemuk Serrano informant and a Ventureño informant claimed "Gabrielino-Luiseño type girl-roasting ceremonies" for their ethnic groups (Harrington 1942:36, 45).

Rust received specific information that the Tipai puberty rites functioned to prepare the initiates for marriage. His detailed observations indicate a fertility/fecundity thematic writ large. For instance, while the girls were being "steamed" in a pit, seeds were broadcast on them with the express intent to cause the young ladies to go forth and be prolific (Rust 1906:28–29).³

Following their roasting, the girls were led away to a hillside and shown what became Rust's major focus in the Tipai (Campo) account, a certain sacred curved stone noted above and said to represent "the female organ of regeneration." According to his account, the *atulku*, "about 13 to 15 inches in size, shaped like a yoke," had been exhumed from its hiding place, and later the "35 pound" object was re-interred at the close of the ceremony. Strong (1929:299) reviewed Rust's work and added that seeds were also scattered over the very location where a crescent-shaped sacred stone object was reburied at the end of the puberty ceremony. As it turns out, and as will be explained later, Rust's physical description of the Campo *atulku* was in error.

Rust (1906:30) also reported a rather direct connection of the roasting and display of the sacred stone. That is, a girl's sweating in the pit is a component of banishing the bad spirits she might harbor, and the sacred curved artifact controls these spirits so that they might stay banished, on condition that the initiate remains righteous.

In an etic vein, Kroeber (1922:313, 1925:862) explains that roastings were based on the conviction that direct physiological treatment of the girls with warmth at first menses ensures future health (see also Driver 1941:36–37). Girls endure their cooking or roasting in a pit "which is clearly modeled on the earth oven." From the emic side, Kroeber provides the following:

...the Diegueño use the *atulku*, a large crescentic stone, heated and placed between the girls' legs to soften the abdominal tissues and render motherhood easy and safe. These stones have been spoken of as sacred. No doubt they were. But their use was a practical one, in native opinion, not symbolic or esoteric.

Kroeber (1923:129,131, 1925:862) was of the opinion that the girls' puberty rite belonged "to the generic or basic stratum of native culture...." That is, it "formed the basis of later religious developments in California" (also Gerow with Force 1968:73). Strong concurred (1929:323), believing that the girls' puberty ceremony was of deep antiquity and stood at the "basic cultural level in southern California." He stated that "the ubiquitous girls' puberty ceremony based on a marked physiological and social change in status may well be older than any other ceremony in the region. Its antiquity and obvious physiological motivation preclude the presence or need of explanatory myths" (1929:338). Interestingly, but parenthetically, to this substratum of southern California culture, Strong believed there were appended many early Puebloan culture traits, most of those mentioned as being of a ritual/ceremonial nature. These "external agencies," he believed, were then cut off with the Shoshonean incursion (1929:345–348).

The fuller richness of girls' puberty rites can be quickly appreciated by reading Joan Oxendine's (1980) comprehensive discussion of the girls' puberty ceremony in Luiseño practice. Her article offers a comparative index based on presence-absence notations for components of Luiseño female puberty rituals with the schemata broken out by scholarly source. Oxendine's study explores the integration of the girls' puberty ceremony with Luiseño cosmogony. She provides two previously unpublished versions of the girls' rite of passage, those of Henshaw (either 1884 or 1892) and of Harrington (circa 1933). Other than to briefly reference the artifact type here under discussion, Oxendine left the subject alone.

Archaeological Specimens

In Rust's 1893 article regarding what was either Luiseño or Cupeño (Agua Caliente, Warner's Ranch) roasting custom, the *atulku*, while mentioned, is neither described nor illustrated. In his 1906 Tipai article, a yoke-like specimen is illustrated (1906:Plate VII, 1), and it is the greater part of a reworked stone mortar (Nicolette Meister and William Green [Beloit College], personal communication, 2006). However, contrary to Rust (1906:29–30), this specimen (Figure 2a, 3) is not the one from Campo. Rather, according to a footnote to Rust's article supplied by the editor of the *American Anthropologist*, Frederick Webb Hodge (Rust 1906:30, note 1), the illustrated specimen actually comes from a rancheria "some distance to the north [of Campo] in Shoshonean territory." Rust (1906) indicated that this *atulku* from Campo was turned over to the collections of Beloit College, Wisconsin, where there was also curated what Rust described as "a similarly shaped [ground] stone," two inches in diameter, found by Rust's son in an ancient village midden at Redondo Beach, Los Angeles County (refer to Figure 1).

Nicolette Meister, current Curator of Collections at Beloit College's Logan Museum of Anthropology, was unable to locate the Redondo Beach specimen, but she did find the artifact illustrated in Plate VII, No. 1 of Rust's 1906 article (Figure 2a, 3). Rust described it as 13 x 15 inches, and weighing 35 pounds. Hodge's corrective is accurate, and the Logan Museum catalog card for the artifact (Cat. #17924) makes clear that it is the *atulku* noted by Rust at Warner's Ranch, Luiseño or

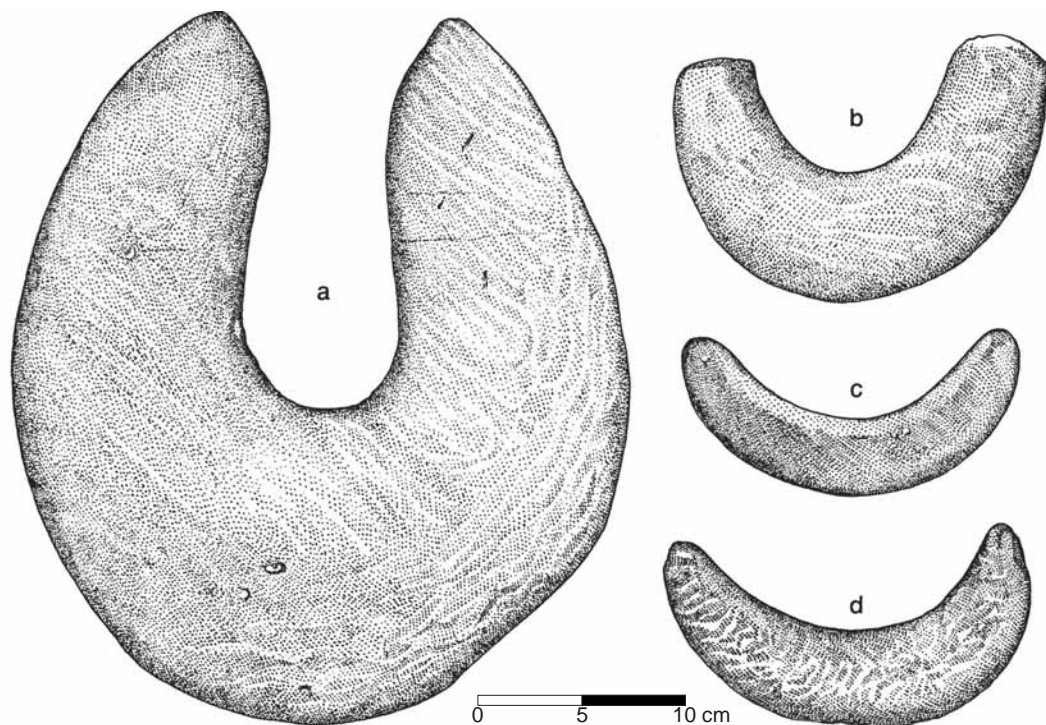


Figure 2 (Above): Crescent-shaped artifacts (not to scale). (a) Atulku, Luiseño or Cupeño, Agua Caliente/Warner's Ranch, San Diego County, Logan Museum catalog #17924, Beloit College - Rust gave its dimensions as 13 X 15 inches; (b) Santa Barbara area - size unknown; (c) Southern San Joaquin Valley - size unknown; (d) Oakland, on the shores of San Francisco Bay, $l \gg 27$ cm - Kroeber's measurement of length as "not quite 9 inches" was apparently a tip to tip measurement rather than a measurement of maximum length. All after Rust 1906: Plate VII.

