

Baja California's projectile points: moving beyond the typological approach

*Don Laylander
ASM Affiliates*

Projectile points are unique among the classes of prehistoric artifacts found in Baja California: they are both common in their occurrence and relatively elaborate and diverse in their forms. It was perhaps inevitable that here, as in other regions, points should be assigned to named types that carry implications as to their associations with specific time periods, geographical ranges, ethnic identities, and tool functions. It is worth considering whether a descriptive, attribute-based approach will be more effective than the use of named types for discovering, evaluating, and interpreting such associations.

Two basic assumptions frame this discussion of prehistoric projectile points in Baja California. The first is that the points do indeed differ significantly (i.e., nonrandomly) in their forms. The second is that at least some of the differences have important implications for distinguishing chronological change, contrasts between cultural traditions, and variations in tool functions. However, a practical question remains: what is the most effective approach to use in discovering, evaluating, and interpreting those differences? Is it to classify specimens according to named types, or is it to take a more descriptive approach, based on recording a few key attributes of the points?

When typologies are useful

Under certain conditions, typologies are efficient tools for economically subsuming differences in arrays of correlated attributes. The use of typologies is favored by two key characteristics of the phenomena to be classified. One is their complexity, when the number of attributes essential to defining an interpretively significant category is large, and as a consequence an analytical, attribute-based approach is excessively cumbersome. The second key characteristic is naturalness, when multiple attributes are strongly correlated and specimens fall naturally into discrete classes, with borderline cases being relatively rare.

The prehistoric projectile points of Baja California, as a set of artifacts to be classified and interpreted, do not seem to possess those two key characteristics favoring typology. Point forms are not characterized by a high level of essential complexity. The key attributes that are useful in distinguishing different types are usually small in number, and therefore they are quite manageable as explicitly identified attributes. The naturalness of point types is also questionable; intermediate or ambiguous cases appear to be abundant.

Different approaches to point typology

Projectile point typologies deal with the differences among specimens by assigning individual points to named categories, or types. Several different ways of defining and designating such types have been used in Baja California:

- Intuitive types. The classic approach has been to identify points with named types, such as “Clovis,” “Gypsum,” and “Comondú”. Specimens are assigned to a type on the basis of their perceived similarity to a designated type specimen, to the specimens documented at a type locality, or to a general intuitive consensus as to what type specimens look like (e.g., Justice 2002a; Massey 1966b).
A variant of this approach has been to assign labels such as “Pinto-like” or “Elko-like” to Baja California points (e.g., Ritter 2006a:103, 111). This evokes the classic examples as standards for comparison, but it draws back from fully identifying the Baja California specimens with those patterns, because of the possible cultural distance separating Baja California from the regions in which the types were originally identified.
- Interpretive types. Types have sometimes been defined as interpretive categories rather than as morphological or technological ones. Using this approach, points are assigned to a type, even though they may have relatively little in common morphologically or technologically, because they are interpreted as pertaining to a particular chronological period or to a shared cultural tradition. An example is William C. Massey’s (1966b:45) use of the category of “Pinto Basin points” to encompass a wide variety of different point forms.
- Statistical analysis. Attempts have been made to arrive at type assignments in a more objective manner, for instance through statistical cluster analysis of attributes. Eric W. Ritter (1979) attempted such an analysis for points in the Bahía Concepción area, but found the results unsatisfactory. Kelli Carmean (1994) constructed a statistical typology of 11 clusters for 137 points that had previously been reported by Massey (1966a) from Baja California Sur. The clusters were given descriptive designations (e.g., “Massey Cluster 1 small, high-notched,” “Massey Cluster 2 small, leaf-shaped,” etc.). However, from an intuitive perspective, the resulting clusters often seem to be highly anomalous. For instance, Massey Cluster 1 lumps together large side-notched points; large eared points; large stemmed points; small side-notched points; and small stemmed points. An additional drawback is that such an analysis would be excessively cumbersome to apply on a routine basis in classifying specimens.
- Keyed attributes. Another alternative is to define types on the basis of judgmentally selected and keyed attributes (e.g., Massey 1966a; see also Davis 1968; Serafin 1995). The use of neutral designations, such as “Type IB2,” avoids the implicit historical and geographical associations that are conveyed by type names. Massey’s types are based on up to five explicitly stated attributes (presence of stem, stem width, stem shape, shoulder shape, and base shape). This approach should give more replicable results than the intuitive method. However, a drawback is that additional, potentially significant attributes, such as point size and the presence of serration or notching, are excluded from consideration within the fixed typology.
- Verbal attributes. Still another approach is to designate types by using brief, fixed verbal descriptions of selected attributes rather than by reference to named type examples or to an explicit, comprehensive key. Examples might include “lanceolate” or “leaf-shaped”, “large, serrated”, “large, square-based”, “large, triangular”, “eccentric”, etc. This approach is also limited by the specific attributes that are chosen. Additionally, in the absence of an explicit key, it is possible that a point might qualify under more than one verbal classification.

