Fluted Points of the Far West

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The study of fluted points in the Far West has been discouraged by the lack of sites with primary context, associated Pleistocene fauna, and radiocarbon dating. This lack has diminished the need to stay abreast of current Paleoamerican research in North America. The recognition of non-Clovis fluted point types in the Far West, including California, has lagged behind other regions in North America. The fluted points of the Far West are unstudied and represent an untapped research potential. The findings of the CalFLUTED research project are presented herein. Because this is a report of ongoing studies, the findings and conclusions presented below may be amended and refined in the future.

Introduction

The California Fluted Lanceolate Uniform Testing and Evaluation Database (CalFLUTED) project began with the asking of a single question: what is a fluted point? This question grew out of a diverse and seemingly incompatible array of projectile points presented to the author over several decades, all of which were designated as fluted points. In the attempt to answer this question, a number of additional issues has arisen, significant among them the question: what is a flute?

The pursuit of answers has resulted in more than 40 studies (including those in progress) and have involved more than 400 projectile points (including non-relevant and unreported specimens) and related bifaces, mainly from California, Nevada, and Oregon (Table 1). Critical support for these studies has included consultations with researchers and experts within and outside California, lengthy literature reviews on past and present fluted point studies, as well as the perusal of a large number of additional fluted projectile points mainly from outside the Far West.

The project has confronted a number of issues: definitions of fluted points and flutes, variability in fluted points of the Far West, the transition from fluted to end-thinned points, determining what projectile point attributes, if any, are distinctive to the Far West, identifying what attributes may signal post-Clovis style fluted points, and evaluating the claim for hundreds of Clovis points from the Tulare Lake locality. These findings are the subject of the discussions presented here.

What Is A Fluted Point?

To say a point is fluted, it must have evidence of at least one flute. This does not escape the question of defining what is a flute. Further, having defined what a flute is, the issue then becomes, what constitutes acceptable evidence that one or more flutes do or did exist on any given point?

Points with One Fluted Face

The extant literature has occasionally provided assertions that points fluted on only one face should be rejected as true fluted points. However, justifications for these assertions have been poorly supported, at best. This research effort has indicated that while some points could not be fluted on both faces, they usually fell into a larger category of specimens that did not need to be fluted on both faces for end-thinning purposes. In other cases, use damage and subsequent repairs have nearly obliterated flute evidence. This suggests that such circumstances may have also left some points, originally fluted on both faces, showing only a single flute, or none, at time of discard.

End-thinning as the Basic Issue

Attempts to make fluting something special beyond its temporal placement or its technical nature, such as with unsubstantiated blood groove claims, have only served to obfuscate the evidence. The evidence found by this research argues that technological fluting was only one within a set of basal thinning techniques that also included pressure end thinning, sometimes before and/or after the actual flutes were created.

The data indicate the presence of both pressure and percussion scars (Figure 1) to guide subsequent fluting attempts and, at the least, subsequent pressure removal of the flute scar margin ridges (Figure 2) to further end-thin some fluted points (Rondeau 2006f). In addition, there are fluted points that also exhibit pressure end-thinning (Rondeau 2005e, 2006g; Rondeau and Coffman 2007). There is no evidence to support the idea that technological fluting was independent of a range of pressure end-thinning techniques. In some cases pressure may have been used in the fluting process itself (Rondeau 2005e; Wilkie et al. 1991).

