

# Rock art as an archaeological and social indicator: The neolithisation of the Iberian Peninsula

María Cruz Berrocal <sup>a,b,\*</sup>, Juan Vicent García <sup>b</sup>

<sup>a</sup> *Archaeological Research Facility, 2251 College Building, University of California, Berkeley 94720, USA*

<sup>b</sup> *Grupo de investigación en Prehistoria social y económica, Instituto de Historia, CSIC, Madrid, Spain*

## Abstract

Rock art has been regarded as a second class archaeological data source. In this paper we use Levantine rock art as a case study, to show how this situation can be reversed. This rock art, found along the Mediterranean region of the Iberian Peninsula, has been considered to be typically Mesolithic due to its distinctive hunting scenes. A review of certain archaeological indicators provides new arguments about its chronology, its socio-cultural attribution, and its significance. We first deal with the chronological issue, presenting the evidence that led to the recent consideration of the Levantine style as Early Neolithic, in synchrony with two other rock art styles (Schematic and Macroschematic). We will further propose that rock art itself is a central and independent source of information to explore the historical context of the Neolithisation of Mediterranean Iberia. Its wide geographical distribution allows us to study different and complementary territories as a single entity. This contrasts with the limitations posed by the study of settlements, whose differences, at a regional scale, are usually interpreted in terms of cultural variability. If we consider rock art as a key aspect in the constitution of social landscapes, it must not be treated just as an ideological by-product of the Neolithisation, but as a key factor in understanding this historical process.

*Keywords:* Iberian Peninsula; Neolithic; Rock art; Levantine style; Schematic style; Macroschematic style; Landscape

## Introduction

Meighan (1981: 6) stated that “For archaeologists to ignore the rock art associated with their sites is to leave out an important part of their data—in some cases... the most important part of their data”. This assertion was produced in a context of general-

ized treatment of rock art as a minor or secondary archaeological manifestation, mostly due to the difficulties with establishing its chronological and cultural attribution.

Since the early 80s, rock art studies have matured and expanded at previously unknown rates. Approaches that link rock art to a broader landscape perspective (Taçon, 1994; Bradley et al., 1994, 1995; Bradley, 1997; David and Lourandos, 1998; David and Wilson, 1999; Santos Estévez, 1999; David, 2002) are especially valuable, from

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\* Corresponding author. Fax: +1 510 643 9637.

*E mail address:* mariacb@ih.csic.es (M. Cruz Berrocal).

our point of view. Our own work is inscribed in that perspective (Cruz Berrocal, 2005; see below). But, without a doubt, the approach that has become almost paradigmatic in the field is the shamanistic (Lewis-Williams, 1980, 1982, 1983, 1991, 1995, 2002; Lewis-Williams and Dowson, 1988, 1993; Whitley, 1994, 2001, 2005; Clottes and Lewis-Williams, 1996; Lewis-Williams and Clottes, 1998; to name but a few studies). It is not our intention to analyze schamanism here. Rather, we wish to point out that schamanism has become, in many cases, the default explanation yet does not provide any specific historic insight to the particular problems treated. Acknowledging that shamans were the authors of the rock art, we are generalizing a cause for the origin of rock art that does not help explain why it was produced in a particular moment and context.

Far too often, also, following the tendency already outlined by Meighan (1981), rock art is seen as a source of data that merely reinforces or complements interpretations based upon other sources of evidence, and not as a solid piece of evidence by itself. As a result, the explanation of rock art can be modified should the changes in other spheres of archaeological interpretation require it.

This situation is exemplified by the case study we present in this paper, the so-called Post-Palaeolithic rock art of Eastern Iberia. We argue that it is not only possible to consider this rock art on its own terms, using it as a primary source of archaeological information, but that this can even help reverse long-standing or established views on a broader archaeological problem: the Iberian Neolithic.

### Case study

Throughout Mediterranean Iberia four distinct rock art styles have been identified during the 'Post-Palaeolithic' period: Levantine, Linear-geometric, Macroschematic and Schematic. Their archaeological saliency, considering the number of sites known and the size of their respective territories of distribution, is diverse.<sup>1</sup> For instance, sites with Linear-geometric or Macroschematic motifs are very scarce (0.9 and 2.3% of the known sites, respectively), while Schematic and Levantine sites

are much more numerous (49.1 and 58.1%, respectively), and their area of distribution is likewise wider.

