COMMENTS

IDENTIFYING DART AND ARROW POINTS IN THE GREAT BASIN: COMMENT ON SMITH ET AL.'s "POINTS IN TIME: DIRECT RADIOCARBON DATES ON GREAT BASIN PROJECTILE POINTS"

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Smith et al. (2013) provided important new information concerning the ages of a variety of projectile point types found in the Great Basin. Two of their interpretations, however, deserve further discussion. Smith et al. (2013) concluded that the Nicholarsen (or Nicolarsen) Cache contains both dart and arrow points. However, our application of methods developed by Hildebrandt and King (2012) to distinguish dart and arrow points, indicates that the Nicholarsen Cache contains arrow points exclusively. In addition, we suggest that the two ca. 6,800-year-old "Elko-Eared" points identified by Smith et al. (2013) are Large Side-notched points.

Smith et al. (2013) proporcionaron nueva información importante acerca de la edad de una variedad de tipos de puntas de proyectil en la Gran Cuenca. Dos de sus interpretaciones, sin embargo, merecen mayor discusión. Smith et al. (2013) concluyeron que la caché Nicholarsen (Nicolarsen) contiene puntos tanto de dardos y flechas. Nuestra aplicación de los métodos desarrollados por Hildebrandt y King (2012) para distinguir puntos de dardos y flechas, sin embargo, indica que la memoria caché Nicholarsen contiene flecha exclusivamente puntos. Además, se sugiere que los dos ca. 6,800 años viejos puntos "Elko Eared" identificados por Smith et al. (2013), son grandes puntos-lado dentado.

Smith et al. (2013) made two interpretations that warrant further discussion: (1) the owner of the Nicholarsen Cache used both bow-and-arrow and atlatl-and-dart technology in the western Great Basin approximately 1,200 years ago; and (2) Elko Eared points were directly dated to approximately 6,800 years ago at Elephant Mountain Cave (northwestern Nevada) and Bob's Cave (northeastern Nevada).

The Nicholarsen Cache (northwestern Nevada) produced a hide bag containing 101 projectile points and blanks. The bag was directly dated to 1235 cal B.P., which postdates the introduction of bow-and-arrow technology into the local area by about 600 years. Smith et al. (2013) used Thomas' (1981) projectile point quantitative key to classify the Nicholarsen Cache specimens and found that 36 fell into the Rosegate (Rose Spring and Eastgate) series (arrow points), 21 fell into the Elko series (dart points), and 10 were indeterminate. The other 34 specimens were blanks lacking diagnostic features. Smith et al. also used Shott's (1997) quantitative method for distinguishing between darts and arrows, and this approach classified almost all of the specimens (93 percent) as darts. Smith et al. (2013:588) favored Thomas' (1981) classification methodology, leading them to conclude that the atlatl and dart and bow and arrow were used simultaneously in the western Great Basin ca. 1200 cal B.P.

Hildebrandt and King (2012) recently proposed a simple index to distinguish between darts and arrows. This index sums maximum thickness and neck width, and demonstrates that the majority of arrows measure less than 11.8 mm, whereas darts measure greater than 11.8 mm. Smith et al. (2013) did not provide neck width measures, but Hildebrandt and King (2012) found that maximum thickness was also a good indicator alone. As outlined in Table 1, multiple projectile point samples

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Table 1. Maximum Thickness of Various Projectile Point Styles from the Great Basin.