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Table 1. List of CalFLUTED Research Studies

Report #	Subject	Date	Specimens	Reference
1.*	Ione	3/98	1	Rondeau 1998a
2.*	Bartle Ranch	3/98	1	Rondeau 1998b
3.*	Bear's Mouth	5/98	1	Rondeau 1998c
4.*	Skyrocket	5/98	1	Rondeau 1998d
5.*	Ocotillo Wells	12/01	1	Rondeau 2001
6.*	Nipomo	8/03	1	Rondeau 2003
7.	China Lake	3/04	29	Rondeau 2004a
8.	Caspar	4/04	1	Rondeau 2004b
9.	Komodo	5/05	40	Rondeau 2005d
10.	Tulare Lake	5/05	103	Rondeau 2005e
11.	Schonchin Butte	7/04	1	Rondeau 2004c
12.	Borax Lake 3	8/04	3	Rondeau 2004d
13.	Blackwater Draw NM	8/04	2	Rondeau 2004e
14.	Santa Barbara	8/04	1	Rondeau 2004f
15.	Santa Margarita	11/04	1	Rondeau 2004g
16.	Sierra N.F.	11/04	1	Rondeau 2004h
17.	Tablelands	11/04	1	Rondeau 2004i
18.	Bridgeport	11/04	1	Rondeau 2004j
19.	Owens Lake	3/05	1	Rondeau 2005a
20.	China Lake II	3/05	3	Rondeau 2005b
21.	Santa Rita	3/05	1	Rondeau 2005c
22.	Silurian Valley	7/05	1	Rondeau 2005f
23.	Jakes Valley NV	1/06	6	Rondeau 2006a
24.	Rutherford	2/06	1	Rondeau 2006b
25.	Thomes Creek	2/06	1	Rondeau 2006c
26.	Lassen N.F.	5/06	3	Rondeau 2006d
27.	Tosawihi NV	7/06	1	Rondeau 2006e
28.	Poker Brown NV	7/06	1	Rondeau 2006f
29.	Sunshine Well NV	12/06	31	Rondeau 2006g
30.	Farpoint	8/06	1	Rondeau 2006h
31.	Lost Valley	8/06	1	Rondeau 2006i
32.	Smith Ranch	10/06	1	Rondeau 2006j
33.	NSM Display NV	12/06	5	Rondeau 2006k
34.	Goodwin UT	12/06	1	Rondeau 2006l
35.	Currant Summit NV	1/07	1	Rondeau 2007a
36.	Jakes Valley II NV	2/07	3	Rondeau and Estes 2007
37.	Tonopah/Mud Lake NV	4/07	40	Rondeau and Coffman 2007
38.	Lake County OR	5/07	3	Rondeau 2007b
39.	Dietz Site OR	n.d.	87	Rondeau 2007c

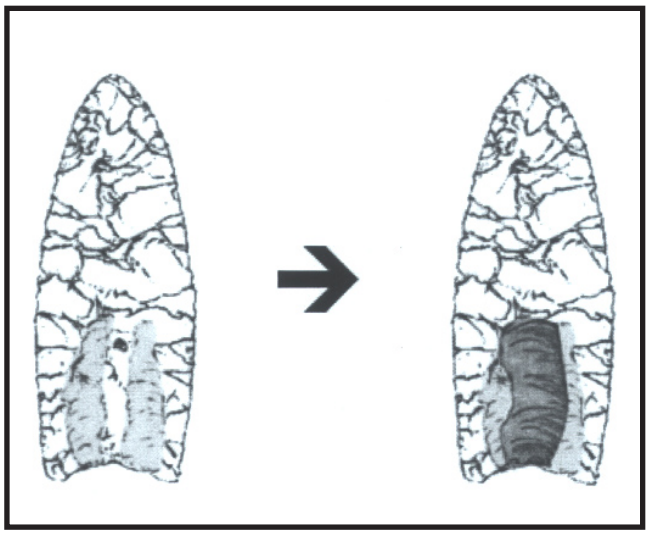

Figure 1. Guide scars before and after fluting.

Morphologically Defined Fluted Points

Perhaps the first use of the term "flute" in reference to projectile points was by Shertone (1936). Early on, flutes were sometimes referred to as "grooves" without any necessary reference to the scar or scar types that created those morphological features. Likewise, the identification of specialized preparation of platforms and faces to be fluted was not necessarily a part of those early reports.