The impossibility of obtaining absolute dates from these paintings has always made it difficult to clarify the chronological attributions of Iberian rock art. Moreover, as so frequently happens with many rock art traditions all over the world, the prevailing culture-historic interpretations have tended to attribute these different styles to either distinct social groups or to chronological phases. In the specific case of Mediterranean Iberia, this conception has also been reinforced by a particular interpretation of the origins and development of the Neolithisation process in this region.

With this paper we intend to present archaeological evidence that indicates that these different rock art styles developed simultaneously during the Early Neolithic. This initial synchrony (in archaeological terms), as well as their complementary patterns of location (they frequently share the same shelters and certainly the same regions) in the region where they overlap (the Mediterranean Basin), give us ground to propose that these styles were in fact different expressions of a unique rock art tradition, developed by a single social formation.

This proposal requires a brief review of the different hypotheses that have attempted to explain the Neolithisation process in Mediterranean Iberia. The most widely accepted one champions a mixed model of colonisation and indigenous acculturation, which requires two different populations to coexist in the same territory during the Early Neolithic. Therefore, the identification in Mediterranean Iberia of different but contemporary rock art styles perfectly fit the empirical requirements of this model, as long as they are attributed to social groups with different levels of structural complexity. The technical and compositive differences appreciable among these styles strengthened this argument. But this interpretation relies also heavily on the interpretations of other parts of the archaeological record, such as settlement or economic patterns, lithic and ceramic typologies, etc. (Martí Oliver and Hernández Pérez, 1988; Hernández Pérez and Martí Oliver, 2000–2001; Torregrosa and Galiana, 2001).

During the late 1980s, the Macroschematic style was identified (see below). The Mesolithic chronological attribution of Levantine style was followed by the recognition of Levantine motifs superimposing the Macroschematic ones. This led some researchers to propose a change in the chronology

<sup>1</sup> This is according to the report on Rock Art of the Mediterranean Basin in the Iberian Peninsula prepared for as an application for UNESCO World Heritage status (1997). We must bear in mind that these percentages include sites sharing motifs belonging to different styles.

of the Levantine style, while still maintaining its social attribution to hunter-gatherers groups because of the distinctive hunting compositions that characterize this art (Martí Oliver and Hernández Pérez, 1988; Hernández Pérez et al., 1988). The recognition of the lack of evidence of hunter-gatherer populations in this area by the Early Neolithic was followed by the proposition that the Levantine style was made by Neolithic groups, the same groups also responsible for the development of both the Schematic and the Macroschematic styles (Hernández Pérez and Martí Oliver, 2000–2001).

It is worth noting that all these changes in the chronological and cultural attribution of Levantine style have not been followed by a subsequent reconsideration of its social role. The empirical implications of these changes for the model of Neolithisation that the previous attribution sustained have not been reviewed either. Although not explicitly, this approach to rock art creates redundant explanative models of the Neolithic. Our point of view is the opposite: on the base of an already existing alternative view of the Neolithisation process, we argue that the evidence provided by rock art is autonomous and can be used to test the feasibility of the dominant model. Thus, it is not just possible, but crucial, to acknowledge the value of rock art as an independent indicator in archaeology. Rock art needs to be seen as an active element in the Early Neolithic of the Iberian Peninsula, and this context, in turn, makes sense of rock art. In this perspective, rock art is not only accommodated within a broader explanative framework, but its origin is also adequately explained.

In this task, it is of primary importance to avoid approaches that assume style, a particular combination of formal aspects and contents, to be a direct expression of ethnicity (or even of a particular mode of life, as is the case with Levantine style). This has led to the treatment of the rock art as a function of the particular hypotheses to be sustained, and has limited the exploration of further implications of stylistic variability, such as the archaeological context of the phenomenon studied. However, stylistic variability is an issue to be explained and not an explanative aspect by itself (Conkey, 1990; Wobst, 1999). Therefore, the variability appreciable within the Iberian Neolithic rock art cannot be assumed to indicate *a priori* the existence of different groups. On the contrary, it makes more sense to see this variability as an indicator of certain degree of complexity in social relations, symptomatic of the Neolithic transition.