Cupeño territory in 1892 (see Bean and Smith 1978:590; see also Hodge 1907-1910, 1:27), not the sacred stone used at Campo in 1889. The Luiseño or Cupeño specimen was manufactured of granite; the artifact was "kept buried in the mountain and gifts and offerings carried to it by the Indians after the ceremonial dance in which young girls were purified by sweating in a pit and other ceremonies by which they were prepared for matrimony." One is left to wonder uneasily about the means by which Rust acquired the yoke-shaped ceremonial stone.

Rust's (1906) Plate VII(2) illustrates what he regarded as a specimen of the same genre (Figure 2b). The provenance of this ground stone crescent is Santa Barbara. The tips of this artifact are blunted, a bit bulbous. At the time of the publication of his article, Rust had retained the artifact in his possession; its whereabouts are presently unknown. The dimensions also are unknown. Rust refers his readers to Holmes (1899:Plate VI) for a comparison, but Holmes' specimen is "grooved about the middle" (Figure 4b). Actually, the grooving indicated in the illustration of Plate VI in the Holmes article is greatly exaggerated; this exaggeration is faithfully repeated here in Figure 4b. Also, the artifact shown in Holmes (1899:Plate VI) is the very same specimen illustrated as #4 in Rust's (1906) Plate VII (see Gerow with Force 1968:72). This article's Figure 2b faithfully reproduces the artifact as it is shown in Rust (1906:Plate VII, 4).

This last specimen illustrated in Rust (1906:Plate VII, 4) (Figure 2d) was then in the collections of the Anthropological Museum of the University of California in San Francisco (Cat. #1-4562); it had been recovered in 1872 from a site in Oakland, on the shores of San Francisco



Figure 3 (Left): Atulku made from mortar (see also Figure 3a), Luiseño or Cupeño specimen. Photograph courtesy of Beloit College, Logan Museum of Anthropology (17924).

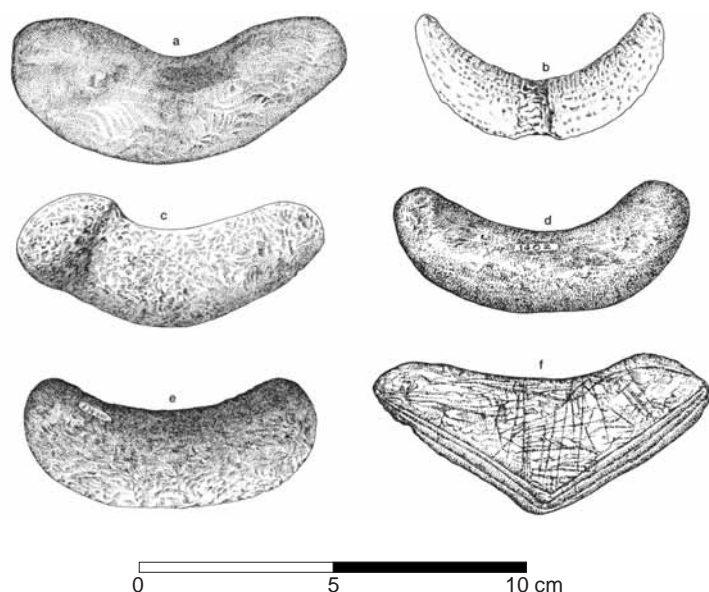


Figure 4: Curved artifacts (not to scale). (a) Ipai, Mesa Grande, San Diego County, $l=371$ mm; (b) probably Oakland, $l=27$ cm; (c) San Nicolas Island, $l=9.7$ cm; (d) CA-NAP-1, $l=77$ mm; (e) No provenance, $l=143$ mm; (f) Ipai, near Julian, San Diego County, $l=23.9$ cm. a, after Waterman 1910: Pl. 21; b, after Holmes 1899: Pl. 6; c, after Reinman and Townsend 1960: Pl. 10; d, after Heizer 1953: Pl. 32; e, after photograph supplied by the California Academy of Sciences, San Francisco; f, after Heye 1927:321, Fig. 132.

Bay (probably from a shellmound). It is retained at Berkeley in the Hearst Museum. Unfortunately, one end of the (granitic?) specimen is broken off and now lost, leaving artifact #1-4562 with a maximum length of 261 mm. When it was complete, maximum length was an estimated 27 cm. Maximum width is 58.2 mm, and maximum thickness is 42.8 mm. Kroeber (1906:31) suggested that this Oakland artifact was grooved to facilitate suspension or attachment.

Immediately following Rust's article, Kroeber (1906) added notes on roastings at Pauma and Rincon in Luiseño territory (Figure 1), but he also comments on two ground stones somewhat similar to the Santa Barbara specimen but with more-pointed terminations. One is the above-noted Oakland specimen (Figure 2d), and the other (Rust 1906:Plate VII, 3) (Figure 2c) had been curated in the collections of the California Academy of Sciences (Cat. #40-1275). It was found at the southern end of the San Joaquin Valley. According to Gifford and Schenck (1926:89), this artifact was found on a ridge between Posa Creek and the Kern River. Parenthetically, this specimen cannot presently be located and is presumed missing from the collections of the Academy (Russ Hartman [Academy curator], personal communication, 2006).

In another ethnographic reference to a ground stone crescent, Waterman (1910:286–827) notes that at Diegueño girls' puberty ceremonies, a crescent-shaped stone "is warmed at the fire and placed in turn between the legs of each girl close against her body....to make future motherhood easier..." He illustrates one such stone (Figure 4a), found 14 miles from Mesa Grande in 1907; it bears catalog number 1-

13747, which identifies its present home as the Hearst Museum at the University of California, Berkeley. The specimen is worn smooth on the inner curve, an indication that it was fashioned out of a mortar/bowl sherd. The ends are possibly pecked. Top and bottom surfaces are irregular. The Hearst Museum accession records identify Waterman as the collector of this 371-mm-long (granite?) object; it has a maximum thickness of 66 mm. It came "from a hidden cache" that included an olla, olla finishing stone, pestle, three mortars, three bowls, one mano, a "split owl feathers" ornament, a "plume" and a "root."

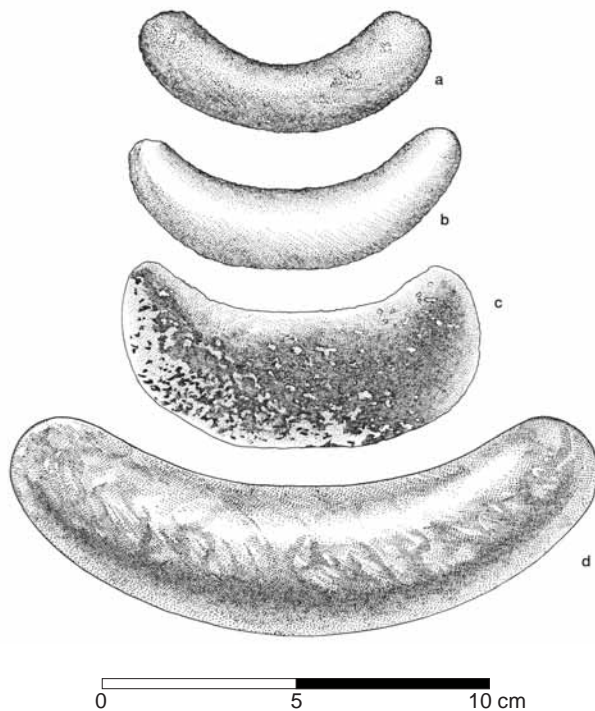
The three early articles (Kroeber 1906; Rust 1906; Waterman 1910) that discuss roastings and provide illustrations of crescent-shaped objects force certain questions. The two largest artifacts (Figures 2a/3 and 4a) are specifically linked to roastings, but the three artifacts of Figures 2b–d are not, because they were "archaeological" finds. Clearly, Rust (1906) and Kroeber (1906) assumed a common genre for the items illustrated in Figure 2. What information did they have about the range of shapes for *atulku*? Did either man ponder whether the more moon-like crescents (Figures 2b–d) were crafted of mortar/bowl sherds? Rust, as we have seen, could be careless in conveying information, and perhaps he was careless in implying *atulku* status for certain crescents that may not have been associated with girls' puberty rites. Did Kroeber learn at Pauma and/or Rincon that the more moon-like crescents were also *atulku*?

