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Palaeolithic sites beyond the archaeological deposits

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Abstract

Research on Palaeolithic foraging societies has tended to focus on the archaeological deposits formed by the everyday activity of the groups being studied. In contrast, the location and characteristics of the sites containing those deposits have hardly been studied systematically through the application of particular methodologies. However, these sites, whatever activity might have been carried out in them, are also part of the archaeological record, since they were chosen by the hunter groups, and this choice cannot be ignored. In this sense, a particular methodology can be applied to study site locational characteristics and obtain relevant information about the groups' settlement patterns, while an anthropological interpretation of the results will enable an understanding of hunter-gatherer society dynamics. In this paper, we show the possibilities of the application of this kind of approach, focusing on a concrete region, the Nalón river basin (Northern Iberia).

Keywords: *site location preferences, GIS, Late Palaeolithic, Cantabrian Spain, settlement patterns*

1. Introduction

Traditionally, the study of Palaeolithic societies has been based on the analysis of the archaeological deposits, i.e. of their *material culture*. However, if we consider the material culture of past societies in a wider sense, according to which "*material culture was often not a direct reflection of human behaviour; rather it was a transformation of that behaviour"* (Hodder and Hutson 1986: 2), it is clear that such studies cannot be restricted to their material remains (in a general sense) but should also include any aspect reflecting the processes of decision-taking within the Palaeolithic societies, as well as their economic and social organisation.

Hence, the places where the archaeological deposits are found (the sites themselves) form part of the material culture left by Palaeolithic communities, as they were "selected" as a place for occupation in a conscious decision, based on a series of preferences, in order to satisfy certain

needs. Therefore, this act of selecting means that the sites are another aspect of the archaeological record, as they reflect human behaviour.

The study of the reasons that caused a group of Palaeolithic hunters to choose a certain site as a dwelling place, and the determination of the needs which this choice aimed to satisfy, require the use of a specific methodology, designed *ad hoc*, adapted to the particular nature of this type of record. The methodology should be focused on the *locational characteristics* of the sites being studied; a series of factors that are capable of defining their living conditions and their position within the environment and in relation with other sites.

For this purpose, Geographical Information Systems are advantageous, as they enable the quantitative analysis of a series of factors that might influence the process of selecting a site to be occupied (García Moreno 2013). In this way, the locational characteristics of the different sites can be defined objectively so that models reflecting the role played by different sites in their regional context can be established, taking into account other social realities obtained through the study of the archaeological record *sensu stricto* (activities carried out, seasonality of the occupations, etc) (García Moreno and Fano 2011).

2. Justification

Several factors may condition the choice of any given site (Eriksen 1997; Duchadeau-Kervazo 1986), as this choice is the result of a complex process of decision-making aimed at satisfying the group's needs, which, as explained below, are not always connected with their subsistence. In fact, the choice of a certain place might be affected by much more subtle factors, such as the significance or symbolism of elements in the landscape (Tilley 1994), and it always depends on the available options.

Therefore, the availability of natural shelters, like caves and rock-shelters, will favour the choice of such sites for settlements, which is indeed the case on the coast of Northern Spain (González Morales 1997). In other regions, the absence of shelters of that kind will result in dwelling structures being built (Desbrosse and Kozlowski 1994). However, the simple existence of caves does not guarantee that they will be suitable shelters, as that depends on their habitability conditions, which are determined by such factors as their size, internal climate (Márquez Romero and Morales Melero 1986; Ramil Rego 1989-1990), or insolation at their entrances and in their surroundings (García Moreno 2008; Fano 1998), among others.

However, apart from their natural availability and habitability, the choice of a site is normally associated with the exploitation of the environment and resource catchment, supposing that

forager societies tend to locate their settlements in "strategic" places; emplacements allowing them easy access to certain resources, both prey and abiotic goods. Examples are rivers, lakes and fords, where herds of ungulates congregate (Dolukhanov 1997; Julien 1989). Hence, the identification of sites that were highly specialised in capturing certain resources led to the term *"logistic* site" being coined, contrasting with "residential sites", where a much wider range of activities would have been carried out (Binford 1980).

In other models, the access to resources was not considered a determining factor in the choice of a site; this is the case of M. Conkey's aggregation sites (Conkey 1980), where the key seems to be the possibility of congregating a large number of people, and P. Utrilla's base camps (Utrilla Miranda 1994), prioritising characteristics like size, habitability conditions, proximity to sources of water, location, etc. Other authors vindicate symbolic factors, connected with the role sites might play in the perception of the environment and the social construction of prehistoric landscapes (Diggs, Brunswig, and Lambert 2012; González Morales 1997; García Moreno *in press*).