It is important to clearly emphasize here, that, since we affiliate ourselves to the notion of stylistic variability as something to be explained and not explanative, our treatment of the styles is only a formal approach (one among many others possible when it comes to 'style', see Conkey, 2006). As we will see below, this approach is highly problematic because the styles do not allow themselves to fall easily into perfectly defined categories. Nevertheless, for convenience, we have tried to use these categories as they have been traditionally treated, and try to take advantage of them. This is also the reason why we continue to use the term 'style', avoiding the introduction of terminological 'noise'. We do not assign any particular cultural emic significance to the styles (on the contrary, we hypothesise, as we already mentioned, that they all belong to the same social formation, being its differences more probable functional; see below); they are only analytical devices relatively good to classify the archaeological evidence, this is, the rock art sites.

Before going into this evidence, it is worthwhile also mentioning two recent approaches that explore the relationship between rock art and an increase of social complexity or a change in the social relations in Early Neolithic. Escoriza (2002a, 2002b) suggests that Neolithic societies are characterized by masculine institutionalized control over women on the basis of the scarcity of female representations in Levantine panels and the lack of representations of women's alleged main activity, maternity. Fairén (2002, 2004a, 2006), on the other hand, has studied the link between rock art and settlement patterns in the Southern and Central Mediterranean (Valencian) regions, and shows how rock art was used to structure a landscape that reflects new economic and symbolic patterns practiced by Neolithic communities. This study is important, and, on a narrower scale, similar to our own previous research in that it defines patterns of distribution of rock art sites (Cruz Berrocal, 2005; see below). Yet there are three main differences. First, Fairén integrates the information about settlement patterns in that particular region. Second, she attributes slightly different chronologies to the different styles on the basis of superimpositions of Schematic on Macroschematic, and a wider distribution for the Schematic style. The Levantine tradition would have begun to be depicted later, when Macro Schematic tradition had been replaced by the Schematic tradition. This chronological consideration means that Fairén still considers styles as meaningful markers

of different moments of the process of Neolithisation, and, more important, she attributes chronological meaning to the superimpositions found in her study region (but see below). Lastly, Fairén does not take a clear stance on the issue of how the Iberian Neolithic must be explained: either as a result of demic diffusion or as a result of local developments. This ambiguous position affects the conceptualization of rock art as a relevant archaeological element for the understanding of the particular historical context of Neolithisation.

### Rock art styles in Mediterranean Iberia

The distinctive formal characteristics of the post-palaeolithic styles in Mediterranean Iberia can be

summarised as follows (the sites mentioned in the text are represented in Fig. 1).

#### *Linear-geometric*

This style was initially defined following the discovery of a group of incised plaques in *Cueva de la Cocina* (Valencia), which featured combinations of geometric and linear motifs (Fig. 2). The stratigraphic position of these plaques situated them in the Geometric facies, Late Mesolithic, immediately prior to the beginning of the Neolithic (Fortea Pérez, 1974). Moreover, Fortea proposed that these geometric motifs had a counterpart in rock art, associating them with certain linear representations (zigzags, grids, broken lines) recorded in sites such