For purposes of identification, those points retaining a biconcave basal cross section can be placed in a morphological fluted point category. The length to which this basal cross section may extend from the proximal end of the point is variable, due first to the relative flute lengths among 1) different fluted point types, 2) points of the same type, and 3) opposite faces of single specimens. Second, there was use-life shortening of flute grooves due to repair and even refabrication of damaged basal elements (Ozbun and Fagan 1996; Rondeau 1998b). The morphological fluted point type as a vehicle of identification is potentially further constrained by the recognized possibility that damage and repair could have also resulted in the loss of the entire biconcave cross section. Also, if a point was fluted on only one side, then it never had a biconcave basal cross-section, but may nonetheless be a fluted point. Even so, for purposes of this point definition, flutes are defined as basal thinning scars that created a biconcave basal cross-section.

Technologically Defined Fluted Points

With the arrival of more technologically oriented projectile point studies, the type or types of flake scars creating the groove became more of an issue. Various specially prepared fluting platforms and facial preparation techniques (e.g., pressure retouch isolation of those platforms, grinding or beveling of those platforms, the use

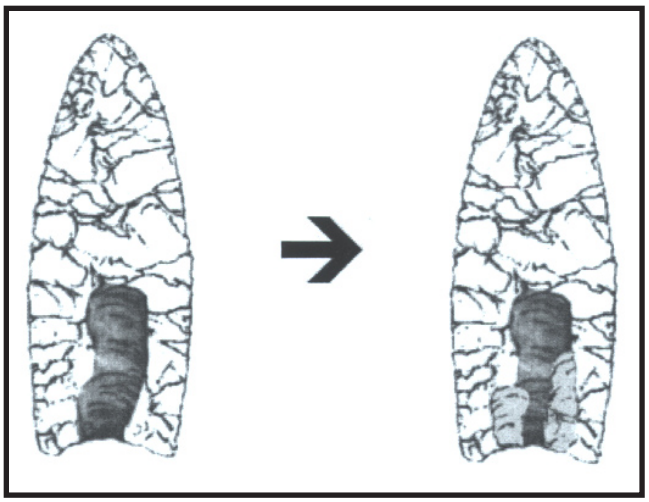

Figure 2. Flute scar and flute scar with ridge removal scars.

of guide scars to channel the flute flake removals, and the creation of a long axis ridge on the biface by flaking from the lateral margins to facilitate flute flake removal) can be used to characterize a technological fluted point. Edge-grinding of the lateral and basal margins of the point is also recognized as a finishing technique sometimes applied to fluted points, and may also aid in this identification.

Yet, it is common that technological evidence of the actual platform preparation efforts are often not retained on intact basal elements. The evidence of guide scars may not survive the fluting process nor any subsequent flaking from the lateral margins. Ridge removal scars may be part of a sequence of final pressure end-thinning that obscures the very flute scars themselves. Evidence of later repair of fluted points has indicated the removal of nearly all of the original edge-grinding. This suggests the possibility that in some cases, none of the original edge-grinding survived subsequent repairs. So, within recognized limits, for defining the technological fluted point, a polythetic set of the attributes listed above can be used to support the interpretation that basal thinning scars are—or their remnants once were—flutes.

Metrically Defined Fluted Points

One of the more useful proposals for the identification of fluted points is found in Warren and Phagan (1988) with a number of requirements including that a flute should be at least a third the width of the point. Even so, there are always borderline specimens when measurements are involved, including those that come up just a little bit short, perhaps only on one face. There are also quite small points where the flute is a small pressure flake scar that is nonetheless a third of the point width (Rondeau 2004a). Finally, metrics, as with other attributes, can change during the use-life of a specimen, especially as a result of damage and repair events. Thus, at least one basal thinning scar must measure at least a third of the surviving maximum width of the point for it to be defined as a flute and for the point to be define as a metrical fluted point.