Point analysts have not necessarily adopted a single approach to typology, to the exclusion of all others. For instance, the use of intuitive, named point types has commonly been intermixed with verbal descriptions of unnamed types or with graphic illustrations (e.g., Carmean 1994; Massey 1966b; Ritter 1979; Ritter and Burcell 1998; Serafín 1995).

Named projectile point types in Baja California

At least 19 type names have been applied to archaeological projectile points found on the Baja California peninsula (Figure 1). More than half of those type designations were originally made on the peninsula.

- Clovis. This designation, based on findings at the Blackwater Draw site near Clovis, New Mexico, is applied to large points with convex sides, a concave base, and a fluting scar extending from the base on at least one face (Rondeau et al. 2007). The type has been reported as occurring throughout much of North America, with a time range in the terminal Pleistocene between ca. 11,500 and 9000 B.C. Within Baja California, finds so far have been limited to the central portion of the peninsula and are undated (Aschmann 1952; Des Lauriers 2008; Gutiérrez and Hyland 2002; Hyland 1997, 2006; Hyland and Gutiérrez 1995).
- Comondú. This designation is applied to triangular projectile points, usually small, including both unserrated (“Comondú triangular”) and serrated (“Comondú serrated”) types. They appear to be fully equivalent to the points designated as Cottonwood triangular in the western United States, with the serrated variety corresponding to the Dos Cabezas serrated type (Wilke and McDonald 1986) and perhaps the Desert side-notched type in the U.S. These points seem to mark the local appearance of the bow and arrow, and to date from roughly A.D. 1000 into the historic period. They are relatively abundant throughout central Baja California. The late prehistoric Comondú culture was defined by Massey (1966b), and the designation of the points associated with it as Comondú points was begun by Ritter (1979).
- Cottonwood. Cottonwood triangular points take their name from a site in Inyo County, California (Justice 2002a; Riddell 1951). Their distribution includes most of the western United States, and they are associated with a time period subsequent to the introduction of the bow and arrow, perhaps after about A.D. 1000. The points are typically small, with no stems (triangular), usually concave to straight bases, and straight sides. Cottonwood points have been reported from northern Baja California. In central and southern Baja California, similar points have usually been classified as Comondú, although Eduardo Serafin Esquivel (1995) applied the designation of Cottonwood to central Baja California points.
- Descanso. This type was defined by Andrew Pigniolo and Antonio Porcayo Michelini (2009), based on finds within a relatively small area in northwestern Baja California and southwestern Alta California. The category includes foliate points with multiple side notches. Chronologically, it is said to date to around 5000 B.C.
- Desert. Small, triangular, side-notched points were given this designation in Alta California (Baumhoff and Byrne 1959). They have generally been interpreted as belonging to the late prehistoric period, subsequent to the introduction of the bow and arrow, perhaps after ca. A.D. 1200 (Justice 2002a:384). The type has been reported from northern and central Baja California, although in the latter region corresponding

