

# A Hill Full of Points in Terra Incognita from Patagonia: Notes and Reflections for Discussing the Way and Tempo of Initial Peopling

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We present the environmental and archeological results of research at Cerro Amigo Oeste, a mesa-top archeological site with Fishtail points located on the Somuncurá Plateau, northern Patagonia, Argentina. Comparison with other South American sites is used to interpret archeological landscapes of colonization. The objects, features, and beings of landscape are understood as reflecting the materiality of social relations as well as patterns of production, retooling, and mobility. Cerro Amigo Oeste is in a very special location due to its high elevation and extensive view of the landscape, as well as its archeological and ethnographic significance. It can be considered a node or hub of communication in the social network among hunter-gatherers far and near in the late Pleistocene.

**Keywords** American peopling, archeological landscapes, social agency, Fishtail points

“Erigir una piedra, ponerla en posición vertical, es un acto de reconocimiento simbólico: la piedra se convierte en una presencia y así comienza un diálogo.” [“To erect a stone, to place it in a vertical position, is an act of symbolic recognition: the stone is converted into a presence and thus commences a dialogue.”]

[John Berger. 2004, 245. *El tamaño de una bolsa*. Buenos Aires: Taurus.]

## 1. Introduction

Current archeological views see material culture as the embodiment of relations between humans and their environment, and thus as a vehicle for memory and social identity. Taking this perspective, we aim to use a contextual study of the spatial and temporal distribution of Fishtail points (FTP) to relate human actions and decisions to the colonization of landscapes in South America. This perspective goes beyond the analysis of the production and use of such tools, issues generally considered from technological, economic, and functional points of view. The temporal distribution of these points in South America (11.6–9 <sup>14</sup>C yr BP) allows us to infer that their production and use were linked to the slow tempo<sup>1</sup> of the initial colonization of the continent.

We aim to show that the geographical configuration of these artifacts is a marker of the way in which environmental information was circulated socially (Rockman 2003), and we use it to reconstruct the early relations between South Americans and their environment.

FTPs have an extensive research history in the Americas, and their academic interest is comparable only to that of Clovis points in North America. Following Frison (1990), we agree that this interest is related to their archeological association with extinct faunas and the earliest well-documented human presence in the continent. The first published data about an FTP finding were recorded in the work by Florentino Ameghino, who described a context in the Buenos Aires coastal locality of San Cayetano, highlighting a strange point that until that time had not been recorded (Ameghino 1915: 42, print 1, 130). Two decades later, Bird (1988) reported FTPs in the distant region of Magellan, in the deep strata of Fell’s Cave. From then onward, many FTPs were recorded, widening our knowledge of their geographical and contextual variability. Isolated surface findings are numerous, but FTPs also appear in stratigraphic archeological contexts. They are frequently found in both camp and kill sites; however, they are scarce, and only in a few places have more than two specimens been found together (Figure 1, Table 1), for example

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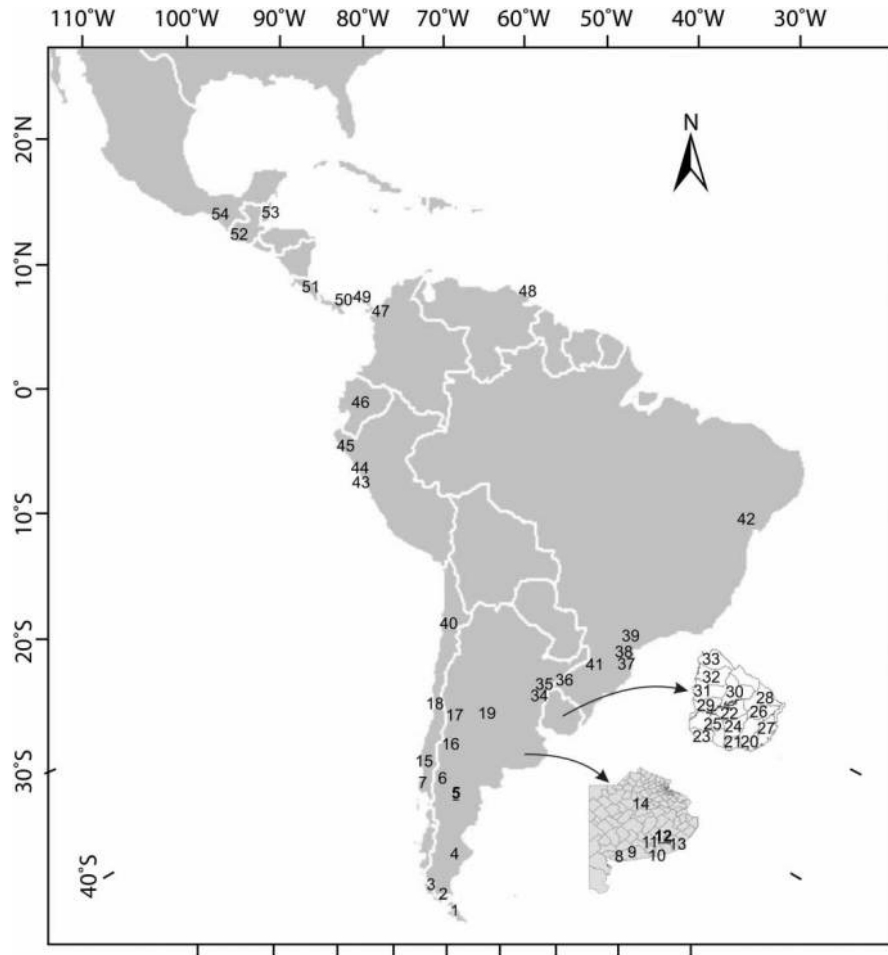


Figure 1 Map of South America showing places with FTPs.

24 in the Negro River basin of the Tacuarembó region, Uruguay (Nami 2007; Suárez 2011), and 21 from surface and stratified contexts at the El Inga site in Ecuador (Mayer-Oakes 1986).

In recent decades, though, with an increase in regional investigations of Pleistocene/Holocene sites, FTPs increasingly have been found in numerous contexts (Dillehay 2010; Flegenheimer 2003; Hermo and Terranova 2012; Laguens et al. 2007; Mazzanti 2003; Miotti and Terranova 2010; Miotti 1996; 2010a; Miotti et al. 2011; 2012; Nami 1987, 2007; Núñez et al. 1994, 2005; Suárez 2011) (for further details see Table 1). This work has added two more sites with abundant FTPs: Cerro El Sombrero (CoES) and Cerro Amigo Oeste (CoAW) (Flegenheimer et al. 2013; Hermo and Terranova 2012; Mazzia and Flegenheimer 2012; Miotti and Terranova 2010, 2011; Miotti et al. 2012; Weitzel 2010).