"Real" Fluted Points

Reality rarely cooperates with neat and tidy definitions or even with the more flexible parameters offered above. None of the three definitions offered for flutes or for fluted points, morphological, technological or metrical, is wholly adequate. Not only was manufacture variable, but the vagaries of the use-life of weapon tips, their damage and maintenance, further complicate the picture .

The fluted point concept is a present-day, archaeological construct that appears not always to have been followed systematically by prehistoric flintknappers of the Far West. The fluted point is not a type, but a broad, loosely defined category or class of projectile points. The use of the term has been highly variable and a range of definitions may be applied. There is no one simple, single answer to what is a flute or a fluted point (Figure 3).

Variability in Fluted Points of the Far West

Fluted points of the Far West vary in size, morphology, and technology. In terms of size, large fluted bifaces such as those from Washington (Gramley 1993), Nevada (Elston et al. 2006; Rondeau 2006e) and California (Rondeau 2006h) should not be confused with projectile points. These larger specimens, in some cases, may be considered unfinished bifaces that may or not have been intended to become projectile points. Others appear to be finished bifacial tools that are simply too large to have been used to tip projectiles.

Size of Fluted Points

Disregarding the larger bifaces, the size of fluted points may show their greatest range of variability. Some of these points had a maximum width range that appears to be too large for use as dart tips and may be suggestive of larger thrusting weapons or knives (Rondeau 2005b, 2006a, 2007c) although a majority of specimens appear to fall within a more typical size range for dart points (Rondeau 2006g; Rondeau and Coffman 2007). Even smaller specimens appear to be present (Rondeau 2004a).

While cultural and temporal differences might be used appropriately in some instances to explain size variability in discarded points, other factors may also pertain. Differences in lithic seasonal rounds (Rondeau 1982) can account for the size of discarded points. Such factors as the length of curation before replacement can influence the potential

