BUSSING TABLES AND STACKING PLATES: A BRIEF REVIEW
OF CENTRAL CALIFORNIA CHARMSTONES AS CULTURAL TRACERS

Peter T. Rhode
3008 Filbert St.
Antioch, California 94509

ABSTRACT

Rather than attempting to equate charmstones with shell beads as a reliable factor in determining temporal sequences, it seems useful to suggest that charmstones are uniquely representational of special relationships between cultures of two or more localities, no matter how distantly separated they may be from each other. Shell beads and ornaments can distinguish reliably certain social usages or vogues at a given phase in time within a "complex whole" (Bennyhoff 1986:68). Geographic distributional patterns of a whole range of shell bead and charmstone types resemble each other, and the latter especially point to some sort of spiritual unity within a wide area in central California.

Introduction

My prolonged interest in charmstones of central California has focused on three areas of inquiry. The first centers on the presumed function of these objects; second, on economic factors including raw material relationships and manufacturing processes; and finally, of primary concern in this paper, site to site formal variation of charmstones. It is suggested here that distinct stylistic expressions of principal charmstone types, specifically body and end modification(s) and raw material selection shared by two or more sites can reflect direct cultural relations. One of the unique aspects of charmstones is their discrete pattern of distribution. From this standpoint we are able to follow a special tradition and its application. With further typological analysis, stylistic conformity (or non-conformity) and raw material relationships may prove to be reliable prospects in tracking continuity and cultural diffusion within respective time periods across a participatory realm.

Some Problems Spawned Out of Context and Form

Several ambiguities derived from functional and contextual aspects of charmstones have hampered their reliability as time-makers. In brief reference to function, considerations of physical appearance of the objects vs. ethnographic observation have drawn supporters towards either side, although more recently consolidation of profane vs. sacred connotations has come about (Gerow with Force 1968:77; Bickel 1981:247). Archaeologically, charmstones have not thus far met the early expectations that researchers held (Kroeber 1936:114). They are often found within site levels without diagnostic associations and randomly included as grave items in Berkeley and Augustine Pattern interments in central California. As time-markers, only charmstones from the Windmiller Pattern have adequately fulfilled a substantial role in determining cultural sequences at least in early periods. Sonja Ragir’s phasing of the Windmiller Culture (with valuable aid from J. A. Bennyhoff) depended heavily on charmstone seriation, although it was overshadowed (but affirmed) by her emphasis on statistical analysis of projectile points (Ragir 1972:105).

One other misleading aspect centers around “heirlooming.” Heirlooming, as defined here, is a principal type that by either inheritance, exchange, or scavenging, may defy accurate temporal assignments. For example, perforated spindle charmstones common to the Windmiller Pattern found in sites of a later time period (e.g., Heizer 1949:19 - a Ragir Type A charmstone recovered at the Hotchkiss mound, CCo-138), or conversely, plummet-shaped “objects” being found in Early Period components and sometime beyond what is regarded as the “core area” (e.g., Harrington 1948:95; Wallace 1954:114). Such ambiguities as enumerated above may indicate a change over time concerning usage. In other words, following the termination of the Windmiller Pattern, borrowing from Phebus (1973:29), “it would seem their function, whatever, was more relative to the living than the dead.”

Early Specialization of Charmstone Types

Notwithstanding these limitations, locality specialization of charmstone types appears to have blossomed out from Windmiller Pattern cultural practices. Marble or alabaster charmstones, primarily Ragir’s Type C, were particularly popular at Windmiller sites mostly situated along the Mokelumne River (e.g., SJo-56 and SJo-68). Meanwhile, Type A charmstones of blue glaucophane schist were prominent at Cosumnes River localities (e.g., Sac-107 and Sac-168; c.f. Ragir 1972:100). Heizer (1974:186) offers two possible explanations for this inequity: (1) “That the inhabitants of each village were not in communication with the others.” (2) “Each village had developed its own and distinctive charmstone form.” Elsasser and Rhode (n.d.) have suggested that “characteristics such as ‘piled’ or ‘phallic’ end modification was part of a common frame of reference (i.e. principal type) that was shared by some or many groups in places sometimes distantly removed from each other.” In consideration of Heizer’s latter suggestion, however, it seems reasonable to propose that
local specialization of charmstones was, in fact, intentional de-

viation from the so-called “common frame of reference,” and al-

though its cultural significance today remains uncertain such
differentiation within Central California was perhaps seen ei-

er rather as a medium for social distinction or cultural convey-

ance of some sort of sumptuary law.