Thus, the picture that has emerged is one where FTPs are lightly scattered throughout much of the South American continent, but in a few localities, they are abundant. What does this distribution mean? The aim of this paper is to present the archeological markers of CoAW, in northern Patagonia, to compare its context, mainly with CoES, and to

discuss how these first inhabited places inform us about the tempo and social practices leading to the initial colonization of South America.

## 2. Cerro Amigo Oeste, Northern Patagonia

The CoAW site is on the westernmost of two high mesas that are jointly referred to as Los Dos Amigos (LDA). The mesa is a volcanic butte shaped by later eolian action (IGM (1986), Hoja 4169-IV, Maquinchao, 1986). Erosion of the underlying tuff gave this butte its truncated cone shape, with a crown of more resistant basalts and slopes of volcanic tuff with an average slope around 12°. The mesa's summit lies about 125 m above the lagoon level. The mesa, together with the north bank of Las Vacas Lagoon and the adjacent plain, constitutes the archeological locality LDA. CoAW itself covers about 10,000 m<sup>2</sup> (Figure 2). In November 2008, we found on the summit of CoAW the greatest FTP concentration; previously, we had recovered three FTPs on the plain surrounding it (Miotti 2010a; Miotti and Terranova 2010, 2011; Miotti et al. 2011).

The archeological and landscape features of LDA are so far only comparable with CoES in Tandilia Hills, in the Pampa region (Flegenheimer 2003).

**Table 1**  
**Archeological FTP contexts and distribution in South America**

No.	Name of site/ locality	<sup>14</sup> C yr BP	Context	Quantity of FTPs	References
1	Tres Arroyos 1	11,085–10,130	Stratigraphic	3	Massone (2003, 2004)
2	Pali Aike	8639	Stratigraphic and surface	2	Bird (1988), Nami (1999)
	Fell	11,000–10,720	Stratigraphic	20	Bird (1988)
	Magallanes	n/d	Surface	1	Bahamondes and Jackson (2006)
3	Cueva del medio	11,120–10,310	Stratigraphic	2	Nami (1987)
	Lago Sofía Cave 4	11,570–10,140	Stratigraphic	1	Prieto (1991)
4	Cerro Vanguardia	n/d	Surface	1	Miotti et al. (1996)
	Piedra Museo	10,470–9,710	Stratigraphic	2	Miotti et al. (1999)
5	Tapera Isidoro	n/d	Surface	1	Miotti (2010a)
	LDA 5	n/d	Surface	2	Miotti et al. (2009)
	Abra site	n/d	Surface	1	Miotti et al. (2004)
	CoAW	n/d	Surface	131	Miotti et al. (2010a, 2010b)
6	Arroyo Corral 2	10,020	Stratigraphic	1	Arias et al. (2010)
	Trailal-Tué	n/d	Surface	1	Nami (1992)
	La Marcelina 1	1700	Stratigraphic	1	Crivelli Montero (2010)
	Piedra del Aguila	n/d	Surface	1	Shobinger (1957)
	Río Limay	n/d	n/d	1	Politis (1991)
7	Temuco 1	n/d	Surface	1	Dillehay (1997)
8	Río Sauce Chico	n/d	Surface	1	Politis (1991)
9	San Cayetano	n/d	Surface	2	Ameghino (1915), Politis (1991)
10	Bellamar 3	n/d	Surface	1	Bonomo (2005)
11	Paso Otero 5	10,440–10,190	Stratigraphic	2	Martínez (2001), Holliday et al. (2003)
12	La Amalia 2	10,425	Stratigraphic	1	Mazzanti (2003)
	La China 1	10,804–10,520	Stratigraphic	1	Flegenheimer (1980), Flegenheimer and Zárata (1997)
	La China 2	11,150–10,560	Stratigraphic	1	Flegenheimer (1980), Flegenheimer and Zárata (1997)
	El Sombrero	10,725–10,270	Stratigraphic/surface	126*	Flegenheimer (2003, 2004)
13	Los Pinos	10,465–9,570	Stratigraphic	1	Mazzanti (2003)
	Cueva Tixi	10,375–10,045	Stratigraphic	1	(Mazzanti, personal communication)
14	Lobos	n/d	Surface	1	Politis (1991)
15	Tagua Tagua 2	10,120–9,710	Stratigraphic	3	Nuñez et al. (1994)
16	Ranquil Norte	n/d	Surface	1	
17	La Crucecita	n/d	Surface	1	García (2003)
18	Valiente	10,700–9,970	Stratigraphic/surface	2	Mendez et al. (2010)
19	ELS wtf	n/d	Surface	2	Laguens et al. (2007)
	Río Tercero	n/d	n/d	1	Politis (1991)
20	Maldonado	n/d	n/d	7	Suárez (2011)
21	Canelones	n/d	n/d	3	
22	Rocha	n/d	n/d	8	
23	Colonia	n/d	n/d	2	
24	Florida	n/d	n/d	2	
25	Flores	n/d	n/d	2	
26	Treinta y tres	n/d	n/d	1	
27	Durazno	n/d	n/d	8	
28	Cerro Largo	n/d	n/d	1	
29	Río Negro	n/d	n/d	4	
30	Tacuarembó	n/d	n/d	24	
31	Paysandú	n/d	n/d	3	
32	Salto	n/d	n/d	2	
33	Artigas	n/d	n/d	7	
34	Santa Eloisa	n/d	Surface/collection	1	Capeletti (2011)
35	Santa Lucía	n/d	Surface	3	Mujica (1995)
36	RS-I-69	10,985–9,620	Stratigraphic	1	Miller (1987)
37	Capivara	n/d	Surface	1	Smith (2012)
38	Santa Catarina	n/d	Surface	2	Prous and Fogaça (1999)
39	Paraná	n/d	Surface	1	Prous and Fogaça (1999)
40	Punta Negra	10,470–9,180	Stratigraphic	1	Grosjean et al. (2005)
41	Río Claro	n/d	Collection	5	Beltrao (1974)
42	Bahía	n/d	n/d	1	Nami (2011)
43	Jequetepeque	11,000–10,500	n/d	4	Briceño (1999), Dillehay (2011)
44	Valle de Moche	n/d	n/d	1	Ossa (1976)
45	Piura	n/d	n/d	1	Chauchat and Zevallos Quiñones (1979)
46	El Inga	9330	Stratigraphic/surface	21	Mayer-Oakes (1966, 1986)
47	Bahía Gloria	n/d	Surface	1	Cooke (1998)
48	Isla Margarita	n/d	n/d	1	Nami (2011)
49	Madden Lake	n/d	Surface	6	Bird and Cooke (1977)
50	Turrialba	n/d	Surface	1	Snarskis (1979)

