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Archaeological discontinuity in Ultima Esperanza: A supra-regional overview

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ABSTRACT

The regional archaeological discontinuity between ca. 11,761 ± 272 Cal BP and the beginning of the Holocene at Ultima Esperanza, Chile will be discussed. The absence of humans as measured by the deposition of artifacts on dated deposits was originally detected at the site scale, especially at Cueva del Medio and Cueva Lago Sofía 1, but recent excavations at several other sites extend it to the full scale of the Cerro Benitez locality. It is suggested that this is not a case of abandonment of a colonized region, but instead a case of discontinuation in the logistical use of a particular environmental patch. Accordingly, the Early Holocene human presence in the Cerro Benitez locality is seen as the result of a new exploration by human foragers adapting to the increasingly forested environments of Ultima Esperanza.

1. Introduction

The date of the initial peopling of America is a debated issue, with molecular evidences suggesting an age between 14,000 and 20,000 cal BP (Schurr, 2015; Pérez et al., 2016). Archaeological evidences hardly support this, except with still controversial sites with claims >20,000 cal BP (i.e. Lahaye et al., 2013; Hole et al., 2017), but it is increasingly appreciated that the required time frame to make sense of what we already know begins around the time of the Last Glacial Maximum. The earlier secure archaeological dates from Southern South America between 30° and 54° S present a pattern in which the older dates up to ca. 14,200 ± 226 Cal BP (Politis et al., 2016) are located in the north (30°-39° S), followed by a wide band where no relevant information was found (39ª-47ª S), except for Monte Verde which is located west of the Andean Cordillera. Finally, there is a concentration of sites located south of 47° S (Fig. 1). There are some 2000 ^{14}C years separating the older sites at both extremes of this distribution (Steele and Politis, 2009; Martin, 2013; Méndez, 2013; Prates et al., 2013; Politis et al., 2015). It must be stated that the intensity of research varies in the different environmental zones, so that this is a provisional panorama at best. However, it is clear that ca. 12,800 Cal BP there were archaeological manifestations at least in the north and in the south of the southern cone. Indeed, early people ranged widely while selecting good places for settling, which sometimes are separated by large distances. This spatial separation implies low connectivity between the earlier populations in both extremes during the end of the Pleistocene, thus increasing the potential for extinctions. It was recently suggested that if there was any extinction among Patagonian populations it has to be local, within a metapopulation framework (Motti et al., 2015, p. 128).

It can be sustained that a coastal dispersal along the Pacific to explain the peopling of America is gaining favor among specialists (Dixon, 2013; Erlandson, 2013). However, one thing is to postulate that people entered America through the Pacific border, and quite another to sustain that they stick to the coastlines. It appears excessive to suggests an entirely coastal settlement pattern, since successful foragers along the coast probably had to complement their subsistence and territorial necessities by turning to the east and moving into the interior (Kelly, 2003). One reason for this is costal instability caused by swift changes in sea level at the end of the Pleistocene that affected mollusk colonies and the availability of space for human installation (Anderson and Bissett, 2015). Coastal transversal valleys probably were some of the best routes to move

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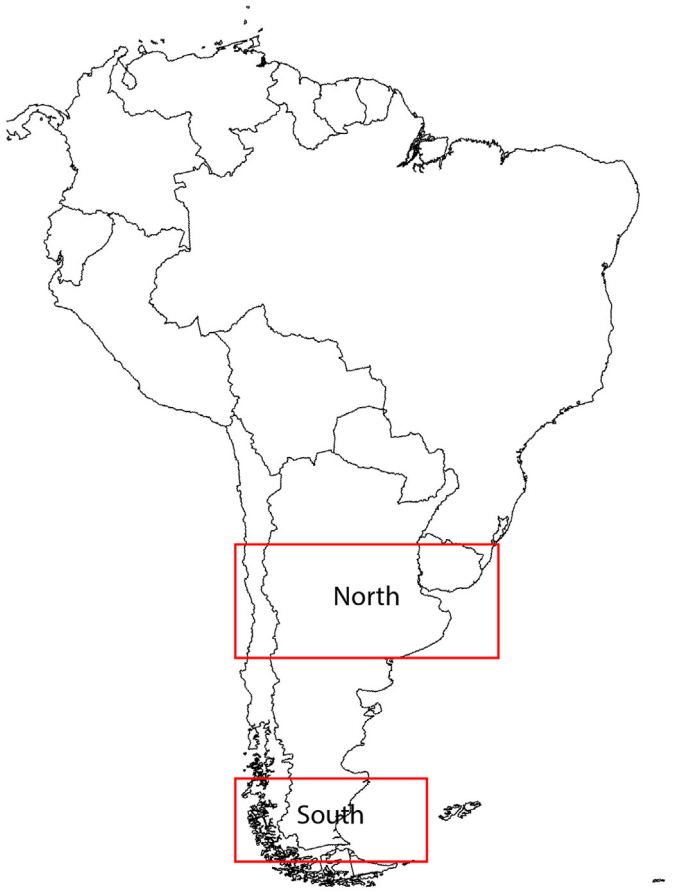