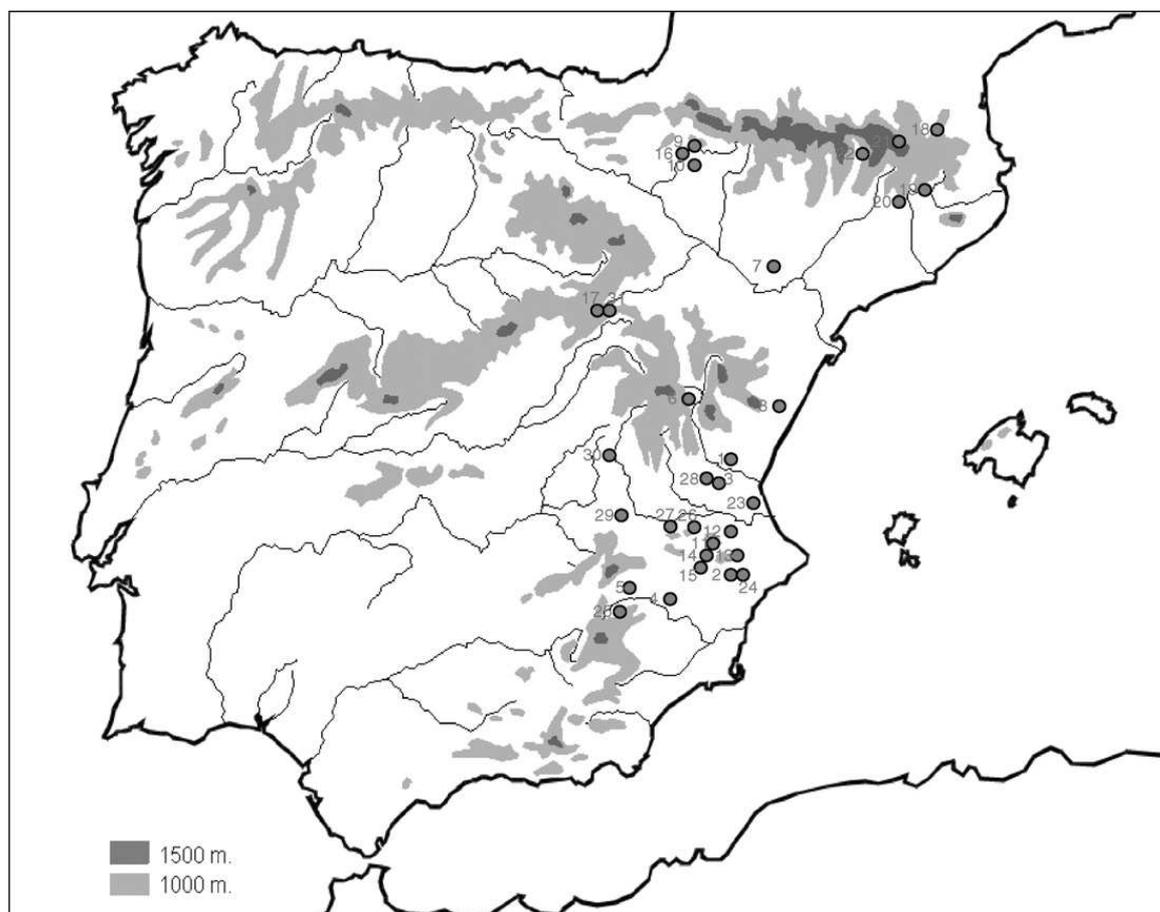


Fig. 1. Map with the sites mentioned in the text: (1) Cueva de la Cocina (Valencia), (2) La Sarga (Alicante), (3) La Araña (Valencia), (4) Cantos de la Visera (Murcia), (5) Abrigo de Minateda (Albacete), (6) Fuente del Cabrerizo (Teruel), (7) Cogul (Lleida), (8) Barranco de la Valltorta (Castellón), (9) Barfaluy (Huesca), (10) Mallata (Huesca), (11) Benirrama, (12) Cova de l'Or (Alicante), (13) Cova de la Sarsa (Alicante), (14) Pla de Petracos (Alicante), (15) Barranc de Famorca (Alicante), (16) Labarta (Huesca), (17) Ambrona (Soria), (18) Dourgne (France), (19) Font del Ros (Barcelona), (20) Roc del Migdia (Barcelona), (21) Balma Margineda (Andorra), (22) Sota Palou (Girona), (23) Cova de les Mallaetes (Valencia), (24) Mas d'Is (Alicante), (25) Abrigo de la Fuente (Murcia), (26) Barranc de Carbonera (Valencia), (27) Barranc del Bosquet (Valencia), (28) Balsa de Calicanto (Valencia), (29) Cueva de la Vieja (Albacete), (30) Abrigo del Tío Modesto (Cuenca), (31) Abrigo de Carlos Álvarez (Soria).