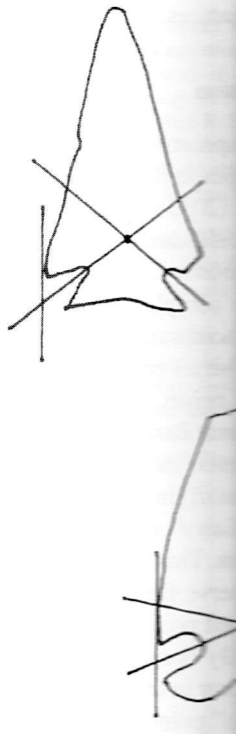
	DSN	CTWD	RS/EG	Elko	Gatecliff
Gatecliff Shelter[a]					
n	15	8	47	210	22
mean	2.6	3.2	3.5	5.2	4.8
sd	.4	.4	.7	2.2	.9
S. Lake Tahoe[b]					
n	63	30	21	9	-
mean	3.1	3.0	3.5	5.5	-
sd	.6	.6	.5	1.3	-
NW Great Basin[c]					
n	167	-	545	430	71
mean	2.8	-	3.4	5.0	5.2
sd	.5	-	.7	1.1	1.2
James Creek Shelter[d]					
n	17	-	37	23	2
mean	2.7	-	3.4	4.4	4.6
sd	.6	-	.7	.7	.1
Pie Creek Shelter[e]					
n	6	-	14	10	8
mean	2.3	-	3.0	4.8	5.3
sd	.5	-	.7	1.0	.5

[a]Thomas 1983
[b]This article
[c]Hildebrandt and King 2002
[d]Elston and Budy 1990
[e]McGuire et al. 2004

from the western Great Basin show that the maximum thickness of Rose Spring/Eastgate points cluster around a mean of 3.4 mm, whereas Elko points cluster around a mean of 5.0 mm. Unpaired two-sample *t*-tests on each of the projectile point collections show that Rose Spring/Eastgate points are clearly distinct from Elko points ($p < .0001$) in all cases. Nicholarsen projectile points classified as Rosegate by Smith et al. (2013) produce a mean thickness of 3.6 mm, consistent with other Rose Spring/Eastgate samples from western Nevada, whereas the points classified as Elko yielded an identical mean thickness of 3.6 mm. These findings suggest that the entire Nicholarsen Cache is composed of arrows, and, thus, the simultaneous use of bow-and-arrow and atlatl-and-dart technology by the individual that owned the cache probably did not occur.

Although a number of Nicholarsen Cache specimens appear to have excessive maximum widths and neck widths for arrow points, a review of the photographs shows that most of the notching is incipient at best, lacking a strong hafting element. It is likely that none of these specimens had been hafted and used, and therefore these unfinished implements contributed to the classificatory problems encountered by Smith et al. (2013).

Smith et al. (2013) also directly dated either hafting material or textiles associated with seven points typed as Elko Eared and two typed as Large Side-notched. Local phase sequences in the western and north-central Great Basin place Large Side-notched points somewhere within the Middle Holocene (ca. 9,400–5,100 years ago), and Elko series (Elko Corner-notched and Elko Eared) postdating approximately 4,000 years ago (e.g., Hildebrandt and King 2002; Hockett and Morgenstein 2003). Although Smith et al. (2013) reported that the two Large Side-notched points dated to ca. 6,800 years ago (Middle Holocene) and five of the seven Elko-series points dated to ca. 1,800–2,500 years ago (Late Holocene), matching current typological chronologies, they reported two Middle Holocene dates for Elko Eared points: (1) a 6,879-year date from Elephant Mountain Cave, and (2) a nearly identical 6,831-year date from Bob's Cave. Smith et al. (2013) concluded that Elko-series points may have much deeper time depth than the established local typological sequences suggest.