As to the proposition that separated Windmiller localities
were not in contact with each other, it seems highly probable
that they would have crossed paths assuming that Mokelumne
inhabitants ventured eastward to the Sierra foothills obtaining
marble while those living along the Cosumnes River were ex-

ploiting the North Coast Ranges for schist. After all, both the
quarries and Windmiller sites are almost directly aligned at ap-

proximately the same latitude. It is indeed curious that marble
and alabaster, with the potentiality for becoming such beautiful
charmstones, fell out of vogue at the termination of the
Windmiller Pattern, while schistose material continued to be
utilized. The “fall-off” of marble and alabaster usage somewhat
coincides along with the gradual “collapse” of obsidian proc-
cure from Sierran quarries (Ericson 1982:144) and points to
a loosening of commercial engagements between Wind-
miller localities and their Sierran contacts, in turn to more
formalized valley and coastal orientated exchange alliances.

Close Encounters of the First Kind?

It has been an intriguing question why Windmiller charm-
stones were so well-established and so unusually beautifully
crafted, considering that they fall in the beginning rather than
the end of the traditional central California archaeological se-
quen ce. Was the charmstone trait an innovation conceived by
Windmiller inhabitants? The presence of Windmiller-style
charmstones turning up as surface finds at sites in the
Petaluma and Sonoma River Valleys in southern Sonoma
County presents several interesting questions: Is this an in-
dication of direct social and commercial relations between both
districts? Perhaps this represents a segment of Windmiller
population diffusion into the Sonoma River Valley region? Or
is this merely an example of charmstone heirlooming? Since
schistose or other talc-y raw materials for Windmiller charm-
stones were obtained from outside of the stoneless flood plains
of the Mokelumne and Cosumnes Rivers, it seems that quar-
rries in the North Coast Ranges were among those particularly
utilized. Applying modern sourcing techniques similar to that
used for obsidian hydration to schistose charmstones from each
region and to PCN-laden schist “knockers” and other potential
quarry boulders in southern Sonoma and Marin Counties may
someday confirm these speculative associations.

Charmstones found in southern Sonoma County are not
strictly isolated to a single sub-type familiar to the Windmiller
assemblages. Samples analogous to types A, B, and E in the
Ragir typology (1972:288-89) have also been collected. Type
A specimens have a unique “swelling” around the center body,
and to my knowledge have not heretofore been reported being
found outside of the Delta district. It should be noted, how-
ever, that A types from Sonoma sites do not exhibit the dis-
tinctive “narrow, flat cross-section” common to those from
Windmiller sites.

In addition, Excelsior and large concave base obsidian pro-
jectile points are also present with the perforated charmstones
and represent another trait shared with Windmiller. In fact,
early all of the projectile points from the Blossom site illus-
trated in Ragir’s plate 3 (1972:297) are close analogs to those
commonly found in fairly large numbers in the Petaluma and
Sonoma River Valley region. However, hydration measure-
ments of several concave base points found on the surface at
Son-1903 averaged 3.5 microns (Origer 1991), thus indicating
an apparently later position in time than the Windmiller period
(ca. 3000 to 800 B.C.). This small, almost random, sample
may not be significant however. From the same general vicin-
ity, Phebus (1990:139) reported hydration measurements of
points ranging from 1.8 to 5.7, but noted that discoloration
and weathering of specimens made “obsidian hydration dating
of this site largely unsuccessful” (Phebus 1990:169).

Stylistic Variation of Early Berkeley
Pattern Charmstones

Charmstones found in the lowest levels at West Berkeley
(Ala-307), Patterson (Ala-328), and at University Village
(SMa-77) along San Francisco Bay are not altogether “close”
counterparts of those from Windmiller sites. True, “Early Pe-
riod” Bay types are mostly perforated, symmetrical, and con-
structed of like material (mostly schist), but the similarities
end here. They do not reflect the “ceremonial aspect of life”
(Heizer 1949:31) as suggested by the highly polished and or-

namental Windmiller spindle charmstones, but instead, are bet-
ter represented by two separate and distinct types.