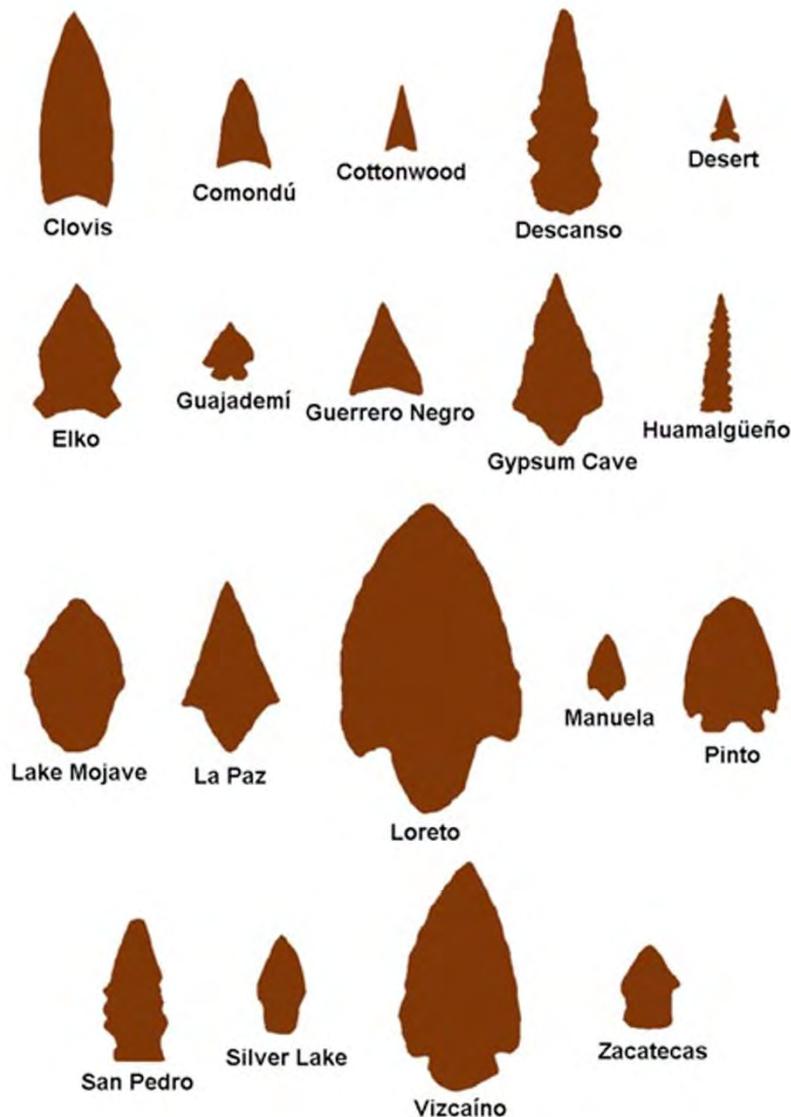


Figure 1. Named projectile point types reported in Baja California.

- forms have often been labeled Comondú.
- Elko. This designation was defined by Robert F. Heizer and Martin A. Baumhoff (1961), based on collections from a site in northeastern Nevada. It has been applied to large, corner-notched, eared, or split-stem points. The forms are relatively common in central Baja California, and they are also reported from the peninsula's northwest region. Time spans suggested for the Elko series outside the peninsula include ca. 6000 B.C. to A.D. 800 (Jennings 1986:117) and ca. 1300 B.C. to A.D. 700 (Thomas 1981:20). Ritter (2006b:143) suggested a time span between ca. 6000-5000 B.C. and A.D. 400 for “Elko-like” points on the peninsula.
 - Guajademí. The Guajademí split-stem type includes small points with corner notches (expanding stems) and concave bases. The type was defined by Ritter (1979), deriving its name from a community located to the west of Bahía Concepción. Points classified within the type have been reported from central Baja California. Hyland lumped this

type into the Elko series; however, the small size of Guajademi points would seem to make that assignment questionable. In some respects, the Guajademi points seem similar to Rose Spring points, although the latter more commonly have straight or convex bases (Thomas 1981:20). Ritter (2006a:111) considered the Guajademi split-stem type as one of the hallmarks of the late period, between ca. A.D. 500 and 1800.