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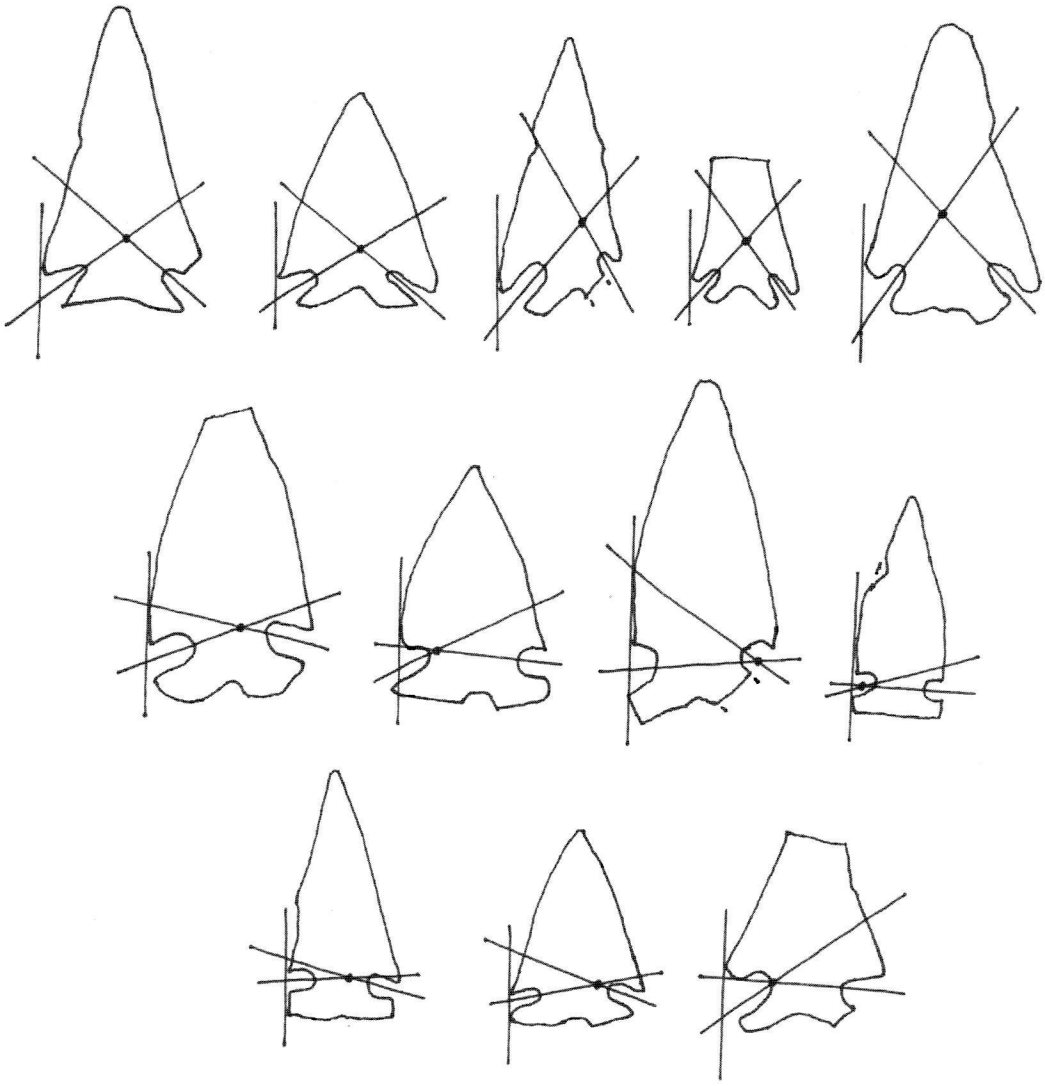

Figure 1. Elko Eared and Large Side-notched points from the Great Basin. Top row, left to right: Elko Eared specimen 1-65631, Wagon Jack Shelter, Nevada (after O'Connell 1967:137, Figure 1a); Elko Eared specimen 1-17465, Wagon Jack Shelter, Nevada (after O'Connell 1967:137, Figure 1d); Elko Eared from James Creek Shelter, northeastern Nevada (after Elston and Budy 1990:85, Figure 39d); Elko Eared from Gatecliff Shelter, central Nevada (after Thomas 1983:190, Figure 78d); Elko Eared specimen 26Ek6506-690, Pie Creek Shelter, northeastern Nevada (after McGuire et al. 2004:61, Figure 31). Middle row, left to right: Large Side-notched point originally identified as "Elko Eared," Hogup Cave, Utah (after Aikens 1970:38, Figure 20L); Large Side-notched point originally identified as "Elko Eared," Hogup Cave, Utah (after Aikens 1970:38, Figure 20J); Large Side-notched point originally identified as "Elko Eared," Camels Back Cave, Utah (after Schmitt and Madsen 2005:38, Figure 5.15J); Large Side-notched point originally identified as "Elko Side-notched," Sudden Shelter, Utah (after Jennings et al. 1980:68, Figure 35a). Bottom row, left to right: Large Side-notched specimen 26Ek6892-242, Bob's Cave, northeastern Nevada (after Smith et al. 2013:585, Figure 2); Large Side-notched specimen 26Ek6892-243 originally identified as "Elko Eared," Bob's Cave, northeastern Nevada (after Smith et al. 2013:585, Figure 2); Large Side-notched specimen 26Hu3557-58 originally identified as "Elko Eared," Elephant Mountain Cave, northwestern Nevada (after Smith et al. 2013:585, Figure 2).