Kroeber is uncharacteristically short on crucial detail. In fact, when he mentions the heated stones that were placed on Luiseño girls' abdomens during roasting, he describes the stones only as flat (Kroeber 1906:32, 1908a:174), neglecting entirely any description of outline.

There is presently one ground stone crescent in the California Academy of Sciences collections (Cat. #0234-0011) that was acquired between 1872 and 1886 when George Davidson was Director of the Academy (Russ Hartman, personal communication, 2006). Unfortunately, it is without provenance (Figure 4e). The (basalt?) object is 143 mm long, with a maximum thickness of only 23 mm and maximum width of 48 mm. There is some evidence of pecking to shape parts of the specimen, but it is unclear whether any surface was actually ground. Top and bottom surfaces are irregular, an indication of the look of the raw material prior to any modification. The edges are somewhat rounded. There is no evidence that artifact #0234-0011 was fashioned of a sherd from any kind of milling equipment. In plan view there is the appearance of uniform shape, but there are irregular surfaces not apparent in the figure illustration.

Latta (1999:456) pictures a finely crafted curved stone (Figure 5d) from Yokuts territory. Previously I had supposed, probably incorrectly (Koerper 2006a:96), that this crescent-shaped ground stone artifact had been an object from the shaman's bundle described to Latta (1999:691, 694) by Yoimut, the last survivor of the Chunut (Tulare Lake) Yokuts. Yoimut told Latta that a certain shaman's medicine bag contained a rock "just like one you got here on desk." Latta's footnote (1999:694, note 2) describes a "legged, chipped, dark, crescent shaped stone" on the

Figure 5: Atulku or Atulku-like artifacts. (a-c) Alpaugh area, near Tulare Lake, southern San Joaquin Valley; (d) Yokuts territory. a-c, after Gifford and Schenck 1926: Pl. 28b-d; d, after Latta.



desk. On reflection, it seems unlikely that the informant was making reference only to the artifact's basic curvature. Latta's caption for the photograph illustrating the crescent-shaped ground stone artifact (1999:456) makes reference to the object's use in girls' adolescence ceremonies. Latta fails to mention whether he received this insight regarding function from a Yokuts informant or was drawing on the ethnographic record of San Diego County.

Heizer mentions and illustrates (1953:261, 349, Plate 32m) a crescent-shaped stone (Figure 4d) recovered in 1931 by J. B. Lillard at CA-NAP-1 in the Napa Valley. The Hearst Museum accession card for this piece (Cat. #L-1402) notes that it was associated with a shaman's cremation. Although it is illustrated in his Plate 32 with the caption "ground stone artifacts," Heizer clearly believed the specimen to be a manuport collected for its unusual shape (1953:261). The 77-mm-long (hard sandstone?) object has a maximum width of 29 mm and may have been minimally pecked and ground at its tips, but otherwise Heizer's assessment is essentially correct. Figure 4d was drawn from the illustration of Heizer's Plate 32, which does not convey the irregularities of most of the artifact's surfaces; the object is not as uniformly configured as it appears to be in Figure 4d.

Heizer's text (1953:261) does not indicate that specimen L-1402 came from a shaman's cremation, but in the second paragraph following his note on this and another crescent-shaped stone (Figure 6), he mentions a shaman's cremation excavated by P. Walker at NAP-1 containing 75 pieces of clear quartz crystals, 11 charmstones, and several "odd-shaped concretions." This is most probably the cremation

that produced the crescent-shaped items of Figures 4d and 6. The Hearst Museum accession card for the second specimen, Cat. #L-1408 reads "found in Shaman's Cremation" attributed to J. B. Lillard in 1931. Heizer also counted this oddity a "souvenir" collected for its unusual look. It is uncertain whether the unmodified manuport, which is 106 mm in maximum diameter and 11 mm thick, is truly a concretion.

Gerow (with Force 1968:71-72, 170, Table 13) had much to say about one complete, pecked sandstone crescent, five whole pecked and ground sandstone crescents, and a pecked and ground probable end fragment (Figures 7a, b; 8a-d), all recovered from the University Village Complex (CA-SMA-77) near Stanford University. The Complex may date between 1500 and 1000 B.C.E. A possible cache (Feature "X") of four complete crescent stones (Figure 8) from SMA-77 was not clearly grave-associated. Another complete example (Figure 7a) was found in an area with an estimated 16 graves, and one complete specimen (Figure 7b) was definitely associated with a double grave.

Gerow (with Force 1968:72-73) speculated that the objects' materials and weights were consistent with net sinker or club functions, but, following Waterman (1910:286-287, pl. 21, 1), he also considered that they could have been employed in girls' puberty rites. Most importantly, Gerow (with Force 1968:71) wrote that "general shape, size, and technique of workmanship are highly suggestive of mortar rim fragments which have been reworked secondarily." It is significant also that one of the artifacts was definitely grave-associated and that others were found in the vicinity of burials; life-force symbols are often found in graves.

Gifford and Schenck (1926:89; Plate 27n, 28) note and illustrate seven ground stone crescents (including the three in Figure 5a-c) from the Alpaugh area in the southern San Joaquin Valley (Figure 1). Two sandstone and one granitic item are heavily encrusted. The remaining four shown in their Plate 28 are highly polished; one of these is described as marble, two as diorite or serpentine, and one as gray schistose material. Gifford and Schenck report that one of the sandstone crescents (1926:Plate 27n) is clearly made from a piece of mortar.

Figure 6: Crescent-shaped object from CA-NAP-1. After Heizer 1953: Pl. 32l.



Actually, the sandstone specimen of their Plate 28g also appears to have been fashioned from a mortar/bowl rim. The other artifacts of their Plate 28 are also candidates for interpretation of manufacture from mortar/bowl rims, but unfortunately the illustrations do not present quality resolution. Gifford and Schenck note that these seven artifacts are small compared to Waterman's Diegueño example (Cat. #1-13747) in the University of California (Berkeley) collections (Figure 4a).

Two of the artifacts in Figure 4 exhibit unusual design elements that might possibly belie eligibility for the *atulku* category. First, Reinman and Townsend (1960:12, Plate 10) briefly note and illustrate a "possible charmstone" of generally crescent shape (Figure 4c) from San Nicolas Island. It was associated with two burials at SNI-18. They write that the "true function is unknown," yet the burial association should have suggested possible life-force symbolism, the curvature should have evoked possible affinity with other crescent-shaped objects, and an appendage at one end should have recalled a glans penis. These observations hint at sex-based symbolism, suggesting even dimorphic sexual content. However, the intent of the imagery might have been only a priapic referent, the curved shape perhaps having nothing to do with the *atulku* genre.