- **Guerrero Negro.** The Guerrero Negro series was defined by Ritter and Louis A. Payen (1992), based on studies at Laguna Ojo de Liebre, near the central Baja California community of Guerrero Negro. It includes triangular points with concave or straight bases but occurring in both large and small sizes. Ritter (2006b:142-143) suggested that Guerrero Negro points “may possibly have served as harpoon tip insets; their distribution appears to be limited to coastal locations in west-central Baja California.” However, large, triangular points have also been reported from sites elsewhere in Baja California, including interior locations (e.g., Hyland 1997:300).
- **Gypsum Cave.** The Gypsum type is based on points recovered by Mark R. Harrington (1933) from Gypsum Cave in southern Nevada. A chronological range between ca. 2600 B.C. and A.D. 400 has been suggested (Jennings 1986:117). These are large points with tapered or ovate stems. The category is fairly well represented in the central and southern peninsula, where it seems to intergrade with the La Paz type.
- **Huamalguéño.** Matthew R. Des Lauriers (2005) defined the Huamalguéño point type on Isla Cedros (which was also known as Huamalguá to the Cochimí Indians). The type consists of carefully flaked, medium-sized, narrow, triangular points with multiple side notches, produced from both local and nonlocal material types. Des Lauriers reported that the points were clearly associated with the late prehistoric period (after ca. 600 B.C.).
- **Lake Mojave.** This type was defined by Charles A. Amsden (1937), based on collections associated with Pleistocene Lake Mojave in the central Mojave Desert of southern California. It has sometimes been grouped with Silver Lake and other forms into a Great Basin Stemmed series. The points are generally dated to the early Holocene, perhaps also extending back into the terminal Pleistocene. These large points have weak shoulders and long, broad, contracting stems and convex bases. Lake Mojave points have been reported from central Baja California (e.g., Davis 1968; Ritter 2001, 2006a).
- **La Paz.** La Paz points are large points with contracting (tapered or ovate) stems. Massey (1961a:418, 1966b:45-46) distinguished La Paz points based on their sharp and sometimes-barbed shoulders. He interpreted La Paz points as more finely flaked forms derived from the Gypsum Cave type and as belonging to the Amargosa II complex (probably ca. 2000 B.C.-A.D. 600). The type is represented in central and southern Baja California.
- **Loreto.** Massey (1966b:46) defined Loreto blades as relatively large points with rounded stems and, sometimes, barbs. As in the case of La Paz points, he interpreted Loreto points as being derived from the Gypsum Cave type and as belonging to the Amargosa II complex. The type is represented in central and southern Baja California.
- **Manuela.** Ritter (2006b:143; 2008:192) defined the Manuela contracting-stem type, named from Laguna Manuela on the west coast of central Baja California. He suggested that the small to medium-sized points dated from the late prehistoric period, although they were perhaps slightly earlier than other late-period forms.

- Pinto. Pinto points were defined in the southern California desert by Amsden (1935; see also Harrington 1957 and Lanning 1963). Considerable disagreement has existed concerning the time range attributable to Pinto points; suggestions have included ca. 3000-700 B.C. (Heizer and Hester 1978:158), ca. 6500-500 B.C. (Jennings 1986:117), and ca. 8000 B.C.-A.D. 1 (Schroth 1994:374). As applied in Baja California, the type has sometimes been used to group points attributed to the middle Holocene Pinto or Amargosa I complex, regardless of the points' morphological diversity (Massey 1966b:45). When defined in a more restrictive sense, the type generally includes roughly flaked points with side- or corner-notching (wide or expanding stems) and concave bases.
- San Pedro. This type was defined in southeastern Arizona, in the San Pedro Valley (Justice 2002b; Sayles and Antevs 1941). It includes large points with an expanding stem (corner-notched) or, less commonly, a wide stem (side-notched), and with straight or convex bases. An age range between ca. 1500 B.C. and A.D. 300 has been suggested. Ritter (1979:196-198, 2001:62, 2006a:103) identified San Pedro points in central Baja California.
- Silver Lake. The type was defined by Amsden (1937), based on collections associated with Pleistocene Lake Mojave (which includes Silver and Soda Lakes) in the central Mojave Desert of southern California. It has sometimes been grouped with Lake Mojave and other forms into a Great Basin Stemmed series. Like Lake Mojave points, Silver Lake points are large, with weak shoulders and broad, contracting, rounded stems; however, the shoulders are more clearly defined in the Silver Lake form, and the stems are shorter. These points are generally dated to the early Holocene, perhaps extending back into the late Pleistocene; however, the use of Silver Lake points has sometimes been interpreted as also having continued into the middle Holocene. Silver Lake points have been reported from central Baja California (e.g., Ritter 2001:62, 2006a:103).
- Vizcaíno. Ritter (2009) defined this type, based on collections in the western Vizcaíno Desert. It consists of large, corner-notched (expanding stem) points with convex bases.
- Zacatecas. This type, identified by Ritter (1979), takes its name from the Sierra Zacatecas, west of Bahía Concepción. Five specimens were reported in the Bahía Concepción area (Ritter 1979:200, 2001:62, 2006a:103). The illustrated specimens are medium to large, with straight sides and broad, straight stems.

Projectile point attributes

An alternative to the use of a typology is to use selected attributes to describe and analyze projectile points. Some of these attributes, individually or in small associations, are hypothesized to be restricted in their chronological, geographical, or functional distributions, although the current state of archaeological research in Baja California usually does not yet make it possible to conclusively confirm these hypotheses.