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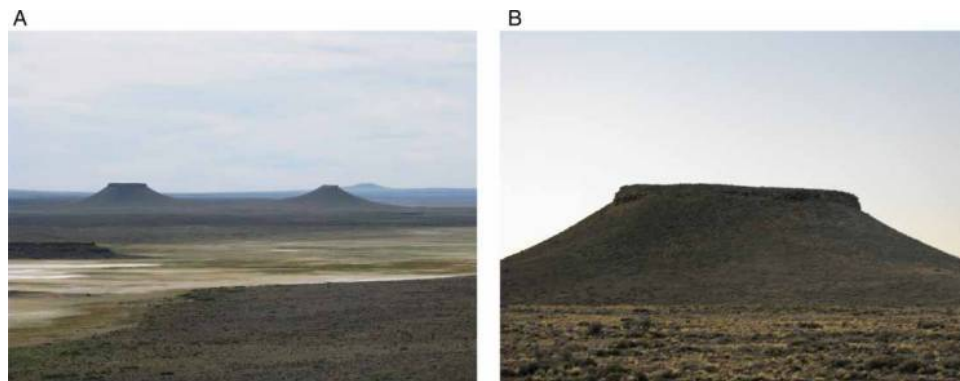
**Table 1**  
*Continued*

No.	Name of site/ locality	<sup>14</sup> C yr BP	Context	Quantity of FTPs	References
51	Birlen	4500	Stratigraphic	1	Leon (2006)
52	Tapiales	n/d	n/d	1	Gruhn and Bryan (1977)
53	Belice	n/d	n/d	1	Nami (2011)
54	Los Grifos	9540–8930	Stratigraphic	2	Acosta Ochoa et al. (2010)

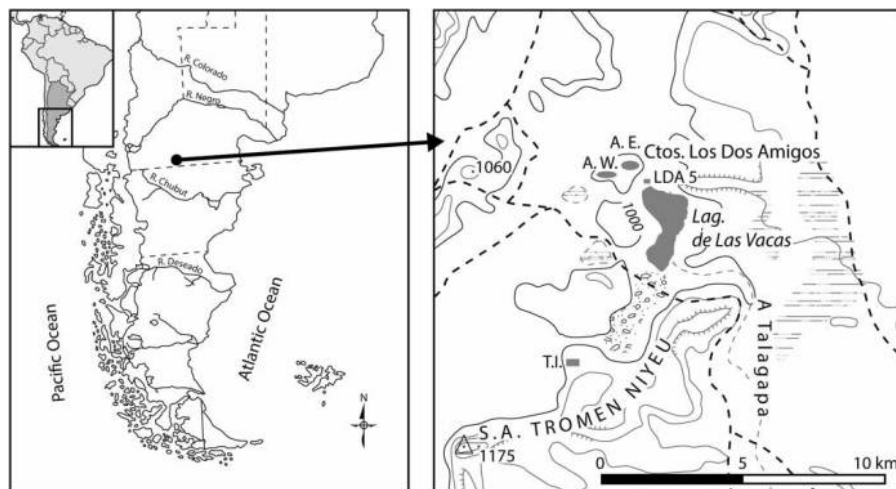
\*90 FTP belong to Cerro El Sombrero Cima, 32 in the Noceda collection, 6 from Museo D (Arce collection), and 2 come from the stratigraphic deposit of Cerro El Sombrero Rockshelter 1.

The LDA locality lies on the Somuncurá Plateau, in northern Patagonia (Figure 3). This mountain range is at about 1000 masl and consists of extensive lava plateaus and volcanic structures (Masera 1998; Miotti et al. 2004, 2011). The plateau itself is star-shaped, and streams radiate outward from its center (Figure 4). It also has numerous *bajos*, resulting from wells and circular depressions, where at the bottom there are temporary pluvial lagoons and permanent lagoons fed by freshwater sources. Many of the volcanic structures such as the chimneys, laccoliths, cones, and buttes give this landscape a mountain

physiography rather than a flat and monotonous plateau (Remesal et al. 2001). Springs are common and support vegetation. In arid and semiarid regions such as the Patagonian plateaus, water is a critical resource; its availability makes the difference between inhabited and transient places (Miotti 1998, 2006, 2008). Inhabited places are certainly of great significance for human settlement in the past. This fact is supported by both the recorded archeological evidence and the modern population of the plateau, which inhabits these same places, with an economy based on goat (*Ovis capra*) and sheep (*Ovis aries*) shepherding.



**Figure 2** (A) View of Los Dos Amigos locality displaying the two buttes and Las Vacas Lagoon; (B) Cerro Amigo Oeste site (CoAW).



**Figure 3** Topographic map of Somuncurá Plateau, displaying Los Dos Amigos locality (LDA).



Figure 4 View from the top of Cerro Amigo Oeste.

2.1 Archeological context

As expressed in the introduction, few experts would doubt an interpretation of FTPs as weapons for the hunting of large land animals at the end of the Pleistocene. At CoAW, these points are found in surface contexts; therefore, at the moment, there are no radiometric dates to provide an exact age of the site. However, all the South American sites with FTPs in dateable contexts have been dated to the Pleistocene/Holocene transition (Table 1, Figure 5). The closest one is Arroyo Corral 2, which is located 250 km away, in the Neuquén Andes, at a similar latitude to that of CoAW. Arroyo Corral 2 is situated in a very different environment: it is a rockshelter in the steppe/forest ecotone (Arias et al. 2010). It is noteworthy that only one FTP specimen has been found at this site.

The archeological context of CoAW includes some 280 shaped lithic artifacts (SA), of which 131 correspond to FTPs. Most of them are broken at the stem and others at the blade (Figures 6, 7, Tables 3, 4).

Raw materials of the FTPs and other SAs are mainly of local origin, though some, as in the case of obsidian points, could have come from 40 to 100 km away (Miotti et al. 2012). In other cases, like siliceous rocks, the closest sources are 40 km south of the site (Hermo et al. 2013b; Miotti and Terranova 2011). Chalcedony is the prevailing raw material among the artifacts of CoAW (Table 2), and it is common at the LDA locality as well as almost all the sites of the Somuncurá Plateau (Terranova 2013). At the moment, the only primary quarry detected in the region (and partially studied) is that of Cerro Aneken, 15 km west of CoAW (Table 2).