Second, George Heye (1927:321–323) pictured a gray steatite artifact "rudely crescentic" in shape (Figure 4f) that accompanied a cache of 21 shamans' steatite sucking tubes found three miles

southwest of Julian in San Diego County. Heye interpreted it as a Diegueño *atulku*, but this view is highly questionable, owing most notably to the object's lack of gently curving inner and outer margins and its soapstone material. Further, unlike all other examples pictured herein, this artifact is incised with geometric designs.

MORTARS/BOWLS, COWRY HALF-BASES, AND THE *ATULKU*

Sexualization-Sacralization

In the regional Native iconography the least-subtle conveyances of sex-based symbology were phalli-forms. They ranged from relatively graphic to more conventionalized representations. The basic template for many such sacred artifacts was the mundane pestle, a tool most frequently involved in processing vegetal foods (e.g., Koerper 2001, 2006a, 2006b). A somewhat more muted conveyance of sex-based symbology was the sacred mortar/bowl whose forms derived from the shapes of those normally employed in vegetal-food preparation (e.g., Koerper 2001, 2006a, 2006b). Some artifacts carrying sexual content, whether or not intended for ritual/ceremonial employment, erased ambiguity of meaning by appending priapic enhancements to pestles and further feminizing mortars/bowls with applications of outer-lip cowry shell inlays onto the rims. The cowry as female symbol is well known (Koerper 2001).

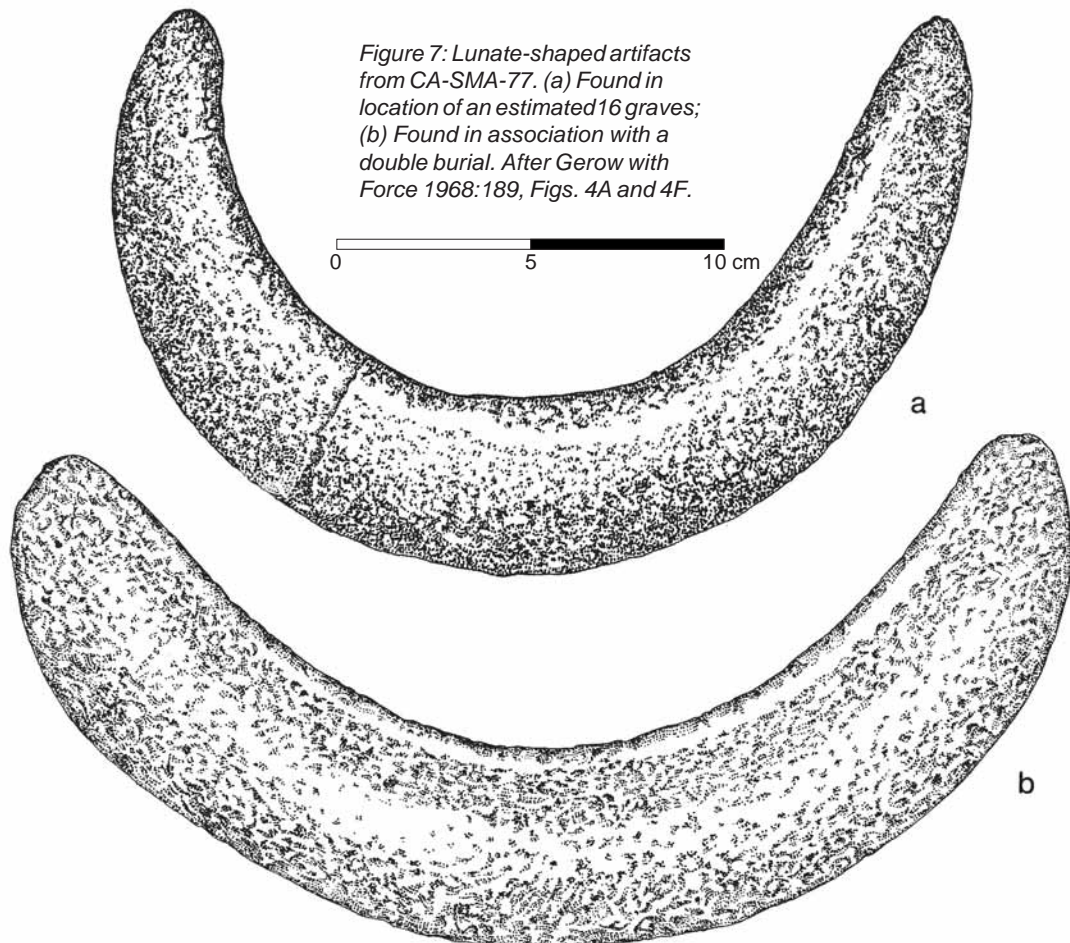


Figure 7: Lunate-shaped artifacts from CA-SMA-77. (a) Found in location of an estimated 16 graves; (b) Found in association with a double burial. After Gerow with Force 1968:189, Figs. 4A and 4F.