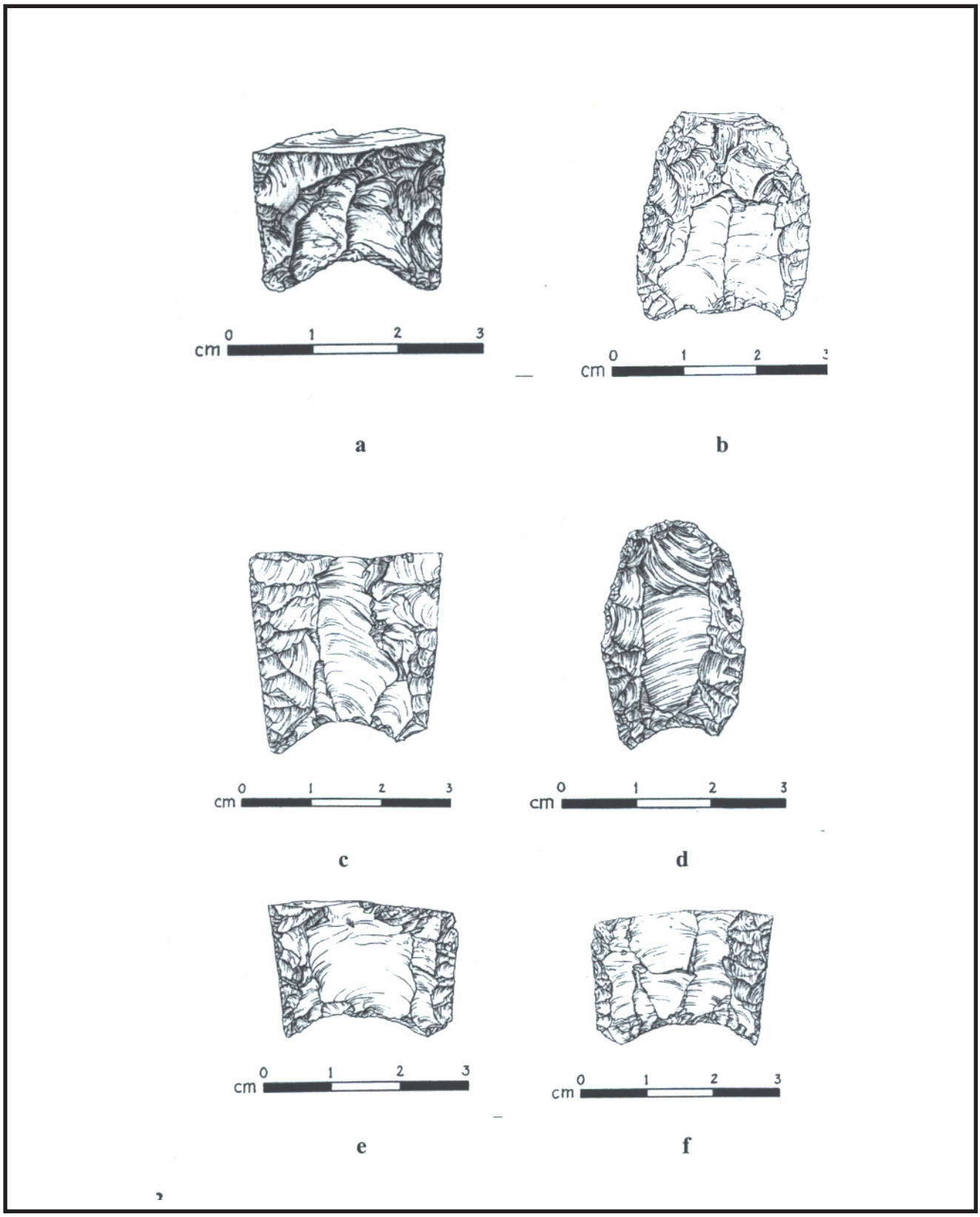

Figure 3. Fluted points from Sunshine Well, Nevada: a) 2122, b) 1905, c) 1879, d) 1885, e) 2207 face a, f) 2207 face b.

number of use damage and repair events that contribute to point size shrinkage. Such events are evident with many fluted points in the Far West (Elston et al. 2006; Rondeau 2005e). Also, variations in the original size of available tool stone in different regions may limit the initial size of newly made projectile points.

Other measures of size (e.g., length, thickness, and weight) also varied prehistorically. Length is especially difficult to use for comparative purposes, as the use-damage loss of tips and bases appears to have resulted in the repair of increasingly shorter specimens. The fact that many identifiable fluted point specimens only survive as base fragments precludes many potential measures of size.

Morphology of Fluted Points

A generalized lanceolate form appears to be common, but a decrease in length appears to have been a leading cause of variability, various pieces often becoming more squat in appearance. Repair of blade elements has resulted in a narrowing of the blade into a more Christmas tree-like shape, sometimes to a fatter, more excurvate appearing blade or less commonly into blunt, shouldered configurations. Lateral margins of the basal portion range from parallel through expanding towards the distal end as well as excurvate, but while present, seldom appear to be incurvate in the Far West.

Greater variability is found in the basal conformation. While most specimens have a concave base, this margin can range from nearly straight to deeply concave. Other examples are irregular in basal edge form, have an intrusive notch in the concave margin, or show an inverted V-shape. In addition, some of the fluted points retain remnants of small, nipple fluting platforms inset in concave bases of various depths that have an appearance not unlike remnants depicted for Folsom points farther east.

Technology of Fluted Points

The nature and degree of both end-thinning and edge-grinding was found to vary among the fluted points studied. A range in size, sequence and form of end-thinning flakes scars has been observed. For the larger flute scars, length and width can vary on opposite faces or on a single face when there is more than one channel scar. These "larger" scars appear to be too large to have been produced by pressure. Direct or indirect percussion may be postulated.