In general, attribute classifications do not rest on any clear-cut discontinuities within the ranges of attribute states. Instead, the variation is gradational, and the divisions are arbitrary, to some extent. The interpretive value of such classifications is likely to be statistical and probabilistic rather than being definitive at the level of the individual specimen. It may be possible to say with some confidence, for instance, that small points, or expanding-stem points, or some other attribute

category, are likely to be associated with a particular time period, cultural tradition, or function. But it is generally not likely to be possible to say with complete confidence that an individual archaeological specimen must pertain to that period, tradition, or function.

Listed below are attributes that have been suggested as being likely to have some interpretive significance.

Size

The size of projectile points may be one of the most interpretively useful attributes, at this stage of studies. It appears to be strongly correlated with chronology and with point function. Specifically, small points may usually postdate the introduction of the bow and arrow. The timing of that introduction in Baja California is not well established, and it may have varied substantially from north to south within the peninsula. The bow and arrow were present in western North America by ca. A.D. 400, but they may not have reached the Cape Region until the early historic period (cf. Laylander 2007; Massey 1961b).

To measure point size, four possible dimensions are length, width, thickness, and weight; combinations of those dimensions are also possible. Aerodynamically, weight seems to be the most logical choice, in that large, heavy points would probably be unstable on arrows. Franklin Fenenga (1953) looked at a large sample of weight measurements on projectile points from North American sites and found a marked dip in the frequency at 4.0 g. Such a dip is what might be expected if small and large points represented distinct (but overlapping) populations that reflected different projectile technologies. However, this dip is not replicated in a collection of weight frequencies for whole points from Alta California and the Great Basin (Justice 2002a:422-442). In the latter data set, the most plausible dip occurs at about 2.2 g. To distinguish late prehistoric points in the Great Basin, David Hurst Thomas (1981) suggested a cutoff of 1.5 g; this weight does not correspond to any dip in the recorded weight frequencies of points from Alta California and the Great Basin.

Drawbacks to using weight as the index for point size are that weights have frequently not been reported for Baja California points, and that weights are less likely than linear dimensions to be measured in the field during non-collecting studies. In publications, graphic illustrations of points provide usable information on linear dimensions but not on weights. In some archaeological reports, it is not clear whether a recorded weight refers to a point fragment or to a whole specimen. For many point fragments, it is possible to extrapolate an original linear measurement, but extrapolating the original weight from a fragment is more problematic.

Linear alternatives to weight as indices for point size include length, width, and thickness. For thickness, the problem of measurement error is probably most severe. Thickness is not documented for many points that are only recorded through plan-view photographs or drawings. Width may have an advantage of being less subject than length to alteration through reworking after breakage (cf. Bettinger and Eerkens 1999), but measurement error is probably also higher for width than for length. On balance, length may be the most convenient index of point size.

A plot of the frequencies of length measurements on a sample of points from Baja California, Alta California, and the Great Basin does not suggest any dip in length frequencies that might naturally distinguish populations of large points from small points (Figure 2; Carmean 1994; Justice 2002a; Ritter and Burcell 1998). While point length is correlated with weight in the sample of Alta California and Great Basin points, the relationship is only a rough one (Figure 3). Consequently, defining a dividing line between large and small points based on length is