Therefore, the analysis of the elements intervening in the choice of a certain place for a Palaeolithic occupation should be approached from a double perspective: regional and dialectic.

Firstly, it becomes especially important to accept the need for a regional approach as a long-term research strategy for the study of Palaeolithic societies. If the understanding of a Palaeolithic site includes a good knowledge of its local and regional context, as the nomadic nature of these societies seems to require, it is clearly necessary to incorporate precise information about the places where archaeological deposits exist. In this way, our hypotheses about the role played by the different sites within their social context acquire greater robustness.

Secondly, the choice of a place for occupation makes it an integral part of the landscape, as it plays a specific role in the subsistence and social organisation of the human groups. Consequently, settlements are not static and passive places used for shelter and capturing resources, but become *landmarks*, destinations to be reached and where certain economic and social actions are performed. There is therefore a dialectic relationship between the territory (the context of habitability conditions and container of available resources) and the site (which participates in the construction of a social landscape through its own symbolic significance, as a geographical and social landmark) (Butzer 1982).

3. Methodology

The systematic analysis of the characteristics and location of archaeological sites requires the application of a specific methodology allowing an objective comparison between different sites, in the framework of a regional approach as described above.

The methodology applied in this study is based on the definition of a series of indicators that describe the position of each site and the area where they are situated objectively and quantitatively. These indicators can be divided into *Parameters,* which are obtained by direct observation and measurements in the field, and *Variables,* which require the use of a Geographical Information System to be modelled and quantified (García Moreno 2013).

However, site location analysis is only able to assess the factors that might have influenced the choice of the sites; understanding the role played by each site within its regional context and the relationships between different sites requires the integration of data obtained in the location analysis with the information from other archaeological studies (Fig. 1).

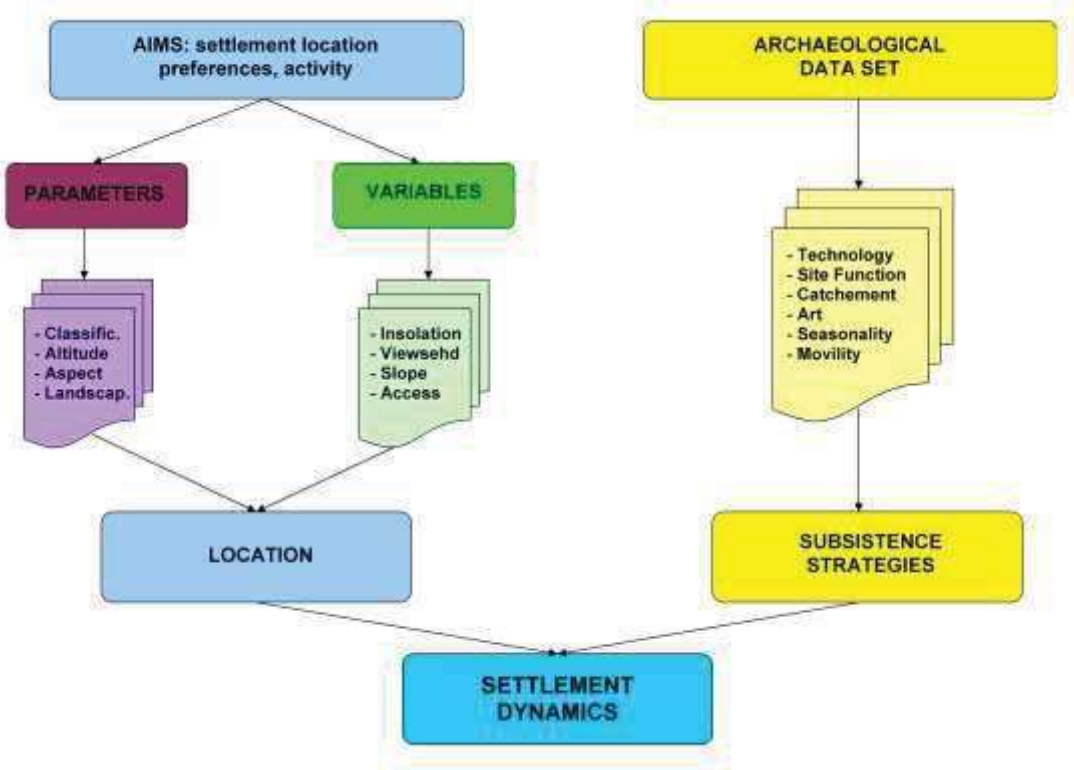

Figure 1: The understanding of Paleolithic settlement patterns requires the integration of site location analyses and archaeological data, as well as the adoption of regional perspective.