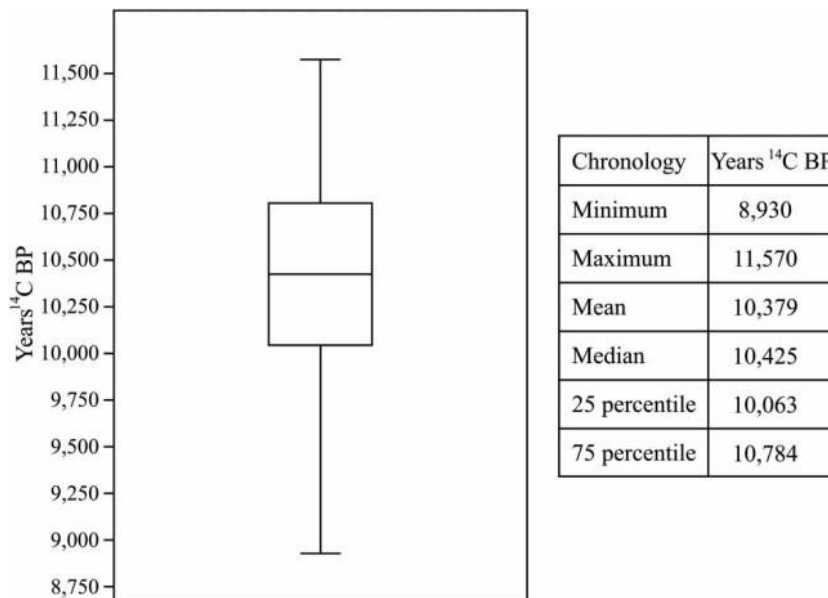
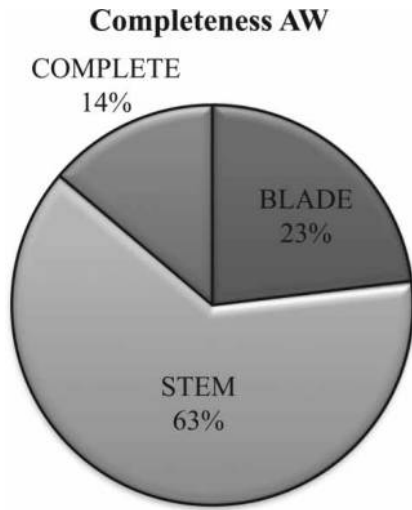


Figure 5 Boxplot showing the temporal trend expressed in radiocarbon dates of South American archeological contexts with Fishtail points.



**Figure 6** Graph shows per cent completeness of Fishtail points.

Other tools that occur with FTPs include discoidal stones, five of which are present on the summit of CoAW, four on basalt, and one on chalcedony (Figure 8) (mean diameter, 9 cm; mean thickness, 4 cm). The shaping of these artifacts was made by percussion, picking, smoothing, and polishing (Hermo et al. 2013a; Miotti and Terranova 2010, 2011). These pieces are technologically and morphologically similar to those found at CoES, Fell’s Cave, Los Toldos, Hill de Los Burros, and Baño Nuevo, among others (Cardich et al. 1973; Flegenheimer et al. 2013; Jackson and Méndez 2007; Meneghin 2011; Terranova et al. 2010). Discoidal stones found elsewhere are fashioned from a variety of raw

**Table 2**  
Raw materials represented among FTPs from Cerro Amigo Oeste

Raw material	Frequency	Per cent
Chalcedony	88	67
Silex	26	20
Obsidian	9	7
Quartz crystal	5	4
Petrified wood	1	1
Indeterminate	1	1
Total	130	

**Table 3**  
Completeness and fragmentation of FTPs in archeological sites of the Somuncurá Plateau: CoAW and Tandilia Hill (CoES)

Artifact	Site	
	CoAW (n = 130)	CoES Cima (n = 72)*
Blade fragment	23.07%	23.54%
Stem fragment	63.07%	61.76%
Complete	13.84%	14.7%

\*The number for CoES Cima was taken from Weitzel (2010).

**Table 4**  
Main comparison attributes between Cerro El Sombrero Cima and Cerro Amigo Oeste

Attributes from sites	CoESC*	CoAW**
Elevation above sea level	428 m	1125 m
Approximate elevation above plain	200 m	125 m
Approximate mesa-top surface	25,000 m <sup>2</sup>	12,000 m <sup>2</sup>
Maximum visibility	40 km	45/60 km
Geomorphology	Butte	Butte
Distance to water	0.5 km to Ao. El Verano	0.6/2.4 km to springs
Distance to most frequent toolstone	40 km	15 km
Number of tools	1411	267
Number of Fishtail projectile points/prefoms	90	116
Fragmented Fishtail projectile points	85%	87%
Flakes	9640	~2200
Cores	4	3
Small spheres	3	1
Discoidal stones	2	4
Others	6 unidentified ground fragments, ocher, hammerstone, and abrasives	1 hammerstone

\*Information collected from Área Arqueología y Antropología, Municipalidad de Necochea (Mazzia and Flegenheimer 2012; Mazzia 2011; Weitzel 2010, 2012).

\*\*Information from Hermo and Terranova (2012), Miotti and Terranova (2010, 2011).

materials, depending on local availability (Hermo et al. 2013b). A sphere of polished ocher, 2 cm in diameter, was also recovered from CoAW (Figure 8). This type of artifact has only been found elsewhere at CoES (Mazzia and Flegenheimer 2012).

The shaped tools from CoAW entered the site fully manufactured or as bifaces. There are spatially limited concentrations of small bifacial thinning and resharpening flakes, suggesting objects entering the site already manufactured. The number of broken items is high, while there are fewer resharpened and recycled items (Tables 2, 4 and Figure 9). These attributes suggest that points, once broken, possibly in the surrounding hunting field, were transported to the summit of the hill and there extracted from the shafts, mended, recycled, or discarded. However, we have to take into account that these instruments, even broken, continued to be of significance to the ancient hunters and that their discard on the summit may constitute another stage of their use-lives. From then on, the artifacts may have had another purpose. In this sense, unhafting and depositing of broken points on the mesa top, now useless as weapon heads, could represent offerings to the place itself. If true, this would establish the relation between human

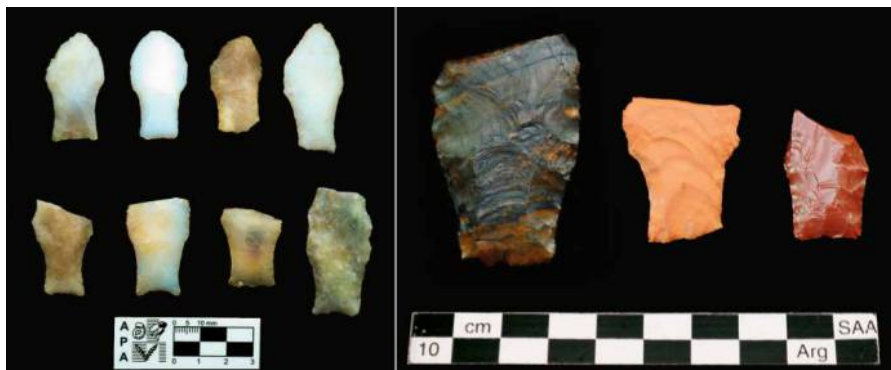


Figure 7 Fishtail points from Cerro Amigo Oeste.

beings and the symbolic spheres of the landscape in which some places, such as CoAW, would eventually contain large numbers of complete or broken artifacts, which, technologically, display a high degree of conservation. Let us remember that this mesa, together with the butte of Amigo Este (CoAE), is grouped in current cartography into LDA (Figure 2). Both were considered by Pampa-Patagonian hunter-gatherers who passed through Somuncurá in the eighteenth and nineteenth centuries as the gateways to the sacred complex of guanaco hunting. In Tehuelche, this place was called *Yannagoo* (Claraz 1988; Moreno n.d.; Miotti et al. 2004); however, in the twentieth century, this name disappeared from the regional toponymy, and like all Tehuelche terms was replaced by a Mapuche name at the beginning of the nineteenth century, and therefore from that moment was unknown by the region's inhabitants. Today the area is known as *Tromen Niyeu*, a Mapuche term that means place of fallen reeds (Casamiquela, in Claraz 1988).