The first example bears an effigy-like resemblance to fish,
with some specimens exhibiting flared ends similar to a fish’s
caudal fin. It can also be observed in most specimens that the
perforation and over-the-end groove resemble an animal-like
head. In order to avoid possible confusion between true spindle
forms and the just-described Bay variant, it is suggested that
these should be typologically segregated. Thus, the term
“fishform” is proposed when such a refinement is warranted.

The second type, often appearing concurrently with fish-
forms in Early Bay components, is the perforated oval charm-
stone. Oval-forms found in the Bay Area seem ideal for uses
such as sinkers or line weights. Gerow with Force (1968:80)
suggest that perforated charmstones found in Early components
around San Francisco Bay were modified successors to the so-
called “edge-notched stones.” Both types were found at Ellis
Landing (CCo-295), Stege (CCo-300), and at West Berkeley
(Ala-307). Similar oval analogs also occurred quite profusely
around the Buena Vista Lake region in the southern San
Joaquin Valley. Oval forms found in the Bay Area and lower
San Joaquin Valley more often bear what has been called a util-
itarian appearance, complete with chips and scars. Oval
charmstones from the Windmiller Pattern are typically well-
made, highly polished, and made of marble, alabaster, and
schist—once again, adhering to an apparently consistent aes-
thetic sense. (Compare [Bay Area] Davis and Treganza
Bay Area's equivalent to the Windmiller spindle-types and first appears early on during the Stege Aspect of the Berkeley Pattern. The fish-like emphasis on Bay charmstones compared to the elegant spindle forms from the Windmiller District perhaps reflects an interesting psychological dichotomy between the two cultures; Early Bay inhabitants as an economical-minded, industrious group in contrast to a more cosmopolitan-like Windmiller community.

**Phallic Charmstones and Their Significance**

One of the most interesting types considered here is the phallic charmstone. Ragir (1972:176, 263) notes that phallic types first appear in phase 5 components in Windmiller sites. From the San Francisco Bay region, Davis and Treganza (1959:17) report that phallic charmstones were found in the basal component level (116 inches) at the Patterson Mound (Ala-328), two of which were associated with burials. Wallace and Lathrap (1975:25) reveal that perforated charmstones (viz. phallic charmstones) were recovered from the "7 to 16 foot levels" at West Berkeley (Ala-307), although they do not list exact proveniences for individual types. Although we cannot pin down conclusively from which district phallic charmstones appeared first, the introduction of this type was evidently one of the earliest cultural links between Bay, North Bay, and Windmiller inhabitants (Sac-107 and Sac-168 at least).

Windmiller and Berkeley Pattern phallic forms reflect a blend of characteristic traits introduced from both localities, including bi-polar symmetry, proximal up-and-over-end groove, distal end modification, and variation in size.

Incidentally, out of the several charmstones recovered from the Borax Lake (Lak-36) site, one schistose specimen in particular stands out (Harrington 1948:pl. XXV 1). Perhaps incipient, it certainly bears enough of the distinguishing attributes to qualify as being phallic. The specimen is listed as the deepest of all those recovered, from a depth of sixty-five inches.

**A General Shift Towards Asymmetric Charmstone Types**

During the Middle Period, non-perforated, asymmetric forms eventually replace Windmiller/Early Berkeley Pattern perforated symmetric types, exemplifying further coalescence with Berkeley Pattern traits. In fact, a general shift towards asymmetry can be recognized in projectile points and shell ornaments as well. An increased presence of asphaltum on the stem and neck ends of charmstones at sites along San Francisco Bay may have had some profound influence on size and shape. Bay types are generally more ponderous and present a broader range in size than Sacramento Valley types. Very close similarities are seen in charmstones from Bodega Bay (Son-299) and at sites in the Sonoma and Petaluma Valleys.

Large amounts of raw material debitage, including slabs, spalls, preforms, shaping and polishing tools, incipient charmstones, as well as unusually large quantities of finished specimens found in Sonoma County at Son-371 (Elsasser and Rhode n.d.), in Solano County at Phebus's Nakamura site (Phebus 1990:56), in Alameda County at Ala-329 (Coberly 1973:56ff; Wilson 1994:103ff.), and at several sites in the San Joaquin Valley (Roehr 1992) possibly indicates that about during phase 1 of the Augustine Pattern, production and distribution of charmstones was regulated within respective districts.