4. A case study: the Late Palaeolithic of the Nalón river basin (Asturias, North of Spain)

The Nalón River Basin is an important area in Upper Palaeolithic studies in Northern Spain because of a research project initiated in the 1980s which involved the excavation of several caves and rock-shelters with thick occupation levels belonging to different periods (Fortea 1981). The best documented period in the Nalón river basin is the late Magdalenian, represented by occupation levels at seven sites and evidence of rock art in an eighth, Peña Candamo cave (Fig. 2). This cave was decorated at different times, from the Early Upper Palaeolithic to the Late Magdalenian (Moure 1981; Corchón et al. 2011). The other sites with late Magdalenian levels included in this study are the rock-shelter of La Viña (Fortea 1992), the caves of Las Caldas (Corchón 2007; Corchón *et al.* 2005), Oscura de Ania (Adán et al. 2002), and Sofoxó (Corchón and Hoyos 1972-73; González Sainz 1989), the rock-shelter of Entrefoces (González Morales 1992; González Sainz 1989), and the caves of La Lluera I (Rodríguez Asensio 1990), and La Paloma (Hoyos et al. 1980; González Sainz 1989).

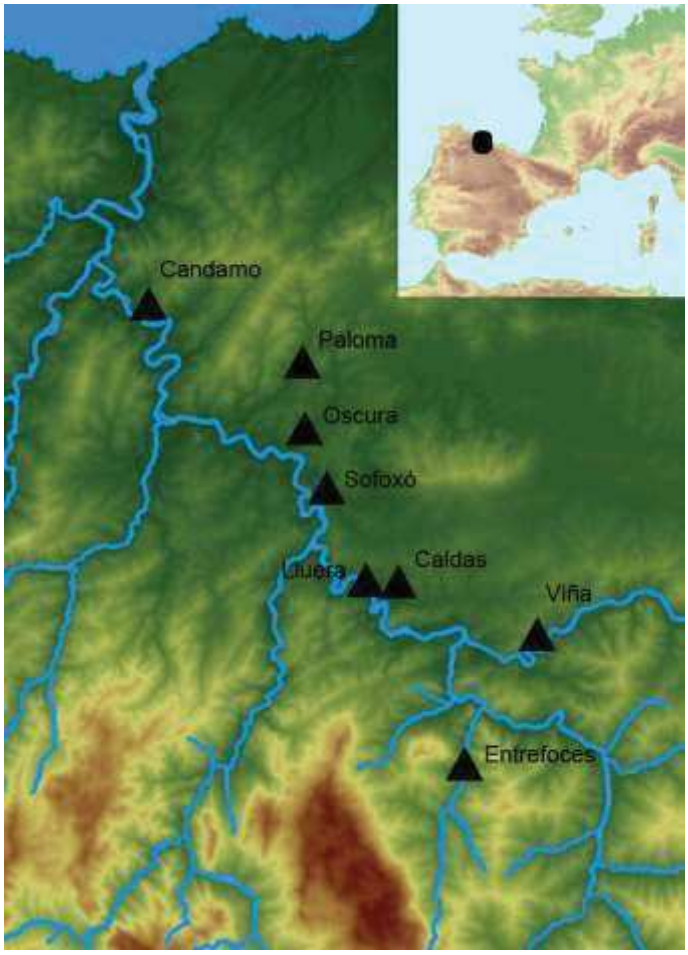

Figure 2: Nalón river basin archaeological sites studied.

The location analysis of this group of sites with the methodology described above succeeded in determining their locational characteristics and the preferences of Magdalenian hunter-gatherer groups shown in their choices of sites. The existence of two very different types of locations could be demonstrated.

First, two sites characterised by their dominant position were identified: La Viña and Candamo (Fig. 3a-b). These are the only sites located midway up the hillsides, which means they enjoy large viewsheds over the surrounding area, together with significant visual presence (*sensu* Garcia Moreno *in press*). At the same time, together with La Lluera, they are the only sites located in the main Nalón river valley. Within the river basin, they are located at the two ends of the group of sites, as they are the first (Candamo) and the last (La Viña) encountered when moving up-valley. Finally, together with Entrefoces, they are the only sites with no other sites within the two-hour isochrone (Fig. 4).