We cannot establish an analogy between the significance given to these mesas by the hunters of the nineteenth-century buttes and the meaning that the first late Pleistocene settlers of the area may have given to it. But, in fact, the summit of CoAW is covered by a great number of special objects of material culture such as FTPs, most of them broken, and discoidal stones, which together represent an important archeological sign of use of this place during the Pleistocene/Holocene transition.

The presence of complete and broken preforms, together with FTPs, allows us to infer the transport to the mesa summit of basic forms and disposal of them primarily during the re-equipment of lithic points surely accompanying pre-hunt activities (fauna sighting, point shaping, recycling, and discard of broken FTPs).

Within a model of space use with a strategy of “store cache” or “gear cache” (Binford 1978, 1993; Frison and Bradley 1999), CoAW meets the expectations of an area of lithic tool re-equipment. However, the presence of complete FTPs there is not part of this designation. How, then, can we explain the complete points? Their presence likely does not relate to problems of raw-material economy, but to a concept more linked to “ritual deposit” and/or “ritual trash” (Boivin and Owoc 2004; Lassen 2005; Messineo et al. 2005; Vilca 2011; Walker 1995). In this respect, the site served as a place for specific practices of offerings and rituals. The setting of CoAW, together with several ethnographic and ethnoarcheological examples, allows us to infer that the materials represented in the site correspond to a special workshop, the likely function of which was the replacement and/or re-conditioning of FTPs. This does not rule out, however, the idea that the broken points and other special materials (i.e., discoidal stones and ocher spheres) were taken there intentionally. In this sense, CoAW could have witnessed a variety of activities, including re-equipment, fauna and human-being

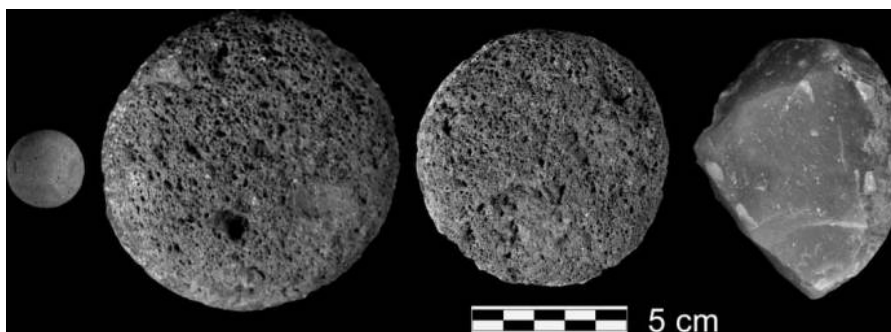


Figure 8 Discoidal stones and ocher sphere from Cerro Amigo Oeste.

sightings, and possibly the performance of rituals that entailed offerings (Boivin and Owoc 2004; Taçon 1991; Torrence 2005, 2011; Walker 1995).

## 2.2 *Los Dos Amigos in nineteenth-century chronicles*

In nineteenth-century chronicles, several naturalists such as Claraz [(1864) 1988] and Moreno [(1883) n.d.] described the LDA mesas that form the huge arcades of the great field of communal hunting of Tehuelche Pampa people. As noted above, its name was *Yamnagoo*, which in the Tehuelche language means “run and drink,” perhaps synonymous with “hunter-gatherers’ paradise.” LDA was a spot where water was abundant, and where herds of fat guanacos congregated. Both chronicles add that the site was located at an important Indian crossroads between the Atlantic and the Andes.

Claraz (1988) described in detail the ways hunter-gatherers ambushed and caught guanacos. In the LDA area, in 2008, we identified several potential monuments of rocks to ancient gods such as Yamhoc, the lady of the field and the animals, and the Yamnagoo arcades (Miotti et al. 2004, Miotti 2008). In Claraz’s words (1988), “*Dos cerros, verdaderos bonetes [...] Finalmente, junto a esos dos cerros que quedaban a mano derecha, el suelo se eleva ligeramente y se divisaba el gran Bajo de Yamnago.*” In the same way, it was expressed by Moreno (n.d.): “*A la salida de ese casi laberinto encontramos los pórticos que dan entrada al llano de Yamnagoó, tan celebrado por los indígenas [...] Cruzamos esas enormes puertas (Cerritos los Dos Amigos) y penetramos en el famoso valle, primero estéril, luego fertilísimo [...].*”

What could be the relationship between the same sacred place of hunting of the nineteenth century and the archeological site that we suppose dates to the Pleistocene/early Holocene transition?

A possibility is that the hill was given meaning on its summit by the archeological hunting-related objects—the projectile points—deposited there. Moving the points to the summit would not be necessary for discarding those pieces. The broken points could have been abandoned in the surrounding plain where they were most likely used and damaged. However, they were moved 125 m upward and discarded or left. The climb and the tasks on the summit may have been repeated, maybe as a routine practice (*sensu* Laguens 2009), because the hundreds of lithic materials found are not interpreted as a synchronic deposit, but as the result of multiple events of depositing, suggesting an intentionality in discarding the fragmented pieces in the same place. Therefore, the context of CoAW allows us to infer a complete knowledge of the plateau environment on the part of the first hunters of the area and the materialization of practices

that may mark a socially known environment and significant place (*sensu* Rockman 2003; Vilca 2011; Walker 1995).

Materials corresponding to the middle or late Holocene are not recorded on the mesa. However, we have recorded settlements of the pre- and post-Hispanic late Holocene on the surrounding plain (Miotti et al. 2004, 2009) and in the chroniclers’ accounts, as mentioned above.