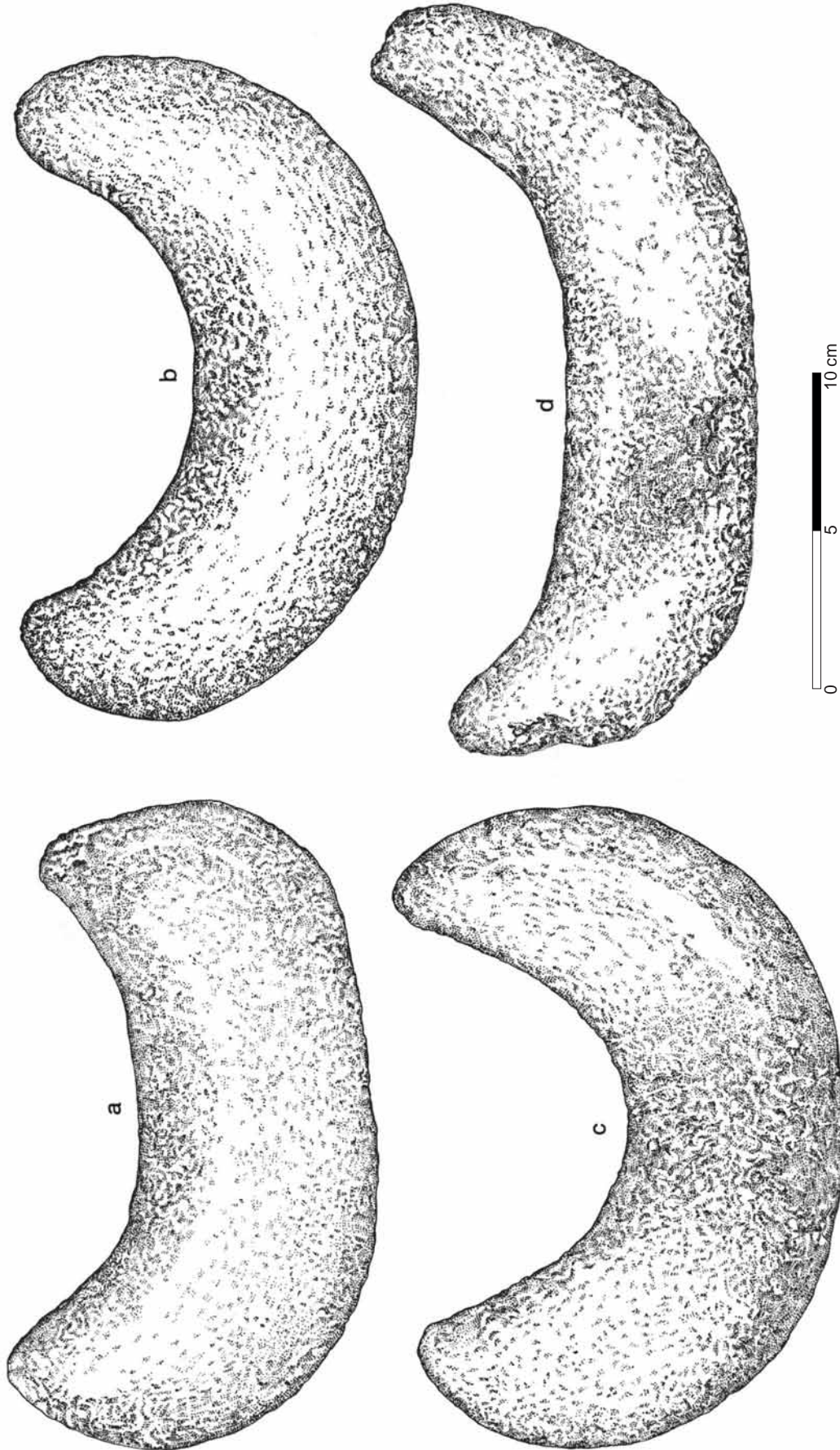


Figure 8: CA-SMA-77 "Cache X" pecked and ground sandstone crescents. After Gerow with Force 1968: Figs. 4B, 4C, 4D, 4E.

Beyond considerations of morphology, the dynamics inherent in the pestle/mortar complex convey a sexual double-entendre. I have offered (2001:31) that the metaphoric product of mortar and pestle in congress would have built on conditions where modes of production and environmental settings at least periodically precipitated some immediacy to issues of life forces, human fertility, and nature's bounty.

Investigation into the aetiologies regarding utilitarian pestle and common mortar/bowl offers a facile route for understanding "sexualization-sacralization" as a process of culture change. These mundane food procurement and processing tools could be given new identities embedded within contexts of sacred thought and behavior since, first, they were subject to said sexualization. This crucial step associated the tools with imagery involving nature's bounty/fertility/fecundity beyond the direct and obvious economic associations. Transformations into sacred realms would have played out against the anxiety-laden lives of preliterate peoples and their concerns about securing subsistence fare. Such fears closely integrate with and are compounded by related issues of mortality.

Ritual practices mitigate such anxiety. Belief systems rationalize and justify the repetitive, stereotypical behavior, the integrity and credibility of which are abetted by employments of talismanic effigies or similar kinds of props. Incorporation of these objects into supernatural venues is a mutual-causal mentalistic exercise that promotes *prima facie* validation and legitimization of the artifacts' sacred status (Koerper 2001, 2006b).

Regionally, besides sacred pestles and mortars, other effigies were fashioned on the models of different kinds of food procurement and processing tools (Koerper 2006a). Creating distinctions between such artifacts and their profane alter-egos might involve, for instance, application of certain design elements to the ritual/ceremonial items, careful attention to their symmetry, special investment in surface finish, and/or choice of unusual or expensive manufacturing materials.

Similarity through Direct Relationship

The closest morphological analogue that the *atulku* finds with another sex-based symbol in regional prehistory is the "half-base," so named by Harrington (cited in Hudson and Blackburn 1983:78, 109–110), which was fashioned from the outer lip of the chestnut cowry (*Cyprea spadicea*) and frequently set into the rims of mortars/bowls.⁴ As noted, these insets helped communicate the fecundity/fertility symbology of sacred bowls/mortars, since the natural form of cowry shells easily conveys a vulvar look. Presumably, some half-bases served as stand-alone amulets and/or pendants (see Koerper 2001; see also Koerper and Whitney-Desautels 1999). Gifford (1947:11, 69) referred to half-bases as "whole lips," and Chumash informant Fernando Librado provided a Native name, 'ayapHHHH (see Hudson and Blackburn 1983:109–110).

An analog is merely a similarity in relations of things to one another and need not imply direct historical connections. Case in point, the *atulku* seems to have developed neither physically nor symbolically as mimic to the half-base. This hypothesis finds support in the

observation that the two known *atulku* incorporated rims of mortars, the more logical source to help account for the artifacts' sex-based symbolism. Perhaps other crescent-shaped artifacts made or possibly made of rims from mortars/bowls (e.g., Gifford and Schenck 1926:89, Plate 27n, 28; Gerow with Force 1968:71) conveyed similar sex-based symbolism or were also used in puberty rites.

There is possibly an interesting parallel here, for the principle that might have allowed a part (rim sherd) to stand for the whole (mortar/bowl) to communicate sex-based symbolism is precisely that characterizing the half-base which provided another vehicle for the same symbolism communicated by the whole cowry shell. In much magical practice the part can effectively substitute for the whole (see Hall 1977:500).⁵ This similarity through direct relationship is the basis for Frazier's (1993:12) contact, or contagious magic, of which there are many examples documented for coastal southern California (e.g., Hudson and Blackburn 1986:137; Ramon and Elliot 2000:781; Sparkman 1908:215–216; Spier 1923:315; Strong 1929:253;). For a fuller exposition of the basic subject matter, the reader is referred to Koerper (2006a:116–117, endnotes 6, 7, and 8).

MORE FOOD FOR THOUGHT

Rust's ethnographic accounts of employments of the *atulku* among Yumans (1906) and Shoshoneans (1893) are short on detail. In his Agua Caliente/Warner's Ranch discussion (1893), he wrote that after the girls had undergone sweating in the roasting pit, the garlands they had worn "were carried to a ravine in a rocky hillside to be hung on the bushes or trees about and near a sacred stone on which were showered seeds from the wreaths." The *atulku*, dug up for the occasion, was subsequently reburied. From Rust's incomplete descriptions, one is left to wonder whether or not this sacred stone had earlier been used to "warm" the initiates when they lay in the roasting pit. One is also left to wonder whether the girls were even in attendance for the events that transpired in the ravine. The crescent artifact, as noted above, is the one he illustrated in his 1906 article as specimen #1 in Plate VII (Figures 2a, 3).

Reporting on the 1889 "roasting of girls" at Campo, Rust (1906) states that the focus of his article was on "a certain sacred curved stone which was then new to the author." Perhaps the artifact type was "new" because in 1892, after the Agua Caliente/Warner's Ranch rituals at the roasting pit, "all strangers were ordered away" (1893:222), an indication possibly that he had not actually viewed the curved stone. Had Rust been considered a stranger? Another possibility is that he did not come into possession of the object eventually acquired by Beloit College until after he witnessed the roasting at Campo in 1898.

Rust's 1898 witness (Rust 1906) also describes "strangers" being ordered away after the girls' steaming. Did he attend the events in which the initiates were led away to a hillside where they were shown the sacred stone? His description of the artifact, as discussed above, actually applies to the object from Luiseño or Cupeño territory (refer to Figures 2a, 3). This symbol of "the female organ of regeneration" was then reburied (1906:30). There is no mention that this symbolic artifact

played any role of “warming” the girls either while they were undergoing the roasting pit ordeal or at any other time. Reference to their being shown the stone at the hillside location suggests that the girls may have been seeing it for the first time. In 1903, Kroeber (1906:32) obtained data, secondhand, on girls’ puberty rites at Pauma and Rincon (Figure 1), but in reporting the “two flat stones” that were heated and laid on the initiates’ abdomens, he offers no certain information on whether these sacred objects might have been of similar shapes to those in the Rust (1906) article. Neither does he report stone objects dug up and later reburied at some point following activities at the roasting pit. Some amount of ambiguity in the overall picture may reflect variability of practice between different rancherías.