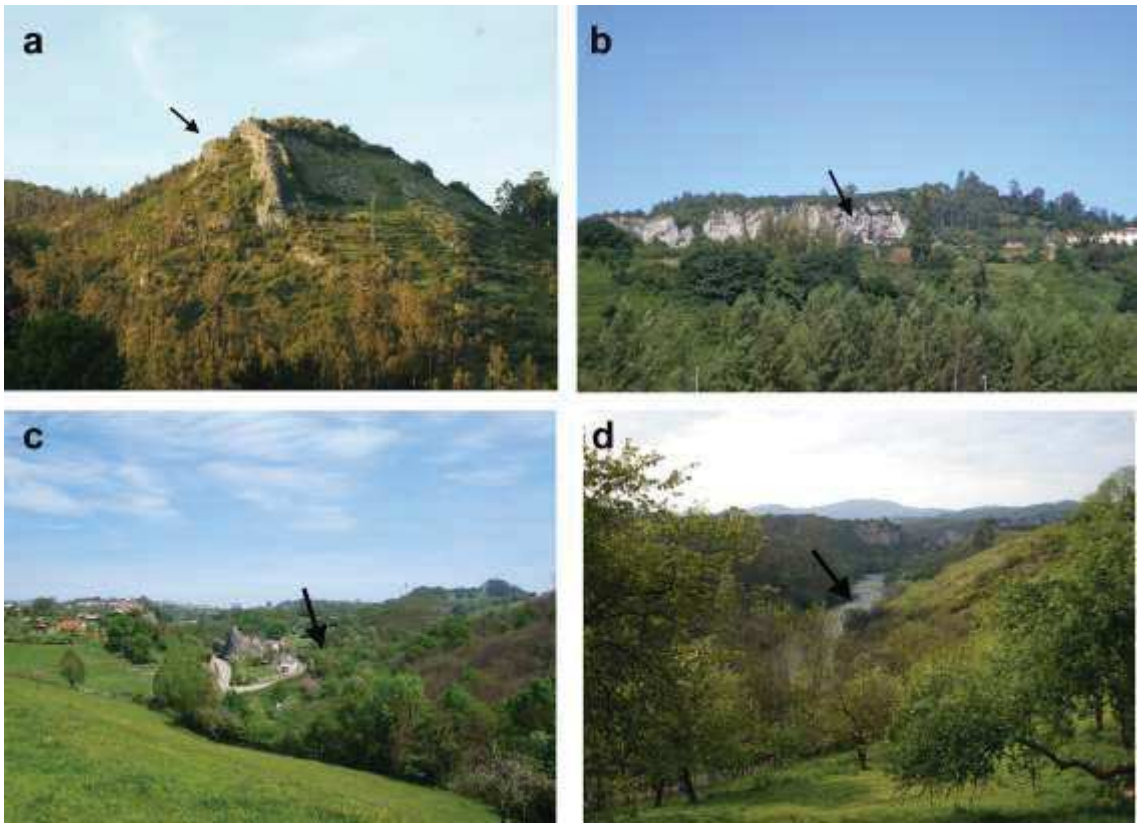

Figure 3: Different sites location along the Nalón river basin: a) Peña de Candamo; b) La Viña; c) Las Caldas; d) Sofoxó.