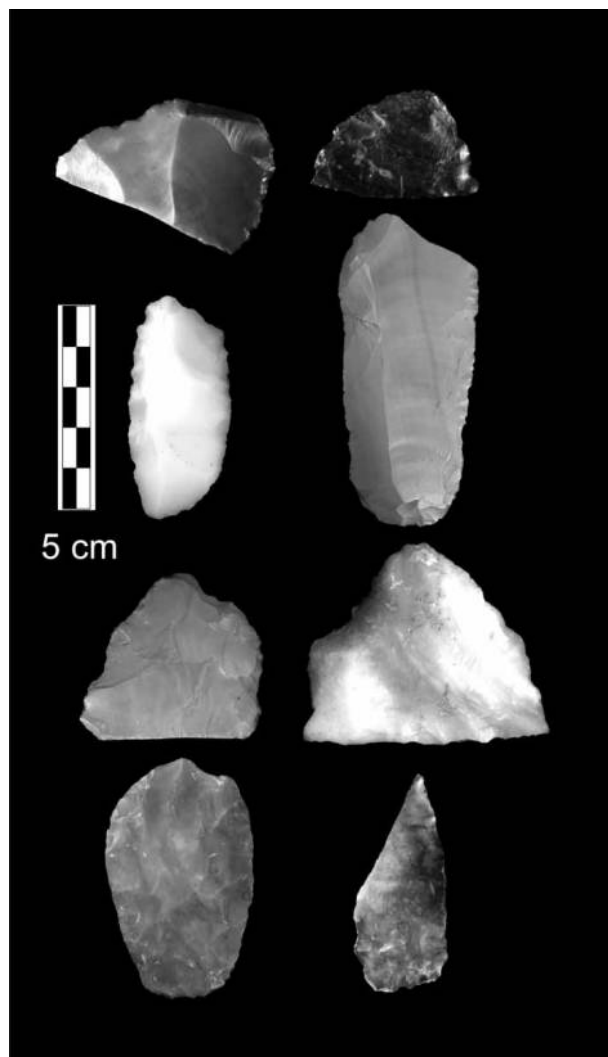
Can we then think that the mesa, from the beginning of human settlement in the area, was a place of re-equipment, sighting, and ritual? All the archeological and ethnographic evidence suggests that it was, despite the fact that it developed other practical functions such as a ceremonial site (Martínez 2006; Torrence 2005, 2011). We suggest the idea of continuity in the site’s meaning during the Holocene, even though the site lacks Holocene artifacts because of the ethnographic account noted above.

## 3. Comparison of Cerro Amigo Oeste and Cerro El Sombrero

Both CoAW and CoES are located on buttes and have excellent views of the surrounding landscapes, in both cases with wide panoramas (Criado Boado 1993). This setting would have allowed hunters to track the movements of game, as well as those of people. The data detailed above, following the concepts of a relational archeology of peopling (Laguens 2009; Latour 1996; Law 1992; Meltzer 2003; Rockman 2003), allow us to consider them, in the frame of the archeology of colonization, as true places of control of the landscape and movements of human beings and animals (Figure 2). Their origins and local landscapes are variable, but both represent milestones or very conspicuous locations in both landscapes, natural signs in the roads of new territories, in the sense of Rockman (2003) and Meltzer (2003). CoES lies on a crystalline outcrop of Tandilia igneous bedrock. It is the highest elevation of the Tandilia Hills and it is only a few meters from a stream that flows through the surrounding plain. These sites are suited for sighting game, and thus were strategic points for hunting; on their summits, projectile points were resharpened and projectiles re-equipped (Flegenheimer 2003, 2004; Mazzia and Flegenheimer 2012; Hermo and Terranova 2012; Miotti 2010a, 2010b; Miotti and Terranova 2010, 2011; Miotti et al. 2009, 2011).

It is noteworthy that both sites are 900 km apart, separated by two important rivers of the Atlantic watershed, the Negro and the Colorado, as well as the Ventania chain of hills (Figure 1). CoAW lies on the arid volcanic plateau of Somuncura, in northern Patagonia, while CoES is in the field of southern hills of the Buenos Aires Humid Pampa sub-region.





**Figure 9** Bifaces and broken and recycled pieces from Cerro Amigo Oeste.

The archeological sites on their summits share many attributes, which could reveal a behavioral pattern of the societies that colonized the Southern Cone and that produced and used FTPs. The lithic debris at both sites suggests the manufacture of FTPs or other artifacts, and both contain large numbers of points and point fragments (Miotti and Terranova 2011). The point fractures are also similar (Tables 3, 4) and indicate that broken pieces entered both sites as fragments. Both contain low proportions of FTPs manufactured on exotic toolstone. Their presence in both sites seems to be a common characteristic, also observed in other places of South America, such as in the kill/butchery site of Tagua Tagua (Flegenheimer et al. 2003; Miotti et al. 2012; Núñez Atencio et al. 1994). In Table 1, the frequencies of FTPs are detailed for the various sites shown in Figure 1.

The discoidal stones found at both sites (Table 4) and associated with FTPs are not found frequently in other early South American sites (Bird 1988;

Cardich et al. 1973; Flegenheimer 1980, 2004; Hermo et al. 2013b; Meneghin 2011). Although their functional interpretation is unknown, some researchers suggest they could be artifacts for vegetable grinding (Mazzia and Flegenheimer 2012), while others consider them to have had ritual uses (Jackson and Méndez 2007).

The abundance of tools already finished, such as FTPs, unifacial side scrapers, discoidal stones, and preforms, as well as pieces produced on long-distance rocks, could indicate some kind of regional pattern of circulation of human information. The similarity in both archeological sites of CoAW and CoES may suggest a similar pattern, and, in this sense, they could mark a higher signal of heterogeneous distribution of FTPs in the Southern Cone (see the functionality discussion in Flegenheimer et al. 2003; Nami 2007; Politis 1998; Suárez 2011). These artifacts have a technological similarity that spans the continent (see Figure 1), but with a limited temporal range (Figure 5), that of the initial colonization of the continent. This interpretation corresponds to the argued expectation of the structure and circulation of lithic raw materials in contexts of colonization of already-explored landscapes, in the sense of Meltzer (2003) and others (e.g., Flegenheimer et al. 2003; Franco 2002; Miotti et al. 2009, 2012).

In both CoAW and CoES, the technological contexts coincide with the earliest moments of the hunting-gathering settlement and suggest re-equipment localities. But, in addition, both could mark identifiable paths during initial colonization of both regions. The archeological materiality of both contexts created landmarks for the hunters, who may have used the summits not only for catching sight of prey but also for communicating (and controlling) the mobility of human groups who passed through the respective hunting territories.