Rust (1906) briefly wondered whether other ground stone crescents might have conveyed the same symbology as that associated with Luiseño and Tipai girls’ puberty ceremonies. Kroeber (1906:31) was cautious, stating that there was no direct information on the uses or purposes of the southern San Joaquin or Oakland specimens pictured in Rust (1906:Plate VII, 3 and VII, 4) (Figures 2c and 2d).

Less cautiously, Harrington (1910:331), in a review of Waterman’s (1910) study of Diegueño religious practices, wrote that “these crescent stones have been reported found at several points from central California south and east, and their usage may thus be accounted for.” Strong (1929:299) wondered whether the crescent-shaped stones from other parts of California might also have been used in girls’ puberty rites. Gerow’s comments are thought-provoking:

If the University Village [SMA-77] ground stone crescents can be connected with those of southern California and reflect the existence of a girls’ puberty ceremony, they are extremely significant in that they would indicate that this practice is at least 3000 years old and would lend support to Kroeber’s well known hypothesis (1923, 1925), that such a girls’ ceremony formed the basis of later religious developments in California. [Gerow with Force 1968:73]

A fuller explication of crescent-shape symbology considers whether the *atulku* once embedded within a set of nested concepts. Questions of multivocality arise following descriptions of Luiseño female puberty initiation for which Harrington (in Oxendine 1980:42–43) reported that at designated points in the drawn-out series of rituals, the girls’ faces were painted with moon symbols. Crescent moons were painted during the fifth month, and at the last painting episode, a new moon was rendered on the cheeks. After this last painting, it was announced by the chief and by the *pumutchvi* (a ceremonial official) that the initiates would be given salt to eat, which, along with meat, they had not consumed in the past three months. The phrase used to make the announcement means literally, “I’m about to wipe the menstruant girls” (Oxendine 1980:48, note 20).

It was on the schedule of the recurring new moons that the several episodes of face painting took place. The moon calendrics, crescent- and full-moon painted symbols, and reference to menstruation together seem to link the periodicity of a woman’s cycle to that of the celestial body. Assuredly, the moon is a gender symbol and at least obliquely a

fertility symbol. Is it not possible that the *atulku* stood at the same time for both the moon and the female anatomy? Magico-religious symbols are characteristically polyvalent. Whether moon/menstruation, fertility, female reproductive anatomy, or a combination of any or all, there can be no question that the moon probably was a life symbol.

Another test of the moon as a life symbol is whether it also connected in a people’s collective consciousness with death, for as Burkert (1979:72) reminds us, reproduction/birth and death are interconnected as the most basic events of life. Witness the following description from Boscana’s study of the Juaneño:

At the time of the new moon, and on the first day of its appearance, it was customary among them to call together all the young men to celebrate the event, “*A correr la luna?*” would shout one of the old men. (“Come, my boys, the moon! the moon!). Immediately, racing commenced and without order they ran about as if they were distracted, whilst the old men danced in a circle, remarking, “As the moon dieth, and cometh to life again so we, also having to die, will again live” [Boscana 1978:62]

Symbolic linkage, then, was a real possibility, since design similarities between the graphic and plastic representations would hardly be expected to go unnoticed by Native peoples.

SUMMARY AND FINAL THOUGHTS

The area from the international border with Mexico north to Napa County, along the California coastal zone and extending into inland valleys, has yielded a small number of objects of crescent shape, most pecked or ground. When observations of use-wear are reported, there is indication that these unusual artifacts were crafted out of rims from mortars/bowls. I am unaware of any record of use-wear indicating a utilitarian purpose for these artifacts in their final shapes. This study has considered what is reasonably assumed to be the greater number of those specimens that have been published.

The ethnographic record from Tipai-Ipai land and adjacent Shoshonean territory identifies ground stone crescents as *atulku*, specifically, artifacts with sex-based and/or fertility/fecundity symbolism associated with girls’ maturity initiations. The question of whether identical symbology and functional purpose attached to similarly configured crescents found elsewhere is likely to remain an insoluble problem. When the artifact is mortuary-associated, as at SMA-77, there is at least a reasonable presumption of some life-force communication, but such is insufficient to justify the *atulku* label.

The focal hypothesis of this study involves another question: does the aetiology of the *atulku* known from San Diego County fit the “sexualization-sacralization” model? Since *atulku* carry sex-based symbolism, are connected in practice to a venue laden with the fertility/fecundity theme, and are crafted out of mortar/bowl rims, the answer probably is yes. By other demonstrations, mundane mortars/bowls are easily sexualized, and other kinds of mortars/bowls achieved

sacralization. In this, sympathies drawing on similarity through resemblance account for the phenomenon of mundane mortar/bowl transformed to sacred mortar/bowl. An additional sympathetic pathway probably leads to the *atulku*, one traveled on similarity through direct relationship. If anything approaches certainty, it is that the crescents illustrated herein fall to non-utilitarian employments. Most, if not all, would seem to have connected directly or indirectly with some shade of life-force symbolism (e.g., fertility/fecundity, onset of puberty, vulvar referent, moon/female referent, life-death dualism, etc.).

Final Thoughts: Archaeologies of the Mind

Processualism and the cultural-materialist paradigm persist in cutting-edge California archaeology. The Binfordian agenda and the genius of Marvin Harris continue to influence significantly regional studies of past life-way reconstruction and culture growth. Primacy in research design then falls to technology, the environment, arrangements of labor in production and distribution, and other economic domains, as it should. Though never the intentions of Binford or Harris, these emphases have at times fostered some archaeologists' ambivalence toward the more mentalistic components of culture, implying epiphenomenal status for domains such as religion, cosmology, magic, iconography, and aesthetic expression. Even if such domains remain dependent variables in synchronic or diachronic explanations of human behavior, they nonetheless might offer a wonderful richness of human experience retrievable from archaeological data.

One goal of the present study has been to demonstrate by example that past mental constructs of prehistoric southern coastal California can be productively explored. Inspiration to do so derives in part from the writings of those who have sought some middle ground between processualism and at least moderate post-processualism. Kent Flannery (1972:400), for instance, pushed for an "ecosystem approach" to embrace all of the cultural mechanisms of information processing. This article's subtext, and those of other studies (e.g., Koerper 2001, 2006a, 2006b; Koerper et al. 2006), plead the case, to at least coastal southern California prehistorians, that attention to pattern recognition makes an archaeology of the mind both doable and worth doing.

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Notes

¹ This study adopts the Diegueño term, *atulku* (see Waterman 1910:286; Kroeber 1925:716).

² Rust's write-up was presented August 30, 1906 at the American Anthropological Association Meetings held in San Francisco, just short of four-and-a-half months after the Great Earthquake and Fire. The meeting site was the museum of the University of California, which was housed in one of the buildings of the Affiliated Colleges. The building was isolated from the fire, and it had been built to high standards of seismic protection (Anon. 1906:431).

³ The broadcasting of seeds in communications of fertility/fecundity also occurred at Gabrielino weddings. Hugo Reid recorded that baskets of seeds were emptied on the newlyweds' heads "to denote blessing and plenty" (Heizer 1968:26). Seeds might also function as talismans (e.g., Yates 1889:300; see also Hudson and Blackburn 1986:168–170) and as offerings (Abbott 1879a:78–80, 1879b:116; Boscana 1978:58; Benson 1997:167; Ford 1887:13; Harrington 1928:177–178, 1934:39–40; Heizer 1968:31; Hudson et al. 1977:58–59; Kroeber 1908b:13; Orr 1968:200; Putnam 1879:247; Rothrock 1878:48–49; Yarrow 1879:36–39; Yates 1889:305; see also Merriam 1955:84).