However, pressure scars, as discussed above, were sometimes used in conjunction with the larger flutes or in place of larger flute scars. A wide range of combinations can be found, including flutes with or without prior pressure guide scars, follow-up pressure ridge removal scars as well as guide and/or ridge removal scars that approach the size of flute scars. The issue of when a scar is too small to be a flute, when surviving evidence for specialized platform preparation is lacking, remains unresolved.

Pressure end-thinning of a more traditional nature may also be found along with flutes or in lieu of fluting on one face. Such end-thinning may also be involved with the other mix-and-match scenarios noted above. Finally, although rare, some points fluted on one face do not necessarily need to have any real end-thinning of any kind on the opposite side.

Edge-grinding of the lateral margins of the base as well as the basal edge itself is often considered diagnostic of this class of projectile points. This attribute ranges from heavily rounded, even polished margins through lesser degrees of edge abrasion, to only traces that suggest just the lightest buffing activity. Not all margins necessarily show the same degree of edge-grinding. Not all edges may be ground. Fluted specimens exist that show no edge-grinding at all.

Transition from Fluted to End-Thinned Projectile Points

The reality is that fluted points ceased to be made at some point in prehistory. For the Far West several trends may be suggested, although any actual verification will require adequate temporal controls. One possible trend suggested by this research is a diminution in the size of end-thinning scars over time from the larger, acceptable channel flute scars through ones that were between those and typical pressure end-thinning scars, to those that are clearly nothing more than pressure end-thinning scars. Further, whether such a transition began after the arrival of fluted points in the Far West or arrived already in progress remains unknown.

There is evidence to suggest the extensive repair and rejuvenation of fluted points may also have played a role in the movement away from fluting, with the diminution of available points limiting repairs to the use of pressure flaking (Rondeau 1996). Such repair appears to also play a role in the relationship of flute scars to the horizontal pressure flakes from the lateral margins. That these horizontal pressure scars are sometimes truncated by the flute scars and other times overlap onto them has been widely observed in the Far West. It is common that these flake scar relationships extend not only for both truncated and overlapping lateral scars to be on the same point, but also on the same face.

The process of erasing preexisting flute scars during repair or even as a finishing technique may be suggested by what appear to be oversized ridge removal scars on some specimens. It should not be surprising that specimens transitional between fluted and end-thinning are present in the Far West, nor that they may take several different forms.

Fluted Point Attributes of the Far West

A distinctive range of fluted point attributes have been suggested to signal one or more Far Western fluted point types and possibly a post-Clovis temporal placement for some fluted points. The attributes include: 1) possibly a smaller size for many fluted points than classic Clovis specimens (Beck et al. 2004; Thomas and O'Grady 2006); 2) small nipple fluting platforms set into concave bases not unlike the appearance of some Folsom point platform remnants (Rondeau 2005e, 2006g); 3) deeper concave bases than are typical for classic Clovis points (Rondeau 2005e); 4) the occurrence of somewhat narrower, parallel, multiple flute scars (Clark and Clark 1980; Rondeau 2006g); 5) a notch within the concave base margin of some specimens (Harrington 1948; Rondeau 2005b); 6) the inverted V-shape of some basal margins (Faught and Freeman 1998); 7) finely controlled pressure flaking (Beck et al. 2004), and 8) the intentional scratching of flute scars on some obsidian specimens (Harrington 1948; Fagan 1988; Rondeau 2006f).

Scratched flute scars appear to be limited to obsidian points. Obsidian fluted points are generally found in the western states, along with the obsidian sources. Variability in the extent and intensity of flute scratching from almost imperceptible to extreme examples that grade into facial grinding has been observed. While this attribute pertains to the region, it is found only on a minority of the obsidian specimens.

Findings at Tulare Lake

The CalFLUTED project has seen its share of emergent side issues. Perhaps the most critical has been the report of 379 Clovis points from the Tulare Lake locality (Stanford 2005). This issue emerged because the terms "Clovis point" and "fluted point" are sometimes used interchangeably in the literature, and California is not an exception. The claim for so many Clovis points has inflated the overall numbers of reported fluted points for California (Dillon 2002). However, not all Clovis points are fluted points (Hester 1972). Further, not all of the Clovis-like points reported for Tulare Lake appear to be fluted (Riddell and Olsen 1969).