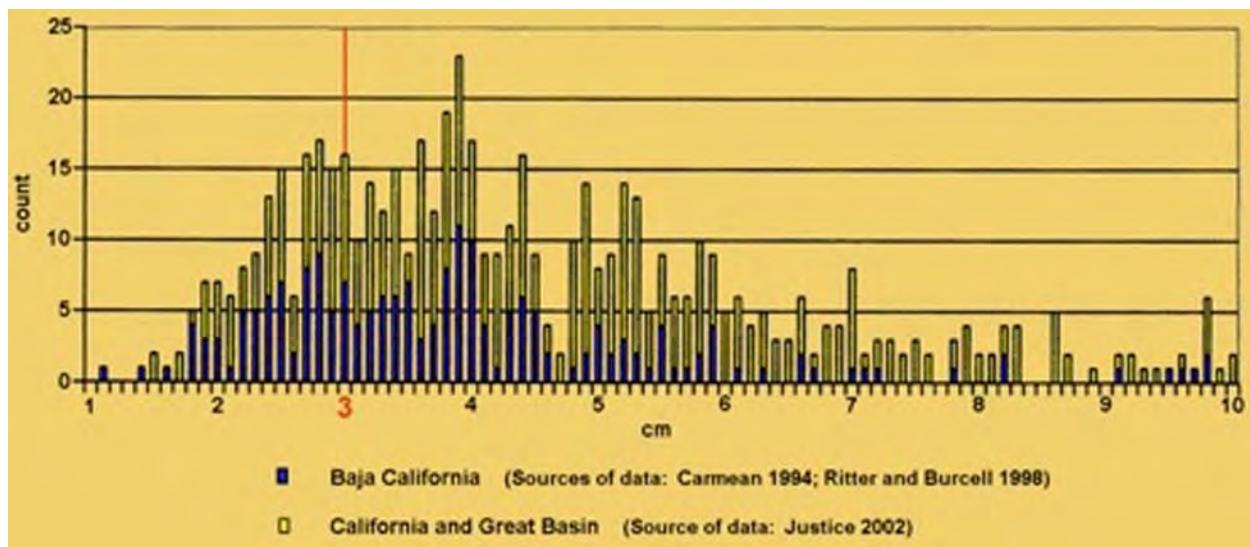


Figure 2. Projectile point lengths reported from Baja California, Alta California, and the Great Basin.

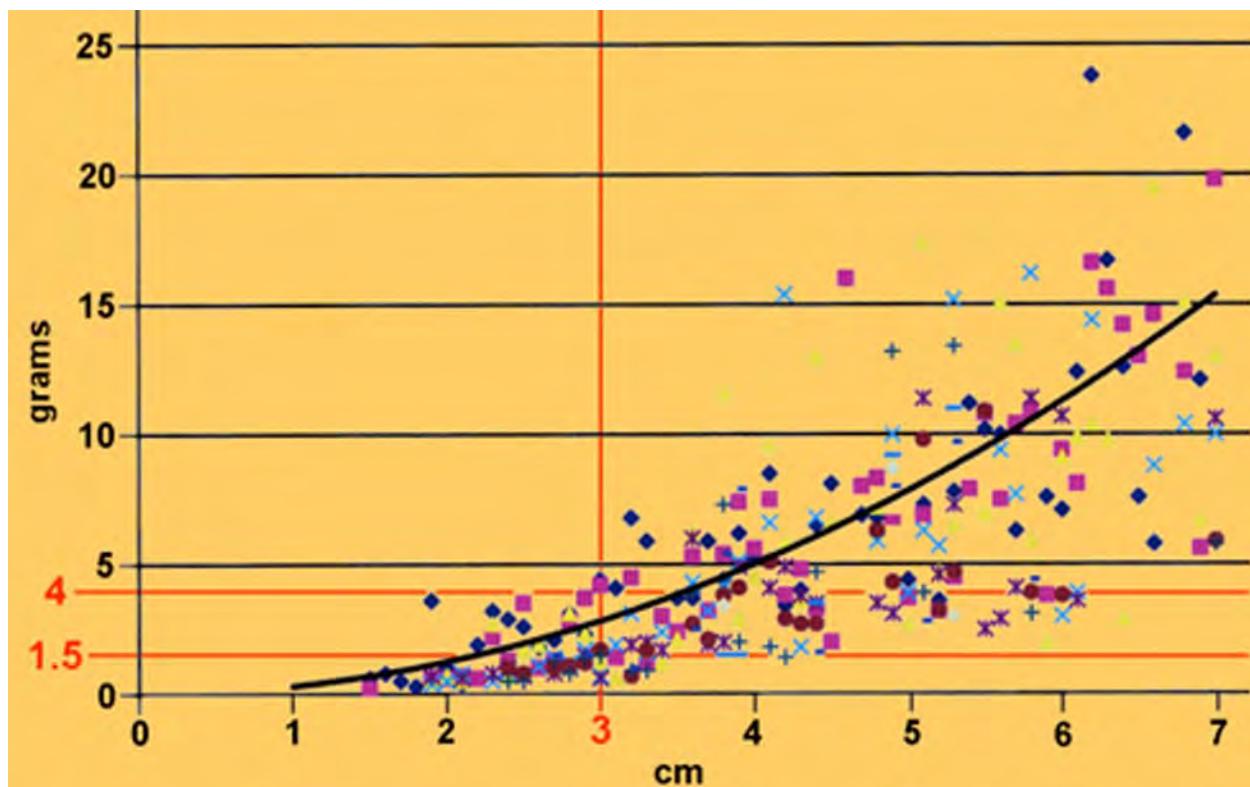


Figure 3. Relationship of projectile point length to weight on specimens reported from California and the Great Basin (data from Justice 2002a).

necessarily rather arbitrary, at least at this stage of investigations. Thomas (1981:25) used a large/small length cutoff of 3 cm. This may be the most expedient measure to use at present.