The two "Elko Eared" points dating to ca. 6,800 years ago are probably Large Side-notched points. Elko-series points are corner notched and come in two subtypes. Elko Corner-notched points have straight bases, whereas Elko Eared points have concave bases that produce "ears projecting diagonally from the base" (O'Connell 1967:129) (Figure 1, top row). In contrast, Large Side-notched points are side notched and, like Elko points, may have either straight bases or concave bases that produce "ears" (Figure 1, middle and bottom rows). Because corner notching removes a portion of raw material on either side of the base of the triangular preform, the basal width of Elko points is usually less than the width across the tangs or barbs (Figure 1, top row, vertical lines). In contrast, side notching usually does not remove raw material from the base of the preform; as a result, the basal width of Large Side-notched points is usually greater than or equal to the width across the tangs or barbs, depending upon the symmetry of the preform prior to notching (Figure 1, middle and bottom rows, vertical lines). Finally, lines drawn through the two sets of corner notches on Elko points generally intersect above the top of the notches, whereas side notching produces intersecting lines at or below the top of the notches (Figure 1).

The Large Side-notched point identified by Smith et al. (2013:585, Figure 2) is shown in outline form in Figure 1 (bottom row, far left specimen); it is clearly a side-notched point. The 6,800-year-old "Elko Eared" point from Bob's Cave (Smith et al. 2013:585, Figure 2) is shown in outline form in Figure 1 (bottom row, middle specimen). The basal width of this point is about equal to the width across the barbs or tangs, and the notching lines intersect along the top of the notches. This point is likely a Large Side-notched point. The 6,800-year-old "Elko Eared" point from Elephant Mountain Cave (Smith et al. 2013:592, Figure 5) is also atypical of an Elko Eared point (Figure 1, bottom row, far right specimen). In this case, however, the basal width in comparison to the width across the barbs more closely matches Elko-series points, whereas the notching lines intersect across the middle of the notches as in Large Side-notched points. This point illustrates the difficulty archaeologists sometimes face in distinguishing and classifying individual points, whether by use of metric measurements or qualitative features.

Conclusion

Issues of local projectile point typologies and their associated chronologies in the Great Basin highlighted by Smith et al. (2013) are as relevant today as they were in the 1950s and 1960s, when typologies were first established. We note that the issues raised here are complex and do not necessarily apply equally across the entire Great Basin. For example, Elko-series points are often found together with arrow points in Fremont assemblages in the eastern Great Basin. And as Figure 1 (middle row) indicates, there has been a rather long history of classifying Large Side-notched points as "Elko Eared" or "Elko Side-notched" in the Great Basin. This raises two important questions that deserve further research: (1) where do corner-notched points that predate ca. 4,000 years ago actually occur in the Great Basin and (2) if they do occur in these early contexts, are they really "Elko" points? Put another way, is there a hiatus between Middle Holocene-aged corner-notched points and those originally defined as "Elko" points that postdate the Middle Holocene across much of the Great Basin? Smith et al. (2013) should be applauded for their novel approach to directly dating the binding of projectile points hafted to foreshafts or dart or arrow shafts, as this research will continue to clarify the ages of projectile points and their use as time markers in the Great Basin.

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