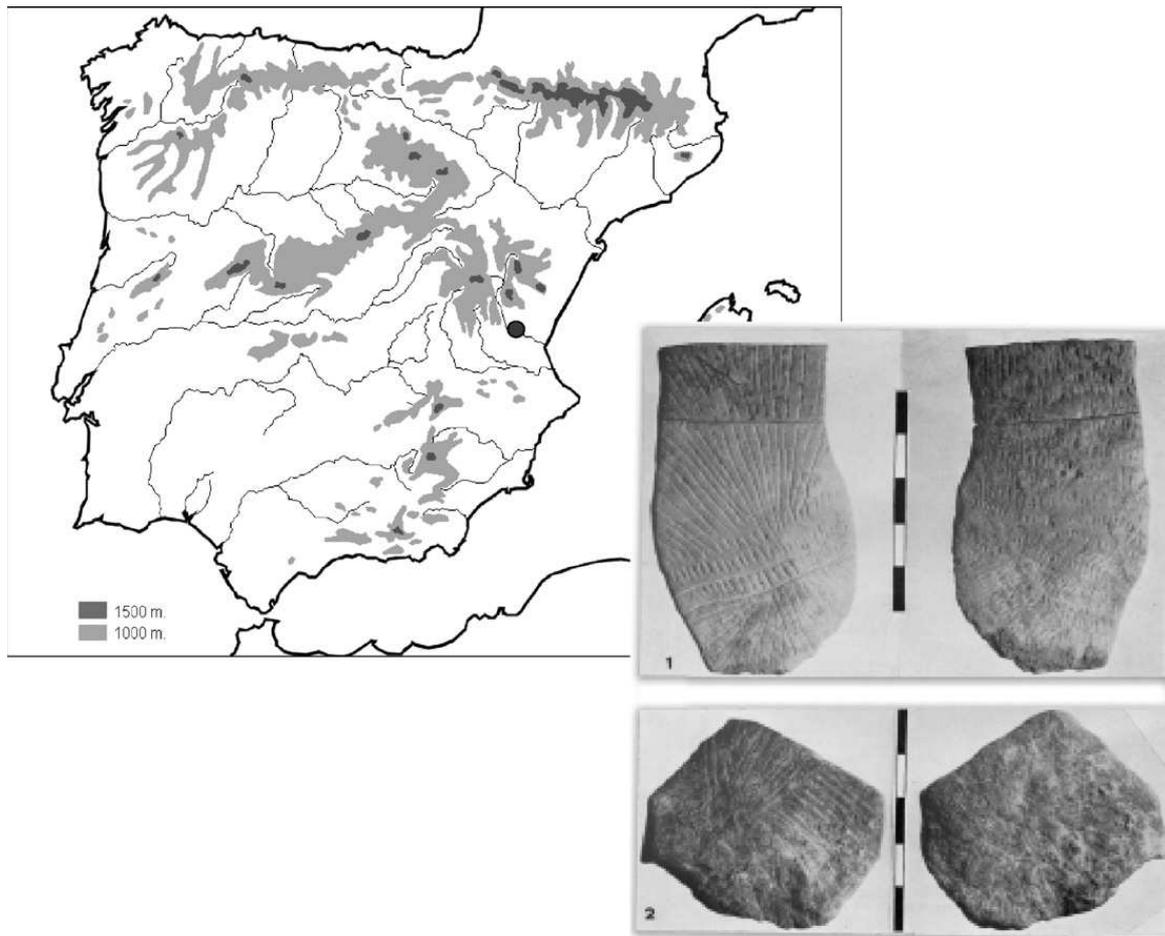


Fig. 2. Linear Geometric style. Engraved plaques, Cueva de la Cocina, Valencia (after Fortea Pérez, 1971).

as *La Sarga* (Alicante), *La Araña* (Valencia), *Cantos de la Visera* (Murcia) or *Cueva de la Cocina* itself. Interestingly, in all these sites Levantine motifs were found superimposed over the geometric ones.

From the very beginning, then, this style was defined by the presence of a very limited and imprecise series of motifs and the absence of figurative representations (Fortea Pérez, 1974). Due to the scarcity of evidence other researchers proposed that these motifs belonged in fact to an initial (pre-naturalistic) phase of the Levantine style (as was argued by Beltrán, 1970). The identification of a simple rock art style stratigraphically associated with the Mesolithic hunter-gatherers sustained the traditional model of Neolithisation. Therefore, Fortea's proposal was accepted without criticism.