A review of the literature found that the reported numbers of Clovis points has continually increased from the low 200s to more than 370 (Hopkins 1991, 1993, 1999; Hopkins in Stepp 1997). An analysis of the 103 reported Clovis points in the Hopkins collection from the Tulare Lake locality was undertaken by this project. The analysis removed one that was a flake and two for which the provenience could not be authenticated. The remaining 100 specimens included 25 that were fluted, but only nine that could be shown to be Clovis-like (Rondeau 2005e, 2006m). Most of the fluted points in the collection were either too fragmentary to retain diagnostic attributes, or retained elements that are suggestive of a post-Clovis placement.

This finding poses a serious challenge to the accuracy of prior claims as to the number of reported Clovis points at Tulare Lake and in general for the number of fluted points in California. Even so, a current estimation of fluted points in California places about 200 as a reasonable approximation. However, this finding also presents a serious challenge to the acceptance of claims for any other large, professionally unverified numbers of Paleoamerican artifacts of any kind claimed for the Tulare Lake region.

Conclusions

Fluted point attributes that may be unique in the Far West have been suggested by Faught and Freeman (1998). Potentially distinctive fluted points have been suggested in southern California and western Arizona (Huckell 1982; Warren and Phagan 1988), Nevada (Beck et al. 2004; Touhy 1988), as well as Alaska and the Pacific Northwest (Meltzer and Dunnell 1987). Some multiple-flute specimens from Alaska (Clark and Clark 1980) seem quite comparable to those in this region, although this similarity may be more apparent than real. The presence of the notched base has also been documented for Alaska (Loy and Dixon 1998).

In some regions of North America post-Clovis fluted points far outnumber Clovis specimens, but this is not true everywhere (Goodyear 2006). For some more northerly areas of the continent, such as Alaska and the Maritime Provinces, fluted points may not have appeared until post-Clovis times. This issue for California and much of the Far West remains unresolved.

Willig (1991) suggested that a thin basal stratum of Clovis might underlie the early Western Stemmed Series points. A discussion of early stemmed points is beyond the focus of this report. However, the concept of a limited early foundation of Clovis with an overlay of more numerous, later fluted points should also be considered as an alternative hypothesis for testing. Outside of southeastern Arizona, adequate radiocarbon dating or association with Pleistocene fauna has not been established for fluted points in the rest of Arizona, or for Idaho, Washington, Oregon, Utah, Nevada, or California.

It may not be premature to propose multiple working hypotheses for the identification of potential Far Western fluted point types and their relative temporal placement. The model could be based, in part, on findings from elsewhere in North America and the seriation of Far Western morphological and technological fluted point attributes.

Such hypotheses may face several significant limitations. First, any reasonable expectation of testing such a model might well prove to be unrealistic and simply thwarted by the ongoing lack of relevant sites with fluted points in a primary context, especially ones with acceptable radiocarbon dating.

Second, there is the risk that such a model may also be used without appropriate caveats and repeated to the point that it takes on a life of its own as an interpretative scheme. The misuse of unproven and unsupported ideas would not be new in the realm of projectile point interpretations.

Regardless, a significant degree of variability in morphology and technology has been recognized in the fluted points of the Far West. This variability involves a set of attributes, some of which may be somewhat unique to the Far West. Further, that this variability may be sorted into several recognizable, alternative sets of hypothetical fluted point types, has emerged as a future research issue.

The complexity of fluted points in the Far West has not yet been completely mapped, especially in terms of point attributes. Finally, their placement in time has yet to be approached and even then, the definition of complete assemblages and the lifeways that they represent remains well beyond any research efforts currently foreseeable in California.

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