Stem morphology

This attribute has figured very prominently in most point typologies. Functionally, it likely relates to the manner in which the points were fastened to the projectile shafts or foreshafts. Six general categories of stem forms may be suggested (Figure 4):

- Triangular (i.e., no stem). These points are widest at their proximal end and do not contain side notches.
- No shoulders. These points narrow toward their proximal end, but there are no shoulders (i.e., no marked contraction immediately below their greatest width). Most such points could also be labeled as “leaf-shaped,” “foliate,” or “diamond-shaped.”
- Wide stem. These points are widest at the proximal end, but they contain a pair of notches on the blade edges near the proximal end. Such points could also be labeled “side-notched.”
- Expanding stem. These points are widest at their shoulders, but their stem expands proximally below the shoulders.
- Straight stem. The stem on these points neither expands nor contracts; the lateral edges of the stem are parallel to the points’ axis.
- Contracting stem. The lateral edges of the stem on these points narrow proximally.

Some other attributes relating to point stems have been suggested as significant, at least in some cases. These include stem width and stem length, considered either absolutely or relative to overall point length.

Base morphology

This attribute has been incorporated in many typologies. Functionally, it may relate to the ways in which points were joined to projectile shafts or foreshafts. The proximal edges of points may be classified as concave, straight, convex, or pointed.

Shoulder morphology

Occasionally, typologies have taken note of whether points' shoulders are sharp or rounded. Also of interest has been whether the proximal edges below the shoulders slope toward the point's proximal end, are perpendicular to the points' long axis, or slope back toward the distal end (i.e., are barbed). Points with barbed shoulders may have been designed to be more resistant to becoming dislodged from a wound.

Blade morphology

The distal edges of a point may be noted as straight, convex, or (much more rarely) concave. Probably more important is the presence or absence of serration or notching. Serrated edges have sharp projections where the indentations overlap; notched points have flat portions of blade in between the indentations. Blade serration and notching may have served to increase tissue damage during penetration. A more speculative suggestion is that they may have been designs that