Recently, several authors have criticized this proposal. On the one hand, the stratigraphic (and, hence, chronological) position of the plaques in *Cueva de la Cocina's* archaeological sequence has

been questioned (Sebastián, 1997; Cruz Berrocal, 2005). On the other hand, there is consensus in considering the evidence mentioned by Fortea not strong enough to sustain the existence of a parietal version of this style. The geometric motifs superimposed by the Levantine ones are considered now to belong to either the Schematic style (Hernández Pérez, 1992; Alonso and Grimal, 1994) or the Levantine one (Cruz Berrocal, 2005). This brief example is illustrative of the difficulties surrounding the use of 'style' as a category.

#### *Levantine*

The Levantine style is probably the best known of the Post-Palaeolithic styles of the Iberian Peninsula because of the naturalism and dynamic character of its motifs and compositions (Fig. 3). It is also the style subjected to the longest lasting debate about its chronological and cultural attribution, a debate that had a long history before the chronological

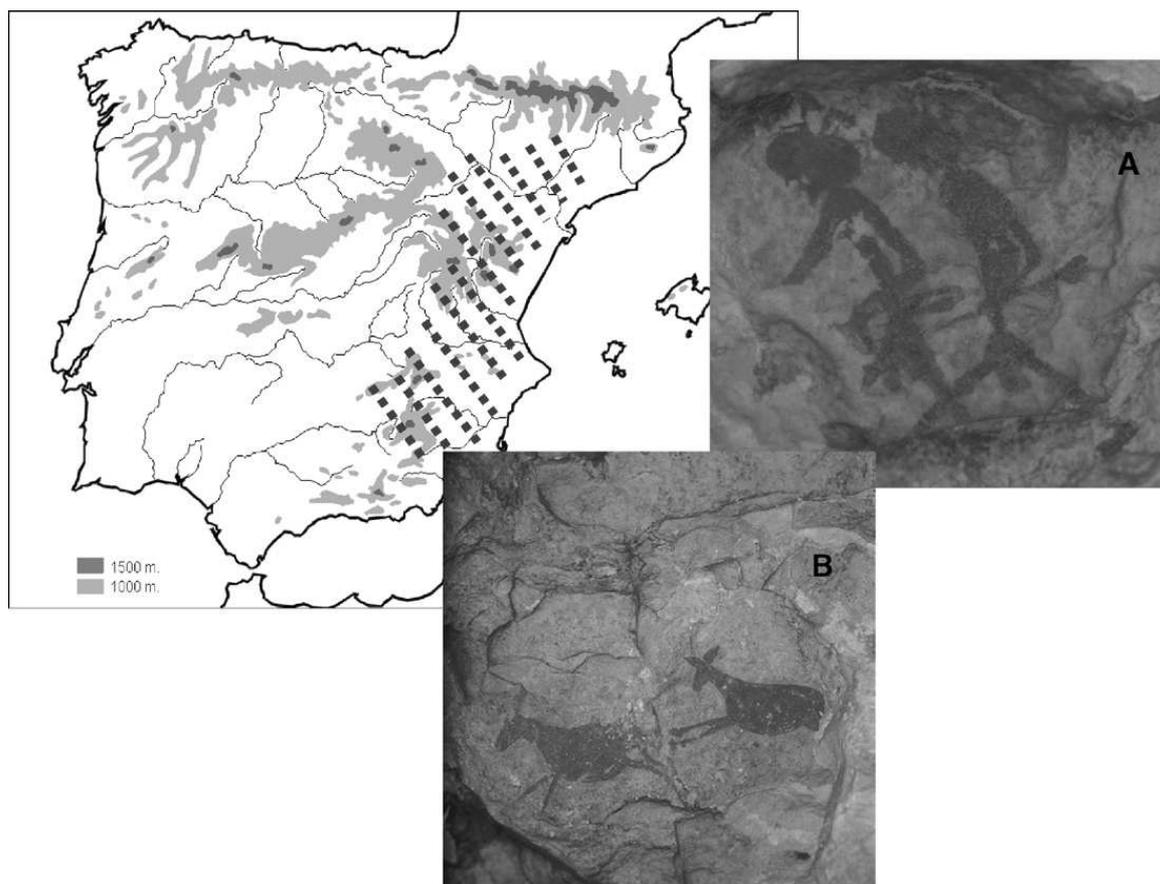


Fig. 3. Levantine style. (A) Cueva Remigia V; (B) Cingle de la Gasulla V (both in Castellón) (Source: Corpus de Pintura Rupestre Levantina, <http://www.ih.csic.es>). The lines indicate the area of distribution of this style.

shifts specifically related to the Neolithisation (see above).