**The Piled Plummet Phenomenom**

About at the time of transition from Berkeley into Augustine Pattern, a remarkable efflorescence in both stone and shell production is discernible in the artifact assemblages. It was about here when a distinctive tradition seems to have come into vogue that placed unique secondary nippling on the distal end of plummet charmstones. Exactly where the piled-plummet complex first came about is unclear; nevertheless, the closeness in physical appearance of specimens within its core area indicate a popular convention that was industriously followed. A path of location of sites, beginning arbitrarily from San Francisco Bay particularly at Crocker Mound (SFr-7), crosses the Bay to the Ryan (Ala-329) and Emeryville (Ala-309) localities, leads east to Glen Cove (Sol-236) on the Carquinez Straits, skirts Suisun Bay and its associated sloughs (Lindsey Slough site, Sol-2 is noteworthy), into the Delta at Hotchkiss (CCo-138), and ultimately south into the San Joaquin Valley, especially in the Tulare Lake region (e. g., compare Gifford and Schenck 1926:pl. 20; Lillard et al 1939:pl. 31 d-f; Wilson 1994:pp. 138-41).

It should be noted that one other principal type, the biconical asymmetric spindle, with its maximum diameter characteristicly off-center, often appears in conjunction where piled plummet charmstones are found at sites in the Bay Area. Remarkably similar incised grooving style on similar charmstone types seemingly point to close cultural relations between Hotchkiss, Lindsey Slough, and Glen Cove localities.

Piled-plummet charmstones appear about at the same time along with angularly serrated arrow points, steatite and baked clay objects, bilateral bone harpoon heads, and geometric Haliotis shell ornaments. Taken as a whole, the assemblage reflects broadening sociocultural development which seemingly flowered on the heels of a receding Megalos Aspect. Based on the charmstone data alone, we can envision a shoreline conduit where raw and finished material goods were passed along, ebbing and flowing, ultimately throughout central California. Close affiliations of artifact types are seen between Bay and Valley peoples, with inlanders relying heavily on the coastlanders for shell and stone imports—materials needed in subsistence activities, and certainly in the social and spiritual lives of the people as well.
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Table 1. Distribution of charmstones in significant sites or areas in Central California.

<table>
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<tr>
<th>Type</th>
<th>Ala-307&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Ala-309&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Ala-328&lt;sup&gt;3&lt;/sup&gt;</th>
<th>SJo-68&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Sac-107&lt;sup&gt;5&lt;/sup&gt;</th>
<th>San Joaquin Valley&lt;sup&gt;6&lt;/sup&gt;</th>
<th>Son-371&lt;sup&gt;7&lt;/sup&gt;</th>
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<tr>
<td>Oval</td>
<td>28 (.66)</td>
<td>4 (.11)</td>
<td>1 (.01)</td>
<td>-</td>
<td>-</td>
<td>37 (.19)</td>
<td>6 (.02)</td>
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<td>Phallic</td>
<td>4 (.10)</td>
<td>-</td>
<td>14 (.23)</td>
<td>-</td>
<td>4 (.09)</td>
<td>-</td>
<td>13 (.05)</td>
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<td>Piled Plummet</td>
<td>-</td>
<td>13 (.36)</td>
<td>8 (.14)</td>
<td>-</td>
<td>-</td>
<td>88 (.46)</td>
<td>-</td>
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<tr>
<td>Plummet</td>
<td>3 (.07)</td>
<td>11 (.31)</td>
<td>8 (.14)</td>
<td>1 (.01)</td>
<td>-</td>
<td>14 (.08)</td>
<td>173 (.63)</td>
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<tr>
<td>Squat</td>
<td>1 (.02)</td>
<td>1 (.01)</td>
<td>6 (.10)</td>
<td>-</td>
<td>-</td>
<td>10 (.05)</td>
<td>10 (.04)</td>
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<td>Round</td>
<td>1 (.02)</td>
<td>-</td>
<td>1 (.01)</td>
<td>-</td>
<td>-</td>
<td>20 (.10)</td>
<td>29 (.11)</td>
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<tr>
<td>Spindle</td>
<td>2 (.04)</td>
<td>-</td>
<td>6 (.10)</td>
<td>73 (.97)</td>
<td>41 (.87)</td>
<td>22 (.11)</td>
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<td>Asymmetric</td>
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<td>Spindle Longitudinally</td>
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<td>9 (.03)</td>
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<td>Fishform</td>
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<td>1 (.01)</td>
<td>-</td>
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<td>-</td>
<td>12 (.04)</td>
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<sup>1</sup> Wallace and Lathrap 1975  
<sup>2</sup> Schenck 1926  
<sup>3</sup> Davis and Treganza 1959; Bickel 1981  
<sup>4</sup> Ragir 1972  
<sup>5</sup> Heizer 1949; Ragir 1972  
<sup>6</sup> Gifford and Schenck 1926; Wedel 1941  
<sup>7</sup> Son-371 totals from private collections or records

