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Fishtail points from the Pampas of South America: Their variability and life histories

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ABSTRACT

Fishtail points (FTP) related to the terminal Pleistocene peopling of the South American continent present morphological, technological and functional variability. We discuss a collection of FTP recovered from central east Tandilia Range in the Pampas of Argentina. We do this by exploring the life histories of a set of 97 FTP, assessing aspects of production, use and discard through morphological, macro-fracture, and fatty acids and sterols analysis. We identify four categories: miniatures, "atypical FTP", medium-sized and large points. Although possibly all were related to the realm of hunting, only medium and large points have clear indications of use as parts of weapons. Transformation due to maintenance, impact or recycling indicates their longevity and the complexity of their life histories. Miniatures are considered representations of full sized points and large points also possibly held a special status, requiring great flintknapping skill. As artifacts covering different roles and used in different social practices repeat the FTP outline, we sustain this shape must have held some significance for the people who produced and used them. Other aspects related to FTP use lives which probably were laden with meaning are the choice of colored and translucent toolstone and their intentional place of discard.

1. Introduction

Fishtail points (FTP) have become iconic artifacts considered diagnostic of an early occupation throughout South and Central America. Their initial finding (Bird, 1938) was the first widely accepted evidence of the coexistence of man and megafauna in the southern continent. Among the features traditionally related to the terminal Pleistocene occupation of South America, they are the ones exhibiting the most widespread distribution, and as such have historically received attention in the literature on early peopling (Bird, 1946; Borrero, 1983; Gnecco, 1994; Mayer Oakes, 1986; Morrow and Morrow, 1999; Politis, 1991; Schobinger, 1973). Recently, several regional syntheses review their presence in the Southern Cone (Flegenheimer et al., 2013a; Miotti and Terranova, 2015; Loponte et al., 2015; Nami, 2014; Rivero and Berberián, 2008; Suárez, 2015; Waters et al., 2015). Uruguay and Argentina exhibit a great number of these points, with the greatest concentrations at a site in the Argentinean Pampas and another in North Patagonia (Flegenheimer et al., 2013a; Miotti and Terranova, 2015). Other known sites in South America yielding large collections are Fell's Cave and El Inga (Bell, 1965; Bird, 1988; Mayer Oakes, 1986). In the Pampas they were recovered at hunting sites (Cerro La China 2), processing sites (Paso Otero 5), rockshelters with domestic activities (Abrigo Los Pinos) and special activity sites both in rockshelters (Amalia 2 and Cerro El Sombrero Abrigo1) and in an extensive open air site (Cerro el Sombrero Cima) (Flegenheimer et al., 2015a; Martínez, 2006; Mazzanti, 2003; Mazzanti et al., 2012).

Bird's initial definition of these points (Bird, 1969) considers a certain variation within the same morphological type. Yet, nowadays a greater variation mainly related to point size and manufacturing techniques is identified. This variability has been assigned to different moments of their use life, raw material, function and geographical provenience (Bayón and Flegenheimer, 2003; Castiñeira et al., 2011; Flegenheimer et al., 2015b; Hermo and Terranova, 2012; Nami, 2015; Politis, 1991; Suárez, 2006). Even when exhibiting remarkably different sizes, these objects show the same characteristic outline and generally the same specific stem attributes. FTP can be described as stemmed points, with a lanceolate blade and a characteristic stem with concave sides and a transverse cross-section that tends to be hexagonal and flattened at the center, with or without fluting. The morphological variability and

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specifically the existence of very small specimens and very large ones, have also led to questioning the function of some of these artifacts as projectile points (Bayón and Flegenheimer, 2003; Flegenheimer et al., 2015a; Politis, 1998; Nami, 2013). Analyses leading to establish formal standardization and variability undertaken for other point types (Knecht, 1997) are still in their infancy in our case. In sum, the artifacts known as fishtail points present morphological, technological and functional variability within a general design. In this context, the term "fishtail point" as it is here applied, has a broad meaning and designates objects with a common outline but with different uses and life histories; the use of the term FTP does not imply that all these artifacts were used as projectile points.

In this paper we discuss a collection of FTP recovered from Cerro El Sombrero (CS) and Cerro La China (LCH) archaeological localities in the province of Buenos Aires, Argentina, introducing in detail one of the very few large collections recovered at a single site: Cerro El Sombrero Cima (CSC). We emphasize this provenience context because it eliminates geographical distribution or raw material availability as explanations for the recorded variability. The existence of neighboring and co-relatable sites with FTP allows controlling chronology and adds the occurrence of points at sites with different functions and different activities. This issue is relevant, as there is great functional intersite variability (Flegenheimer et al., 2015a); as can be seen in the materials section, our sample includes points from domestic, special activities and hunting sites as well as the large collection from a weapon refurbishing place (Table 1). These sites exhibit differences in their size, geomorphological situations and lithic assemblage's composition.