⁴ Locally, there are certain small lunate to U-shaped stone crescents that are morphologically similar to *atulku*, but their symbolic referents are an enigma. Three such artifacts are illustrated in Koerper et al. (1996:113, Figure 3). The two U-shaped specimens from CA-ORA-111 and CA-ORA-232 bear resemblances to similar chipped stone objects attributed to Sacaton Phase Hohokam culture (e.g., see Gladwin et al. 1937:Plate 92), and, speculatively, there could be direct or indirect historical links between the local finds and the Sacaton artifacts (see Koerper and Hedges 1996:214; Koerper 1996:91). On the other hand, since some chipped stone crescents are representational (see e.g., Koerper and Farmer 1987; Koerper and Langenwalter 1988), one might speculate that small chipped stone lunate to U-shaped crescents found in coastal southern California had been locally manufactured to stand for *atulku*.

⁵ There is another kind of artifact, presently known from only a single specimen from Orange County, whose aetiology is here proposed to closely parallel that offered for the *atulku*. Reported in Koerper et al. (2006:122, 125), this lozenge-shaped object accompanied Cache 1 from CA-ORA-950, which

contained four Land-and-Groove vesicular coggled stones and a scoria discoidal. It was fashioned of a long sherd from a glaucophane schist metate. The object's cross-section is not quite lenticular in all places, owing to the fact that one side retains the worked inner surface of the metate, and thus there is a slight concavity in evidence.

That the object is sacred is undeniable first from its archaeological context but also from other circumstances (Koerper et al. 2006:125). Coggled-stone caches would seem to carry dualistic symbology, a possible indication of association with fertility/fecundity or a related theme (Koerper et al. 2006).

No great imagination is required to understand how the metate and mano combination might be subject to sexualization-sacralization. That metates might have been sex-based symbols (female), owing to shape and kinetics, is strongly suggested. Add to that the fact that they are known to accompany human interments. This would seem to indicate that they were life-force symbols. It is instructive that in Chumash territory no correlation was observed between metates as grave furniture and the sex of the deceased (Hollimon 1996:205).

This lozenge-shaped cache object from CA-ORA-950 is a fit to the template of a not-yet-named or fully explicated genre, one only recently proposed (Koerper et al. 2006:125). The genre is described as follows:

...a varied grouping of artifacts whose overall outline is generally lozenge-shaped to ovate. Of those sculpted of stone, many display a lenticular cross-section as opposed to a round cross-section. Thus the faces are normally convex, yet there are some that might be characterized as tablets with relatively flat lower and upper faces. The edges of the lenticular cross-section are curvilinear, not sharply angled. When there is a longitudinally running design factor (usually on just one face), it is sometimes a thin line of asphaltum, but sometimes a broader swath of the adhesive has been laid down to glue small shell beads to the artifact. The longitudinal element might also be closely spaced parallel incised lines. At the interpretive level, the commonality is an artistic attempt to convey pudendum imagery. [Koerper et al. 2006:125]

REFERENCES CITED

Abbott, C. C.

- 1879a Mortars and Pestles. In *Report Upon United States Geographical Surveys West of the One Hundredth Meridian VII: Archaeology*, pp. 70–92. Government Printing Office, Washington, D.C.

- 1879b Steatite Cooking Pots, Plates, and Food Vessels. In *Report Upon United States Geographical Surveys West of the One Hundredth Meridian VII: Archaeology*, pp. 93–121. Government Printing Office, Washington, D.C.

Anonymous

- 1906 Anthropologic Miscellanea: The San Francisco Disaster. *American Anthropologist* 8(2):431–432.

Bean, Lowell J., and Charles R. Smith

- 1978 Cupeño. In *Handbook of North American Indians, Vol. 8, California*, R. F. Heizer, editor, pp. 588–591. Smithsonian Institution, Washington, D.C.

Benson, Arlene

- 1997 *The Noontide Sun: The Field Journals of the Reverend Stephen Bowers, Pioneer California Archaeologist*. Ballena Press Anthropological Papers No.44 Ballena Press, Menlo Park, California.

Boscana, Gerónimo

- 1978 *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Gerónimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of this Mission San Juan Capistrano Called the Acagchemem Tribe*. Malki Museum Press, Banning, California. [Reprinted from edition published by Fine Arts Press, Santa Ana, in 1933]

Burkert, W.

- 1979 *Structure and History in Greek Mythology*. University of California Publications, Berkeley.

Driver, Harold E.

- 1941 Culture Element Distributions, XVI: Girls Puberty Rites in Western North America. *University of California Anthropological Records* 6(2):21–90. Berkeley and Los Angeles.

DuBois, Constance Goddard

- 1905 Religious Ceremonies and Myths of the Mission Indians. *American Anthropologist* 7(4):613–629.

- 1908a The Religion of the Luiseño Indians of Southern California. *University of California Publications in American Archaeology and Ethnology* 8(3):69–186. Berkeley.

- 1908b Ceremonies and Traditions of the Diegueño Indians. *Journal of American Folklore* 21(81-82):228–236.

Flannery, Kent

- 1972 The Cultural Evolution of Civilizations. *Annual Review of Ecology and Systematics* 3:399–425. Annual Reviews, Inc., Palo Alto.

- Ford, H.C.
1887 Notes on Excavations Made in Indian Burial Places in Carpenteria. *Report of Proceedings of the Santa Barbara Society of Natural History*. Bulletin 1:11–18.
- Frazer, James G.
1993 *The Golden Bough*. Wordsworth Editions, Ltd., Hartfordshire, England.
- Gerow, Bert A. (with Roland W. Force)
1968 *An Analysis of the University Village Complex: With A Reappraisal of Central California Archaeology*. Stanford University, Palo Alto, California.
- Gifford, E. W.
1947 California Shell Artifacts. *University of California Anthropological Records* 9(1):1–114. Berkeley.
- Gifford, E. W., and Egbert Schenck
1926 Archaeology of the Southern San Joaquin Valley, California. *University of California Publications in American Archaeology and Ethnology* 23(1):1–222. Berkeley.
- Hall, Robert L.
1977 An Anthropocentric Perspective for Eastern United States Prehistory. *American Antiquity* 42(4): 499–518.
- Harrington, John P.
1910 Review of: The Religious Practices of the Diegueño Indians, by T. T. Waterman. *American Anthropologist* 12(2):329–335.
1928 The Mission Indians of California. Explorations and Field Work of the Smithsonian Institution in 1927: 173–178.
1934 A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southern California. *Smithsonian Miscellaneous Collections* 92(4):1–62. Washington, D.C.
1942 Culture Element Distributions, XIX: Central California Coast. *University of California Anthropological Records* 7(1):1–46. Berkeley.
1978 Annotations. In *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Gerónimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of this Mission of San Juan Capistrano Called the Acagchemem Tribe*. Malki Museum Press, Banning, California.
- Heizer, Robert F.
1953 The Archaeology of the Napa Region. *University of California Anthropological Records* 12(6). Berkeley and Los Angeles.
- 1968 *The Indians of Los Angeles County: Hugo Reid's Letters of 1852*. Southwest Museum Paper 21. Highland Park, Los Angeles.
- Heye, George
1927 Shaman's Cache from Southern California. *Indian Notes* 4(4):315–323.
- Hill, Jane H., and Rosinda Nolasquez (editors)
1973 *Mulu'wetam: The First People, Cupeño Culture, Mythology, and Cupeño Language Dictionary*. Malki Museum Press, Banning, California. [Reprinted 2005]
- Hodge, Frederick W. (editor)
1907–1910 *Handbook of Indians North of Mexico*. 2 vols. Bureau of American Ethnology Bulletin 30. Washington, D.C.
- Hollimon, Sandra E.
1996 Sex, Gender and Health Among the Chumash: An Archaeological Examination of Prehistoric Gender Roles. In *Proceedings of the Society for California Archaeology* Vol. 9. J. Reed, editor, pp. 205–208. San Diego.
- Holmes, William H.
1899 Preliminary Revision of the Evidence Relating to Auriferous Gravel Man in California. *American Anthropologist* 1(1):107–121, 614–645.
- Hudson, Travis, and Thomas C. Blackburn
1983 *The Material Culture of the Chumash Interaction Sphere, Vol. 2: Food Preparation and Shelter*. A Ballena Press/Santa Barbara Museum of Natural History Cooperative Publication. Ballena Press Anthropological Papers No. 27. Menlo Park, California.
1986 *The Material Culture of the Chumash Interaction Sphere, Vol. 4: Ceremonial Paraphernalia, Games and Amusements*. A Ballena Press/Santa Barbara Museum of Natural History Cooperative Publication. Ballena Press Anthropological Papers No. 30. Menlo Park, California.
- Hudson, Travis, Thomas Blackburn, Rosario Curletti, and Janice Timbrook
1977 *The Eye of the Flute: Chumash Traditional History and Ritual as Told by Fernando Librado Kitsepawit to John P. Harrington*. Santa Barbara Museum of Natural History, Santa Barbara.
- Hyde, Villiana Calac, and Eric Elliot
1994 *Yumáyk Yumáyk: Long Ago*. University of California Publications in Linguistics, Vol. 125. University of California Publications in Linguistics, Vol. 125. University of California Press, Berkeley.