Note- in parentheses are percentages of types compared with total number of specimens recovered in each site or locality.
Table 2. Principle Types with Known Distributions.

**Type O: Oval Charmstones**
- Oval, egg, diamond, or rectangular in shape and cross-section.
- Ca. 6–12 cm. length. Usually perforated at one end. Not always symmetrical. Incorporated into Type O are “lemon stones” commonly found in Northeastern California and the Great Basin. Crude and sturdy construction may indicate a utilitarian function compared to highly polished and unbattered perforated Windmiller Pattern specimens.

**Comments**
- Key identifying feature is the lack of a neck, stem, or pile. The main representative of the Oval class is a perforated, roughly made specimen, commonly found in southern Sonoma County and the San Joaquin Valley. Many have an “over-the-top” groove above the perforated end.

**Synonyms**
- “Sub-cylindrical,” “net sinker,” “bola stone,” “lemon stone.”

**Typology concordance**
- Beardsley: Type III
- Ragir: B 6
- Davis: IA1
- Gifford and Schenck: D

**Temporal assignment**
- Early–Middle Berkeley (Bay Area)

**Distributions**
- Central Valley and Delta:
  - SJo-112, Bear Creek (Olson and Wilson 1964: fig. 5 c, e, f).
  - Sac-126, Booth Site (Lillard and Purves 1936: pl. 20 #4).
- San Joaquin Valley:
  - (Gifford and Schenck 1926: pl. 22 A–M).
  - Napa and Sonoma Counties:
    - Nap-1, (Heizer 1953: pl. 33 l).
    - Son-371, (Private col.)
- Bay Area:
  - Ala-307, West Berkeley (Wallace and Lathrap 1975: pl. 4 a, b, c, f).
  - Ala-309, Emeryville (Schenck 1926: pl. 53 a, c).
  - Ala-328, Patterson (Davis and Treganza 1959: pl. 3 e, f, g, m).
  - CCo-259, Fernandez (Davis 1960: pl. 2 k).
  - CCo-300, Stege (Loud 1924: pl. 19 #7–12).
  - Mrn-266, McClure (Beardsley 1954: pp. 49).
- Great Basin/Northern California/Southern Oregon:
  - Lost River Circle, Oregon (Strong 1969: fig. 94 d).
  - Lovelock Cave, Pyramid Lake, Honey Lake, Sierra Valley, Modoc County, Siskiyou County (Johnson 1985: 284).
  - Pistol River, Oregon (Heflin 1967: pl. 7 M, O).

**Type PH: Phallic Charmstones**
- Unusual because of accurate representation of the human penis, c.f. apparent lack or crudity of human stone figurines in prehistoric central California. Found rarely in San Joaquin Valley but to the north may be the only type to be recovered from Early, Middle, and Late Period components. They are usually perforated at one end, and may have one or both ends evidently representing the human glans penis.