Here we explore the life histories of a set of FTP assessing aspects of production, use and discard. We consider that artifact life histories provide an insight into human activities, including social and economic situations and choices related to each activity (Andrefsky, 2010; Fogelin and Schiffer, 2015; Walker, 1995). We consider that these objects have a longer life history including post-depositional processes and current recovery, analysis, interpretation and resignification (Hurcombe, 2007) but these will not be treated in detail here. Even though every object has its individual life history, our intention is to identify groups of objects that share somewhat similar trajectories that are relevant when explaining assemblage variability.

We conceive objects and people interwoven in social networks of relations which find expression in diverse realms of human life (Chilton, 1999; Meskell, 2005). Our research is based on the premise that artifacts, as material expressions of relationships, play an important role in the communication of practical knowledge as well as aesthetic and symbolic values. Here we relate the dynamic aspects of material culture to their context of production, use and discard or loss. Production is considered in relation to raw material availability and selection, manufacturing choices and labor investment. Use is assessed considering macro-fracture and fatty acids analysis. Finally, discard is discussed in relation to the characteristics of the assemblages and places where artifacts were recovered. We do not attempt to describe technology in detail; this issue has been thoroughly studied through experimental work related to other FTP collections (Nami, 2010, 2014). Based on the results of these analyses we discuss social interactions involving people and these objects. Finally, we will briefly consider the role of fishtail points in the context of the peopling of the Southern Cone.

2. Materials: fishtail point collection

FTPs analyzed in this paper were recovered at four sites from two archaeological localities of the central east Tandilia Ranges (center of Buenos Aires Province, Argentina) (Fig. 1). Three early sites were identified at LCH locality, two of them yielded FTPs. LCH1 is a domestic site with five radiocarbon dates ranging from 10,804 ± 75 years BP (AA-8953) to 10,525 ± 75 years BP (AA-8954). A single broken FTP preform and a blank were recovered at this site along with a great variety of bifacial and unifacial tools, flakes, cores, ochers and a scute of *Eutatus seguini*. LCH2, located 85 m away from LCH1 is interpreted as a kill site due to the presence of points as a main tool type throughout the occupation sequence: the initial occupation level yielded two FTPs and two dates of 11,150 ± 135 years BP (AA-8955) and 10,560 ± 75 years BP (AA-8956) (Flegenheimer et al., 2015a). The other two sites are at CS locality, located at the highest hill in the area (Cerro El Sombrero). Abrigo 1 site is a small rock shelter near the hilltop, with a set of radiocarbon dates between 8060 ± 140 (AA-5221) considered anomalous, and 10,725 ± 90 years BP (AA-4765). It is a specific activity site with an emphasis on fresh hide processing based on microscopic use wear analysis (Flegenheimer and Leipus, 2007). Two FTPs, bifacial and unifacial tools, a few cores, flakes and abundant ocher fragments were recovered here (Flegenheimer, 2003). Finally, at the hilltop, which extends over 25,000 m^2, CSC site yielded the largest collection of FTPs recovered at the Pampean region and one of the largest of the southern cone; the total number of FTPs known up to the moment amounts to 130 and is housed at three different museums (Flegenheimer et al., 2015a). Lithic materials consist of a variety of unifacial and bifacial flaked tools, ground artifacts including a discoidal stone with a central engraving and thousands of flakes and were collected from

Table 1
Radiocarbon dates and function of the sites with FTP discussed.

Site	$_{14}$C years BP	Cal years BP	Lab. number (Charcoal)	Site function
Cerro La China 1	10,804 ± 75	12,780–12,600	AA-8953	Domestic rockshelter
	10,790 ± 120	12,810–12,550	AA-1327	
	10,745 ± 75	12,730–12,540	AA-8952	
	10,730 ± 150	12,510–12,280	I-12741	
	10,525 ± 75	12,780–12,450	AA-8954	
Cerro La China 2	11,150 ± 135	13,160–12,880	AA-8955	Hunting open air site
	10,560 ± 75	12,550–12,330	AA-8956	
Cerro El Sombrero Abrigo 1	10,725 ± 90	12,720–12,500	AA-4765	Specific activities rockshelter
	10,675 ± 110	12,690–12,430	AA-4767	
	10,480 ± 70	12,460–12,220	AA-5220	
	10,270 ± 85	12,210–11,765	AA-4766	
	8060 ± 140	9140–8580	AA-5221	
Cerro El Sombrero Cima	–	–	–	Weapon refurbishing, discard of broken artifacts, lookout, open air site