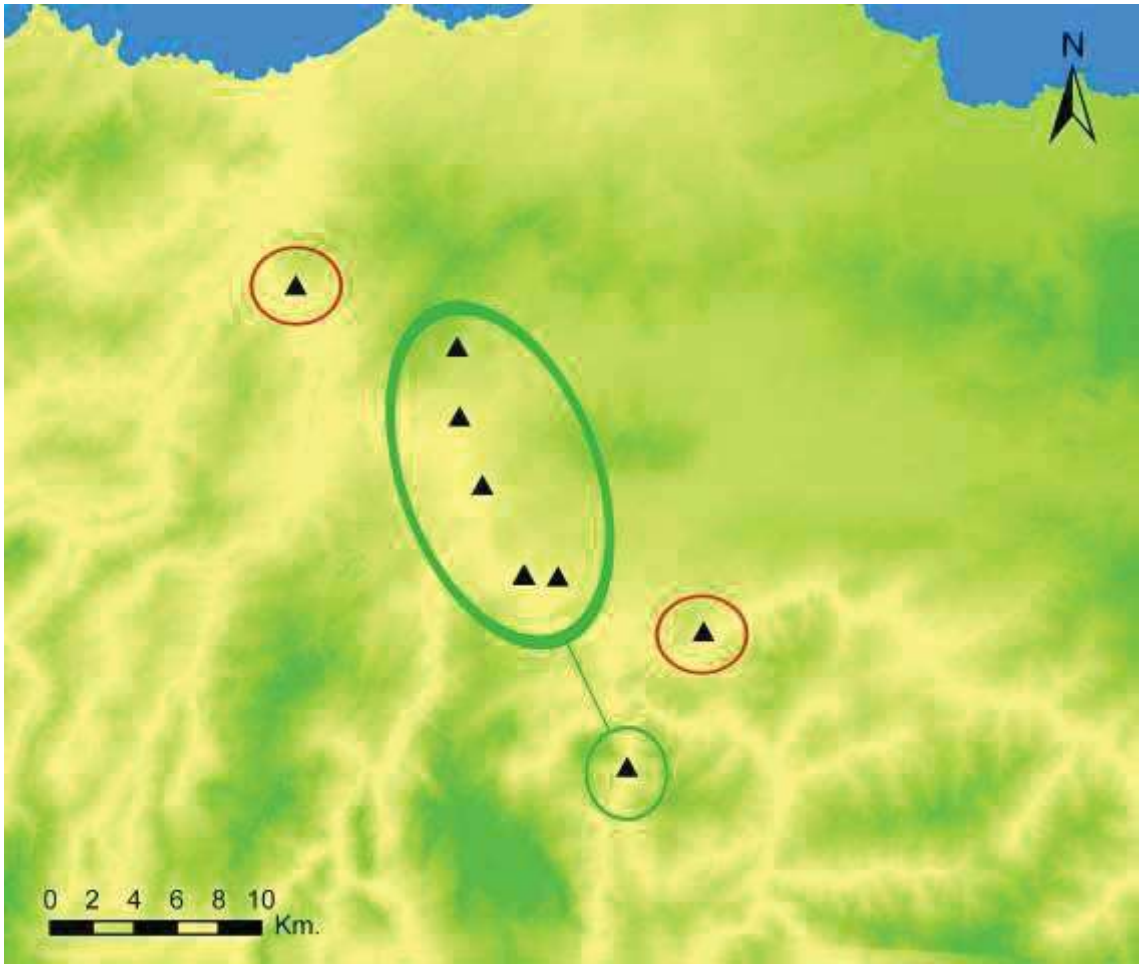

Figure 4: Cumulative Cost Model of movement and diagram of land use pattern for the Nalón river basin. Yellow colors represent the areas with the less cumulated cost, while green represent areas with the higher cost of movement. The green circle represents the sites located on valley/bottoms as well as the network of inter-related sites, while red circles represent the two mid-slope located, exclusive sites.

In contrast, the other sites are located in the valley bottoms, less than ten metres above the lowest point in their surrounding areas, in some cases practically at the level of the modern water-course (Fig. 3c-d). This position means that most of them possess low visibility, apart from those found in open areas, such as the cave of Las Caldas. Except for La Lluera, as mentioned above, all these sites are located in side valleys, tributaries of the Nalón river. However, they are all related with each other, as isochrone calculations reveal that every site is within two hours' distance on foot of at least one other site. Entrefoces rock-shelter, situated in the first foothills of the Cantabrian Mountains is the only exception to this.

5. People beyond the archaeological deposits

In short, the late Magdalenian sites being studied exhibit significant similarities and differences regarding their location. Six of them are situated in relatively similar locations: valley bottoms, with a very low relative altitude allowing more direct access to their surrounding areas and in general with limited visibility from the sites. However, this varies depending on the characteristics of the surroundings of the sites. The other two sites, Peña Candamo and La Viña, are situated in a very different position. They are located on hillsides, in prominent positions within the landscape, with viewsheds that are in general much larger than those of the sites in the valley bottom. At the same time, they appear to be *exclusive* sites, as no other sites are found within two hours' walking time from them. These similarities and differences must have been significant in connection with the role played by each site in its social context.

All this indicates the great interest, within the proposed kind of regional approach, of this type of data for a more anthropological reading of the Magdalenian record. In addition, the evolution in population patterns over time could be linked with the changes identified in economic practices (García Moreno 2013). In this way, the site distribution in the Nalón basin in the late Magdalenian, with a predominance of spatially interconnected sites in the bottoms of side valleys, might respond to an interest in exploiting the territory more directly, in step with the economic diversification that occurred in this period (Terradas Batlle, González Urquijo and Ibáñez Estévez 2007).

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