**Synonyms**
- “fascinus.” (Latin)

**Typology concordance**
- Beardsley: Type V
- Davis: m2a
- Gifford and Schenck: Type C
- Ragir: Type E 1, 2.

**Temporal assignment**
- Early-Middle-Late Berkeley Pattern; Phase 3 to Terminal Windmiller.

**Distributions**
- Central Valley:
- North Coast Ranges:
  - (Blake 1873: fig. 1, 2; Rau 1889: fig. 319).
- Eel River (Treganza et al 1950: pl. 12 j, k, m).
- San Joaquin Valley:
  - Alpaugh Region (Seals 1992: fig. 1–2).
  - Los Banos Creek, Merced Co. (Private col.)
  - Santa Barbara Region:
    - Las Llagas (Hudson and Blackburn 1986: fig. 318.9-4).
- Bay Area:
  - Ala-328, Patterson (Davis and Treganza 1959: pl. 3 l; Bickel 1981: pl. 11 f).
  - Ala-413, Santa Rita Village (Wiberg 1989: pl. 35 c, e).
  - CCo-30, La Serena (Fredrickson 1968: pl. 20 D).
  - CCo-295 Ellis Landing (nelson 1910: pl. 43 #4).
  - Mrn-275, Mendoza (Beardsley 1954: pp. 50).
  - Mrn-357, San Antonio Creek (Novato High School 1967: fig. 14).
  - SMA-77, University Village (Gerow and Force 1968: fig. 5 F).
  - Santa Clara Valley, Alviso (Private col.).
  - Sol-236, Glen Cove (Beardsley 1954: pp. 96).
  - Son-371 (Private col.)
  - Sonoma River (Private col.).
- Great Basin:
  - (Strong 1969: fig. 84).
  - Pyramid Lake (photo courtesy of Dan Foster, USFS).
- United States:
  - New York, Brewerton phase (Ritchie 1965: pl. 29).
Type PP: Piled Plummet Charmstones-
Piled plummet charmstones usually have a bulbous "tear-drop" body at one end, that gradually tapers evenly inward to the opposite tip, forming a long, narrow, sometimes delicate stem. This tapering gives such charmstones a "giraffe neck" appearance. Some sub-types may lack bulbous body. Many long necked varieties are finely polished. Piled plummets are usually found at sites along major watercourses and particularly common in the Tulare Lake area.

Synonyms-
"Knob piled plummet," "pendular."

Typology concordance-
Beardsley: I b Davis: IIIBib, c
Gifford and Schenck: WBA2

Temporal assignment-
Late Period—Augustine Pattern.

Distributions-
Central Valley and Delta-
CCo-138, Houchkiss (Lillard et al 1939: pl. 31 d).
Sol-2, Lindsey Slough (Dan Foster, pers. com. 1987).
San Joaquin Valley-
(Gifford and Schenck 1926: pl. 20 A-H; pl. 33 A-I, O, and Z; pl. 34 A to AB).
(Latta 1949: 206).
Bay Area-
Ala-309, Emeryville (Uhle 1907: pl. 10 #2; Schenck 1926: pl. 53 m–p).
Ala-328, Patterson (Bickel 1981: pl. 11 B).
Ala-330, Newark (Phubus 1973: fig. 6, 7).
CCo-30, La Serena (Fredrickson 1968: pl. 21 g).
CCo-259, Fernandez (Davis 1960: pl. 2 j).
CCo-295, Ellis Landing (Nelson 1910: #1, 5).
SCI-343, San Jose (Private col.)
SFR-7, Crocker (Heizer ed. 1978: 42).
Sol-2, Lindsey Slough (UCMA col.)
Sol-236, Glen Cove (UCMA; Beardsley 1954: pp. 96).

Great Basin-
(Strong 1969: Fig. 46; 106 B).

United States-
Poverty Point, Louisiana (Ford and Webb 1956: fig. 33 d–o).

Type PT: Plummet-
Plummets fall between "spindle and "squat" forms and represent a broad variety of subtypes. Plummets have generally cigar to football-shaped bodies with a stem or necked end. They lack the ponderous body such as seen in Squat and Round types. Particularly common to the Bay Area and San Joaquin Valley. Rarely perforated. Most are crude in appearance, especially compared to other types.

Synonyms-
"Thunder stone (ceraunia)," "plumb-bobs," "fusos."

Typology concordance-
Beardsley: I A, IIAa Davis: IIIBib Gifford and Schenck: WBA2 Rady: D

Temporal assignment-
Berkeley and Augustine Patterns.

Distributions-
Central Valley-
Sac-16, 66, 73, 151 (UCMA col.)
San Joaquin Valley-
Gifford and Schenck 1926: pl. 22 O, P, U; pl. 23 G, H, I; pl. 33 J–N.
Bay Area-
Ala-307, West Berkeley (Wallace and Lathrap 1975: pl. 4 p, r).
Ala-309, Emeryville (Uhle 1907: pl. 10 #1, 9; Schenck 1926: pl. 53 E, J, L).
Ala-328, Patterson (Bickel 1981: pl. II H; Davis 1959: pl. 3 a, b).
Ala-329, Ryan (Coberly 1973: pl. II e, j; Wilson 1993: pp. 103 (1123, 1161), 106 (1068), 108 (1524), 109 (1-74211), 119 (1693), 125 (2150), 133 (1305), 135 (29210, 29255, 74208, 74209, 136 (1614), 137 (1235), 139 (153, 1999), 140 (1871, 1878, 1887, 1900, 1947), 145 (1111, 1175, 1135), 146 (1070, 1111A), 147 (2385, 2657), 148 (1258, 1965), 151 (1914, 1915).
Charmstone Typology