- Koerper, Henry C.
 1996 A *Glycymeris* Shell Bracelet from Orange County, California. *Pacific Coast Archaeological Society Quarterly* 32(2 and 3):82–109.
 2001 Cowry Shells: Fertility/Fecundity Symbols in Southern California Iconography. *Journal of California and Great Basin Anthropology* 23(1):27–37.
 2006a The Aetiology of the Donut Stone and Its Symbology: A Case Study of “Sexualization-Sacralization.” In *Contributions from Orange County Presented in Remembrance of John Peabody Harrington*, H. C. Koerper, editor, pp. 87–125. Coyote Press Archives of California Prehistory 53. Salinas, California.
 2006b An Unusual Ritual Cache from CA-ORA-263, Seal Beach, California. In *Proceedings of the Society for California Archaeology*, Vol. 19. S. A. Waechter and D. Laylander, editors, pp. 138–144. Chico, California.
- Koerper, Henry C., and Malcolm F. Farmer
 1987 A Bear-Shaped Crescentic from Northern San Diego County, California. *Journal of California and Great Basin Anthropology* 9(2):282–288.
- Koerper, Henry C., and Ken Hedges
 1996 Patayan Anthropomorphic Figurines from an Orange County Site. *Journal of California and Great Basin Anthropology* 18(2):204–220.
- Koerper, Henry C., and Paul E. Langenwaller II
 1988 A Speculation on the Existence of Talon-Shaped Exotics in Southern California. *Pacific Coast Archaeological Society Quarterly* 24(4):71–75.
- Koerper, Henry C., Margaret E. Newman, and Paul E. Langenwaller II
 1996 A “Stemmed Butterfly” Eccentric Crescent and a Lunate Crescent from the Christ College Site, Orange County. *Pacific Coast Archaeological Society Quarterly* 32(2 and 3):110–124.
- Koerper, Henry C., Karl Reitz, Sherri Gust, and Steven Iverson
 2006 A Pattern Recognition Study of Cogged Stone Ritual Behavior. In *Proceedings of the Society for California Archaeology*, Vol. 19. S. A. Waechter and D. Laylander, editors, pp. 120–127. Chico, California.
- Koerper, Henry C., and Nancy Whitney-Desautels
 1999 A Cowry Shell Artifact from Bolsa Chica: An Example of Prehistoric Exchange. *Pacific Coast Archaeological Society Quarterly* 35(2 and 3):81–95.
- Kroeber, Alfred L.
 1906 Notes by A. L. Kroeber. *American Anthropologist* 8(1):31–32.
 1908a Notes on the Luiseño. In, *The Religion of the Luiseño Indians of Southern California* by Constance Goddard DuBois, Appendix 2, pp. 174–186. *University of California Publications in American Archaeology and Ethnology* 8(3):69–186. Berkeley.
 1908b A Mission Record of the California Indians. *University of California Publications in American Archaeology and Ethnology* 8(1):1–27. Berkeley.
 1922 Elements of Culture in Native California. *University of California Publications in American Archaeology and Ethnology* 13(8):259–328. Berkeley.
 1923 The History of Native Culture in California. *University of California Publications in American Archaeology and Ethnology* 20(8):125–142. Berkeley.
 1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington, D.C.
- Latta, Frank
 1999 *Handbook of Yokuts Indians*. Brewers Historical Press, Exeter, California and Coyote Press, Salinas, California.
- McGowan, Charlotte
 1982 Ceremonial Fertility Sites in Southern California. *San Diego Museum Papers* No. 14. San Diego.
- Merriam, C. Hart
 1955 *Studies of California Indians*. University of California Press, Berkeley.
- Orr, Phil C.
 1968 *Prehistory of Santa Rosa Island, California*. Santa Barbara Museum of Natural History, Santa Barbara.
- Oxendine, Joan
 1980 The Luiseño Girls’ Ceremony. *Journal of California and Great Basin Anthropology* 2(1):37–50.
- Putnam, Frederick W.
 1879 Textile Fabrics, Basket-Work, Etc. In *Report Upon United States Geographical Surveys West of the One Hundredth Meridian VII: Archaeology*, pp. 239–250. Government Printing Office, Washington, D.C.
- Ramon, Dorothy, and Eric Elliot
 2000 *Wayta´ Yawa´: Always Believe*. Malki Museum Press, Banning, California.

Reinman, Fred M., and Sam-Joe Townsend

- 1960 Six Burial Sites on San Nicolas Island. *Annual Report of the University of California Archaeological Survey, 1959–1960*. Los Angeles.

Rothrock, J. T.

- 1878 Notes on Economic Botany. In *Report Upon United States Geographical Surveys West of the One Hundredth Meridian, VI, Botany*, pp. 39–52. Government Printing Office, Washington D. C.

Rust, Horatio N.

- 1893 Mission Indian Maturity Ceremonial. *American Anthropologist* o.s. 6(2):221–222.
- 1906 A Puberty Ceremony of the Mission Indians. *American Anthropologist* 8(1): 28–31.

Sparkman, Philip Stedman

- 1908 The Culture of the Luiseño Indians. *University of California Publications in American Archaeology and Ethnology* 8(4):187–234. Berkeley.

Spier, Leslie

- 1923 Southern Diegueño Customs. *University of California Publications in American Archaeology and Ethnology* 20(16):295–358. Berkeley.

Strong, William Duncan

- 1929 Aboriginal Society in Southern California. *University of California Publications in American Archaeology and Ethnology* 26(1):1–348. Berkeley.

Waterman, Thomas T.

- 1910 The Religious Practices of the Diegueño Indians. *University of California Publications in American Archaeology and Ethnology* 8(6):271–358. Berkeley.

Yarrow, H. C.

- 1879 Exploration of Indian Graves: Report on the Operations of a Special Party for Making Ethnological Researches in the Vicinity of Santa Barbara, California, with a Short Historical Account of the Region Explored. In *Report Upon United States Geographical Surveys West of the 100th Meridian VII: Archaeology*, pp. 32–47. Government Printing Office, Washington, D.C.

Yates, Lorenzo G.

- 1889 Charmstones: Notes on the So-called “Plummets or “Sinkers. In *Annual Report for the Smithsonian Institution for 1886*, pp. 296–305. Smithsonian Institution, Washington, D.C.