Fig. 1. Two main areas of the Southern Cone with well dated Late Pleistocene archaeological occupations. North: ca. 30–39° S., South: ca. 47–54ª S.

inland, usually connecting with completely different habitats (i.e. Rademaker, 2014). Indeed, Late Pleistocene occupations in the hinterland are found along Western South America. However, their connection with the coast is, with few exceptions, unclear. This is particularly the case with the older archaeological evidences in South Patagonia, which were found in the vast, arid eastern steppes and which are crucial to our understanding of the history of human colonization of southern Patagonia. In a land where the precipitations rarely exceed 200 mm per year, the distribution of fresh water sources is not homogeneous (Mayr et al., 2007) and clearly affected the main strategies used by the early human explorers of the region (Brook et al., 2015). This is clear during the Late Holocene, when the distribution of the main Patagonian water sources maps the areas with more intense human settlement. Pérez et al. (2016) observed that 60–80% of the archaeological sites are within 10 km from permanent rivers. No matter how much this pattern could result from sampling focused on river basins, the fact remains that discontinuous occupations are expected at places away from water sources. Several kilometers of the Atlantic shelf were exposed at the end of the Pleistocene, providing an extensive area of colonizable habitat, in contrast with the narrower Pacific shelf (Andrade, 1991; Reyes et al., 2016). This situation probably increased continentality East of the Andes (Prates et al., 2013, p. 106), but not significantly changing the hydrological situation. However, it is not clear how promising these places would have been for people.

The underlying reason for the observed timing of the initial colonizing of the eastern steppes and subsequent dispersal to the west and Tierra del Fuego can be found in the productivity and accessibility of different Late Pleistocene habitats. Even if the pioneering colonization of South America took place along the western Pacific coasts, it seems improbable that the expansion continued exclusively along the coast in the far south, particularly below 43ª S (Borrero, 2005; de Saint Pierre et al., 2012). More than 1600 km of imbricated coasts and 19,000 km of coastlines characterize this southern Pacific region (Reyes et al., 2016). These maritime habitats are characterized by calving glaciers, precipitations above 6000 mm/yr and low productivity (Andrade, 1991). Hundreds of islands exist, which were covered by forests and bogs, with an impoverished terrestrial fauna. The abundance of sea mammals and invertebrates offered by the more open western sectors of the mostly glaciated archipelagos of the end of the Pleistocene could certainly have been used, but there is no archaeological evidence older than the Middle Holocene which could easily be the result of taphonomic or sampling bias (Reyes et al., 2016). Anyway, low-density pioneer populations require strong social ties with their parent groups (Ives, 2015), a condition difficult to achieve during times of unstable sea level conditions (Anderson and Bissett, 2015, p. 74). Limited knowledge about the distribution and seasonal availability of resources in the maze of islands and channels was probably also a problem, perhaps conditioning the capacity for human dispersal. All these conditions made the alternative choice of dispersal to the interior an attractive one, since it does not require major technological innovations or extensive efforts to get acquainted with new resources. The real challenge probably was the geography of unknown land characterized by extended plains in which the critical factor was the distribution of water. In the end, the eastern steppes can be seen as the gateway region through which dispersal to Ultima Esperanza in the far south took place (Martin and Borrero, 2017).

2. The problem

The history of archaeological gaps in the record of South America is abundant and its discussion far from solved, particularly for Mid-Holocene times (Nuñez and Santoro, 1988; García, 2009; Neme and Gil, 2009; Barberena et al., 2016a; Durán et al., 2016). Real or not, these gaps are red flags marking different areas that require further work, and much knowledge was obtained from research mobilized by discontinuity hypotheses (Barrientos, 2009; Méndez et al., 2015).

Discontinuities are especially expected in extreme environments, like those of high altitude and high latitude where seasonality is one cause for regular abandonment. However, those same environments are also prone to sampling problems and differential preservation. Nonetheless, spectacular cases of occupational discontinuity are found in the archaeological record of Fuego-Patagonia. One example is the site Tres Arroyos 1, Tierra del Fuego, where a hiatus between layers dated 1253 ± 48 and 11,434 ± 127 Cal BP respectively was recorded (Massone et al., 1993; Borrero, 2003; Martin et al., 2009). Late Holocene human occupations lie immediately above Late Pleistocene occupations, meaning that most of the Holocene is simply not present in that rockshelter, with a gap of more than 8000 radiocarbon years. The break is supported by chronological and cultural information.

In this paper we will be dealing with the case of regional archaeological discontinuity between ca. 11,761 ± 272 Cal BP and the beginning of the Holocene at Ultima Esperanza (51° 35' S), Chile. This is not a particularly long hiatus, and could be a result of a sampling problem. However, there are archaeological reasons suggesting that it is important to pay attention to this particular break. Absence of occupation at the site scale is significant in itself, implying at the very least lack of redundancy in the use of places. In

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