In the specific case of CoAW, the features of the surroundings are shared with those of arid-zone sites, such as Atacama, Punta Negra, Tuina 5, and Tambillo in Chile (Grosjean et al. 2005; Núñez Atencio et al. 2005) or Piedra Museo in southern Patagonia (Miotti 1996). These are often placed on the edge of old paleo-lakes that nowadays are salt lakes or shallow temporary lagoons. These features were interpreted in the same way as the Paleoindian sites of the Great Plains of North America, as eco-shelters, microenvironments with effective humidity higher than that of the surrounding arid environments (Frison and Todd 1987; Goebel et al. 2011; Miotti 1995; Miotti et al. 2008; Núñez et al. 1994; Willig 1991). In these landscapes, the existing bodies of water during the Pleistocene/Holocene transition served as refuges for human beings and animals. This concept involves continental aquatic

environments (Erlandson 2001), which were extremely important in the settlement process during the Pleistocene/Holocene transition, when global environmental conditions were colder and drier (e.g., Hoganson and Ashworth 1993; Rabassa 2008). In all of these closed basins, two concomitant factors are observed: one is the repeated use of different regions by exploring and inhabiting settlers (inclusive places, *sensu* Gamble (1993)); the other is the dating of settlement to the late Pleistocene, by the presence of FTPs in the South American sites.

Is there a symbolic similarity of both places in the extensive Pampa and Patagonia territory? Our answer is affirmative because both places have similar and yet exceptional characteristics within the known archeological record of South American peopling. CoAW and CoES, however, were places of tool re-equipment of the first hunter-gatherers. Regarding all the contexts with FTPs in South America, these sites support the idea that, in addition, they could have been places for ritual practices and route control, which would have conferred upon them the quality of being nodes of social information within networks (Whallon 2006) of the first settlers that occupied both regions. The concept of node is understood as the place of social aggregation and transmission of environmental information, and it is widely used in the archeology of colonization (e.g., Flegenheimer 2003; Gamble 1993; Ingold 1986; Law 1992; Meltzer 2003; Miotti 2003, 2010b; Miotti and Terranova 2011; Miotti et al. 2012; Rockman 2003; Torrence 2005, 2011). Both Argentine sites also indicate a deliberate choice as key signals of routes between places (Meltzer 2003; Rockman 2003). The attribute of signal, in Rockman's sense, would be archeologically supported by the presence of abundant broken artifacts intentionally deposited on both summits, in order to signify the two places.

#### 4. Other sites with FTPs in South America

As can be seen in Table 1 and Figure 1, FTPs are widely distributed in Latin America. Regarding the temporal range of the FTPs, reliable radiocarbon dates come from only 17 sites (Table 1), demonstrating the age of FTPs to be at the Pleistocene/Holocene transition. This period represents about 2000 years (Figure 5). Human groups would not have been moving any longer through a *terra incognita*, because they would have already acquired an environmental knowledge, socially transmitted, at least, by three generations (Rockman 2003). The people had not just arrived; the archeological evidence of the variety of raw materials used for the elaboration of FTPs indicates that they carefully chose toolstone (Table 5). This implies that other environmental resources also would have been widely known. That is to say, the

chronological evidence, together with the great diversity of places where these points appear on the surface, allows inferring a high knowledge of most of the continent. Places were marked by the presence of artifacts elaborated with the same technological conception.

FTPs in South America are generally found in low numbers, with a prevalence of isolated findings and low concentrations (<5) in sites (Figure 1 and Table 1). In this regard, CoAW and CoES stand out, as each contains more than 100 FTPs.

Distances between the sites where FTPs occur, however, are quite great (Figure 1). To what can we attribute this geographical configuration? A possible answer is that either CoAW or CoES was a node of social communication for the groups producing FTPs. And, even though in the region of the Negro River, Uruguay, FTP findings are isolated, they correspond to a limited area that could be similar to the two mesas discussed above (Flegenheimer et al. 2013). However, archeological research along the Negro River needs to continue to explore this possibility.

#### 5. Discussion

In very few studies, FTPs have been related to sociological and symbolic spheres, as elements of communication and interchange of goods, which could have given identity and power to the humans settling the continent (Flegenheimer 2004; Flegenheimer and Bayón 1999; Miotti 1995, 2003, 2010a, 2010b; Nami 2009; Politis 1998; Storck 1991; Weitzel 2010). The spatial and temporal distribution of FTPs is interesting not only because they date to a narrow time period, about 11,000–9,000 <sup>14</sup>C yr BP (Table 1, Figure 5), but also because from their conception as artifacts exceeding simple functionality, they allow us to think about their implication for social networks of communication and interchange. This suggests that around 11,000 <sup>14</sup>C yr BP “scouting” groups could already interpret the unfamiliar environments of inhabited landscapes. Therefore, this presupposes a social-environmental dialog with a symbolic complexity of these societies, greater than the one imagined so far. It is worth highlighting that in some special locations some FTPs have appeared as miniatures (Flegenheimer 2004), the efficiency of which for hunting mega and large mammals is difficult to imagine. The presence of these objects in sites of the late Pleistocene has been interpreted to represent children's playful and/or adult-imitative activities (Flegenheimer 2004; Politis 1998; Storck 1991). This argument allows us to infer the active role that children could have played at CoAW and CoES, and counters conventional interpretations of these items as strictly hunting weapons. Obviously, FTPs served as objects with sociological and symbolic value, adding to their technological and practical value. In other words,

these points likely had more meaning than we conventionally ascribe to them.

At CoAW, some FTP specimens have rounded blades resulting from resharpening and/or recycling, so that their distal angles would have been deficient to penetrate thick furs of mega and large mammals (Hermo and Terranova 2012; Suárez 2011); however, their location on the summit of the hill—together with numerous points, preforms, broken bifaces, and other exceptional objects such as discoidal stones and the sphere of polished ocher—supports the idea that their discard or loss on the summit was not only part of the routine of resharpening and re-equipping, but also part of ritual specialists' activities (Torrence 2011), for example landmarking along traveled routes, being deposited upon the mesa as symbolic offerings to game (Miotti and Terranova 2011; Miotti et al. 2012).

Thus, the FTPs and discoidal stones of CoAW could be items of social and symbolic communication like the female figurines (Venus) of the Upper Paleolithic of Eurasia (Gamble 1993; Grigor'ev 1993; Soffer and Praslov 1993), or like the Clovis caches of North America (e.g., Frison and Bradley 1999; Lassen 2005).

To Soffer and Gamble (1990) the spatial-temporal distribution of Venuses could have been due to the need to produce great numbers of items of social communication at certain places. Their circulation through the Old World could have been a means of social communication among geographically isolated human populations in a hostile environment. Based on the mapping of concentrations and dispersions of female figurines and other ritual objects representing sanctuary, Soffer and Gamble (1990) infer places of production of these objects and the maximum mobility reached by human beings into the Arctic. This model of social communication across long distances, from the abundant production of sanctuary objects and their transport to populations far from producers' centers implies social communication of human beings during one of the most inhospitable moments of the last glacial maximum (18,000  $^{14}\text{C}$  yr BP). This model of compulsive production in moments of environmental stress receives the name of "Arctic Hysteria" (Gamble and Soffer 1990). The Venuses, beyond the trite interpretation as fertility fetishes, would have been transmitters of identities and buffers or modifiers of the uncertainties that human beings may have felt in places of geographical isolation.