<table>
<thead>
<tr>
<th>Principal Type</th>
<th>Description</th>
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<td>Oval to Egg-shaped</td>
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<tr>
<td>PH</td>
<td>Phallic</td>
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<tr>
<td>PP</td>
<td>Piled Plummet</td>
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<td>Plummet</td>
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<tr>
<td>Q</td>
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</tr>
<tr>
<td>R</td>
<td>Round</td>
</tr>
<tr>
<td>S</td>
<td>Spindle (symmetrical bipolar)</td>
</tr>
<tr>
<td>AS</td>
<td>Asymmetric Spindle</td>
</tr>
<tr>
<td>T</td>
<td>Longitudinally Grooved</td>
</tr>
<tr>
<td>U</td>
<td>Unique</td>
</tr>
<tr>
<td>V</td>
<td>Fishform</td>
</tr>
<tr>
<td>W</td>
<td>Boatstone</td>
</tr>
</tbody>
</table>

(Example: Plummet with neck and football-shaped body with traces of asphaltum= PT 3.16, a.)

<table>
<thead>
<tr>
<th>Special Features</th>
<th>Modification to the body:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. perforated (usually biconically grooved)</td>
<td>a. symmetrical spindle-to-football shaped (appearing on Plummet types only)</td>
</tr>
<tr>
<td>2. with pile (recurved end) often like “nipple”</td>
<td>b. tear-drop body</td>
</tr>
<tr>
<td>3. pronounced neck (larger than pile)</td>
<td>c. bottle-shaped body</td>
</tr>
<tr>
<td>4. fish-tail end (flattened/flare)</td>
<td>d. pronounced bulge at or near mid-section</td>
</tr>
<tr>
<td>5. long tapering proximal end (stem)</td>
<td>e. flanging or girdling</td>
</tr>
<tr>
<td>6. knobbed end</td>
<td>f. one side flat or concave, e.g. “Boatstone”</td>
</tr>
<tr>
<td>7. “lipped” end (like animal mouth, e.g. fish)</td>
<td>g. triangular or pendular</td>
</tr>
<tr>
<td>8. shallow incision or roughening at proximal end</td>
<td>h. stubby or diamond-shaped</td>
</tr>
<tr>
<td>9. tapering distal end</td>
<td>i. with central perforation</td>
</tr>
<tr>
<td>10. partial grooving, lengthwise (up and over end)</td>
<td>j. “soft stone” e.g. steatite</td>
</tr>
<tr>
<td>11. grooved transversely (partial or entire)</td>
<td>k. “hard stone” e.g. basalt or indurated sandstone</td>
</tr>
<tr>
<td>12. nipple or neck on pile</td>
<td>l. with inlaid beads</td>
</tr>
<tr>
<td>13. pointed end(s)</td>
<td>m. fine quality inlay</td>
</tr>
<tr>
<td>14. rounded end(s)</td>
<td>n. multiple longitudinal grooves</td>
</tr>
<tr>
<td>15. collared end(s)</td>
<td></td>
</tr>
<tr>
<td>16. with traces of asphaltum</td>
<td></td>
</tr>
<tr>
<td>17. faceted end(s)</td>
<td></td>
</tr>
</tbody>
</table>

Endnotes:
* asterisk denotes specific features occurs twice (i.e. feature occurs at both ends)
Underline (e.g., PH*1) denotes miniature specimen

Elsasser and Rhode 1992

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Chart 1. Variants of Principal Types of Charmstones
Elsasser and Rhode 1992
Map 2.

Fishform Charmstone
Core Area(s)

Inset 1
Pacific Ocean
Bay Area

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Map 3.

Charmstone

Core Area(s)

Insert 1.

Pacific Ocean

Bay Area

Insert 2.

Buena Vista Lake

Oval

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Oval
Map 5.

Plummet Core Area(s)
Map 6. Piled Plummet Core Area(s)

Tulare Lake
Longitudinally Grooved
Core Area(s)