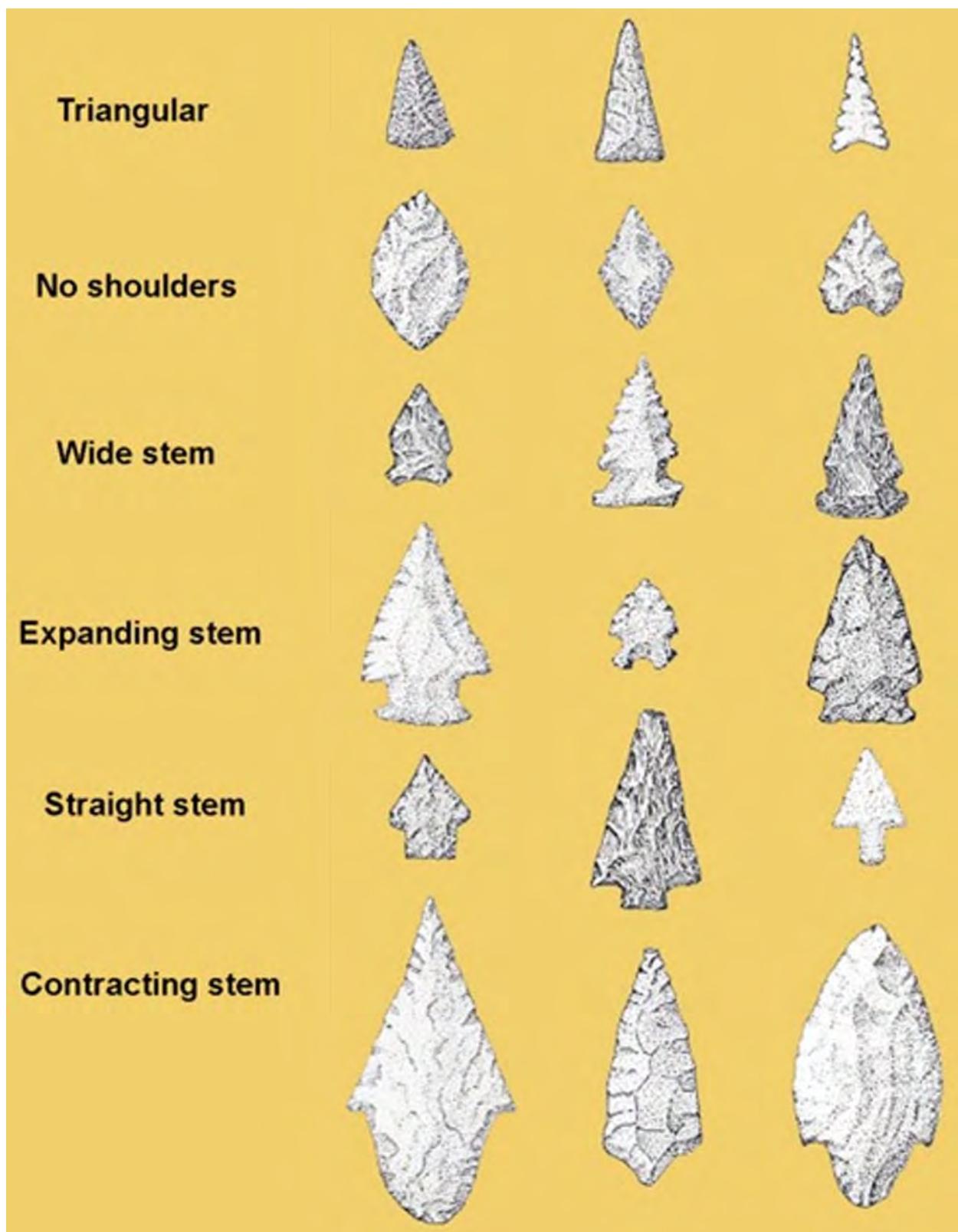


Figure 4. Projectile point stem morphology (illustrations from Massey 1966a).

were used to mark ownership of the point.

Width-to-length ratio

A width-to-length ratio that is atypically high or low might be suggestive of point reworking after damage during use. Extremely narrow points may have been quite fragile, perhaps suggesting that they served social or ideological functions rather than being employed on utilitarian projectiles.

Width-to-thickness ratio

Atypically thick points may have been extensively reworked, or they may have served some particular function. Atypically thin points may have been excessively fragile and may have served nonutilitarian functions, as in the case of atypically narrow points.

Flaking techniques

Crude or refined flaking and the use of percussion or pressure flaking techniques on points have sometimes been distinguished. Serafin (1995) classified the flaking of Baja California points as irregular or regular, and in the latter case he distinguished patterns of wide (> 4 mm), medium (2-4 mm), and narrow (< 2 mm) flakes. A specific flaking technique of interpretive importance was the removal of fluting flakes from the base of some terminal Pleistocene (“Clovis”) points.

Material type

The lithic (or non-lithic) material from which a point was manufactured is an attribute of obvious potential interpretive significance. While material type has typically been noted in point descriptions, this attribute has not usually been incorporated into type definitions. Materials were variously local or imported, and they may have been selected on the basis of such considerations as their relative availability, nodule size, workability, strength, and durability.

What's in a name?

There are both advantages and drawbacks to the use of named types, as against the use of attribute descriptions. The advantages include:

- Type designations are generally somewhat more concise than attribute descriptions.
- Type designations provide local color and a comforting mystique, involving the sharing of esoteric expertise among the initiated, while outsiders are excluded.

Disadvantages include:

- Using types entails the “Blind Men and the Elephant” problem with regard to replicability. Different observers confronted with the same “type examples” will often intuitively focus on different attributes of the examples, and consequently they may make different type assignments for specimens that share some but not all of the type examples’ attributes.
- Types are less amenable than attributes to hierarchical arrangement and the

- management of incomplete information, in the frequent instances in which information is available on some important attributes but not on others.
- Attribute descriptions are more transparent and open to challenge or to refinement than type assignments.
- The use of a type name may carry an implication of a chronological placement, a cultural affiliation, or a function that is not necessarily valid.
- The use of different type names for morphologically indistinguishable specimens in different locations or contexts may carry implications of chronological and cultural discontinuities that are not necessarily valid.
- Pigeonholing specimens into named types may be less conducive than an attribute-based approach to testing the presumed associations between different attributes or to looking for additional significant attributes.

On balance, the advantage for scientific study of the prehistoric projectile points of Baja California seems to lie with an attribute-based approach, rather than a type-based approach.

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