Another similar example is found in the distribution of Clovis points in North America, and now we can add the example of the FTPs of South America. In this case, we find, as in the Old World, a heterogeneous geographic distribution and a limited temporal distribution, 11,300–12,900  $^{14}\text{C}$  yr BP. We might consider the ideological aspects of these artifacts. Both

appeared during times of environmental stress, the last glacial maximum in the case of the Venus figurines, and colonization of unfamiliar territories in the case of Clovis. In the Old World, the presence of sacred objects (Soffer and Praslov 1993) in low quantities in the furthest of places, such as isolated high latitudes, compared to high concentrations in less geographically isolated production places, would represent the human interest of maintaining social communication and identity with places of the most difficult accessibility. Clovis might be a similar case, with its caches like Anzick and Fenn (Frison and Bradley 1999). In other caches, like Crowfield, more than 4.5 kg of chert artifacts were brought from 100 km or farther and then destroyed (Ellis 2009; Lassen 2005). In the Caradoc cache, Bayport chert was transported 175 km and then deliberately destroyed (Ellis 2009). In these cases, a large part of the material sacrificed were objects with long use-lives, such as preforms and base forms of Clovis points. To Ellis (2009) this "waste" of raw material in concrete spots on the landscape shows that these caches were offerings in some kind of ritual. Historically, on a world scale, sacred rituals often involve or implicate the offering of material objects; these connect or rupture relations between different domains of the human existence—cosmological, religious (see, for example, Boivin and Owoc 2004; Lassen 2005; Saunders 2004; Taçon 1991; Torrence 2005, 2011).

These examples suggest that an interpretation of the spatial-temporal distribution of FTPs in South America may fit a larger pattern of the archeology of the late Pleistocene. CoAW and CoES could have been important nodes, not only as centers of production but also as nodes of social aggregation accompanied by ritual activity. These practices are considered as a metaphoric dialog between humans and landscape. Therefore, these places were already widely known by about 10,500  $^{14}\text{C}$  yr BP, a fact that allows us to infer that these routine practices, in places almost 1000 km apart, could have facilitated the rapid colonization tempo between the groups of La Pampa and Patagonia.

The important function in communication that these places may have had would have reduced risks of populations arriving into unknown environments, and at the same time would have strengthened the identity bonds of the original, possibly thinly spread dispersing population. Moreover, the circumscribed deposit of numerous artifacts may indicate the way in which humans were interpreting or dialoging with landscapes, signifying, naming, and taking possession of these places. In some ways, the redundancy of visits to CoAW and CoES also tells us the users of FTPs had wide knowledge of the broad geographical spaces and

their resources over a 2000-year period (i.e., information on social scale, *sensu* Rockman 2003). In short, we can consider that the distribution of these objects in the regional landscape may have helped to increase the tempo of environmental knowledge, accelerating the colonization process.

## 6. Conclusion

The evidence presented in this work allows us to address questions concerning the means and tempos between the arrival of the first human groups in South America and the transformations of the non-familiar landscapes into socially inhabited, familiar ones. We infer that between 11,000 and 9,000  $^{14}\text{C}$  yr BP, the Somuncura Plateau was a familiar landscape for the hunter-gatherers that were colonizing Pampa and Patagonia. In this sense, it appears that by at least 11,000  $^{14}\text{C}$  yr BP the “scouts” (or explorers) had already fulfilled their task and had a wide knowledge of where to settle and how to travel through the landscape. The information presented here also supports the idea, drafted in other South American studies, that existing social networks of environmental knowledge may have played a role in the colonization of South America. The materialization of those networks in the archeological record may be manifested in the particular spatial distribution of certain objects such as FTPs (Flegenheimer et al. 2003; Miotti 1995, 2003; Miotti and Terranova 2011). The establishment of social networks with nodes where routes, people, objects, and environmental information may have crossed could have been a strategy favoring slow-tempo scouting, accelerating human expansion, and the colonization tempo of different regions. In this context, CoAW appears to be an excellent candidate in the landscape of the Patagonian plateaus for having fulfilled, in principle, the role of a natural reference for the scouting of routes and nodes within a social network. The hill, in terms of the model of local, regional, and social learning of the environment (Rockman 2003) could have been a natural landmark and reference for the orientation of routes traveled by settlers. Beyond its function as a place for re-equipping hunters’ tool kits, we should add to the significance of CoAW its meaning as a place for ceremonies, including offerings of special materials such as FTPs on its summit, possibly broken in the surrounding hunting field. This deliberate practice of taking the points to the summit and leaving them there may have had a similar meaning in the CoES site in the Pampa region. Both contexts, with many contextual and environmental similarities, as shown throughout this work, could have served as nodes consolidating the network of human environmental and social communication during the first moments of the peopling of the Southern Cone of

South America. This is potentially supported by the distribution of special cultural goods, the FTPs.

The high percentages of broken FTPs in both CoAW and CoES, however, conform with what has been expressed for ritual sites of North America, as presented here through the works by Lassen (2005) and Ellis (2009). Such special deposits would mark the human attitude of keeping some objects beyond their merely functional use-lives as weapons. This idea is reinforced by the presence of complete points and other special objects such as the discoidal stones and polished spheres.

In addition, historic chronicles indicate that in post-contact times, LDA was considered the gateway to a sacred hunting field (*Yannagoo*) by Tehuelche Patagonian hunters. However, from archeology, there are no records of use of this hill or its summit. There is, indeed, archeological evidence of hunting activities and camp sites in the surrounding plain, but without a written document, the material record of these summits may indicate that they were used in a manner different from that described in the historic records.

The archeological sign of when and how human beings inhabited a place for the first time can be discerned when we consider that natural and cultural scenarios are interwoven into a network of dynamic relations. These dynamics are manifested in the socially shared knowledge at short and long distances of the circulation of people and objects. But there is also a circulation of accounts of places, concepts and styles, giving rise to social networks as another tool for diminishing the risk associated with the exploration of an unknown place. It is suggested that CoAW was an important node in a network of social relations through long distances in the Pleistocene/Holocene transition in South America. The concepts presented in this article may allow us to go further in this difficult issue and explore the archeological signals that will permit us to consider social networks and communication nodes at different geographical and temporal scales (Tolan Smith 1998; Whallon 2006).

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## Note

1 Tempo is the unit used for measuring the auditory expressions of some musical segment. Usually we refer to tempo when talking of transitions of sound spaces, like when counting by ones until reaching 10. Lento, andante, etc. In that sense, and according to Webb (2010), the peopling of America may have had a fast tempo. On the contrary, Meltzer (2003) considers that that tempo may have been slow.

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