H. Breuil, the real ‘discoverer’ of the Levantine rock art, championed, together with H. Obermaier and J. Cabré, its Palaeolithic chronology on the basis of a general similitude between the Franco-cantabric and Levantine rock art and the allegedly depiction of palaeolithic lithic industries and quaternary fauna (rhinoceros, lion, saiga antelope, reindeer, elk in *Abrigo de Mineda*, onager in *Fuente del Cabrerizo*, bison in *Cogul...* (Moure Romanillo, 1999: 141). Nonetheless, Breuil himself later excluded the possibility of quaternary Levantine depictions (Ripoll Perelló, 1984).

But very early, E. Hernández Pacheco had highlighted the importance of the human figure in the Levantine rock art, its movement and impresionism, the difference in location -caves and shelters-, the small size of most figures, and other features that, in his opinion, marked a strong difference between Levantine and Palaeolithic rock art (Hernández Pacheco, 1918, 1924). A. Durán i Sanpere (1920), with M. Pallarés, pointed out to a possible relation-

ship between the Levantine rock art in the *Barranco de la Valltorta* and the postpalaeolithic lithic industries found there, as it was the case with J. Colominas in *Cogul* (Sebastián, 1997: 91). This argument was developed, many years later, by Almagro Basch (1947), who established a correlation between the appearance of Epipalaeolithic sites, defined by the lithic industries, and Levantine rock art, which allowed him to sustain the Epipalaeolithic date of the latter. He also relied on the iconographic arguments proposed by Hernández Pacheco.

But still in the 60s, authors such as J. Porcar, R. Lantier and P. Bosch Gimpera -and Breuil-, defended the palaeolithic chronology of this style (Pericot García and Ripoll Perelló, 1964), while L. Pericot, E. Hernández Pacheco, A. Beltrán and E. Ripoll, argued that only its origin was Palaeolithic, and most of its history Epipalaeolithic (Sebastián, 1997:91; Moure Romanillo, 1999:23). This notion has varied only slightly since then. Beltrán (1968, 1993), one of the most significant researchers on Levantine rock art, has defended its long chronology from 6000 a.C. until Bronze Age.

This debate relies on problematic arguments such as the iconography or the spatial proximity to archaeological sites. But new arguments were added to the debate when the Macroschematic style was discovered (see below).

Recently, it has also been acknowledged that the initial definition of Levantine rock art relied on loose concepts. The different regional groups considered 'Levantine' have important differences that affect the formal aspect of the representations, the techniques used and even the subjects depicted. Besides, new discoveries contributed to widening its original area of distribution (Sebastián, 1997).

The Levantine style is distributed throughout the Mediterranean basin of the Iberian Peninsula, an area characterized by coastal and inner mountain ranges. The Levantine style is always located in open-air rock shelters that receive direct sunlight for most of the day. Regarding the formal aspects of this style, although some of the figures or their outlines are engraved (Sebastián, 1988; Utrilla and Villaverde, 2004), Levantine motifs are most frequently painted. The pigments can be red, black or white, and are applied with a very precise instrument which allows the depiction of clearly defined figures.

The Levantine style is characterised by naturalistic and detailed representations of human and animal figures, sometimes isolated but more often composing scenes of varied nature: hunting activities, but also gathering, pastoralism, dance or even human confrontation. The distinctive naturalism of the Levantine style, which also includes specific components of the material culture such as ornaments, has fascinated researchers ever since the earliest discoveries. As a consequence, after more than a century of investigation most authors still believe in their value as straightforward indicators of the economic activities, social hierarchies or ethnic identities of the individuals or groups represented. To a certain extent, it could be stated that this naturalism has biased the research. These scenes are frequently read as a literal narrative of hunter-gatherer's way of life. This promoted the long chronological debate we have outlined above, since it was assumed that this manifestation could have only been developed either during the Palaeolithic or during the Mesolithic.

Gender provides another example of bias. A significant percentage of the human figures engaged in hunting or combat scenes are considered as male despite most of them lacking specific sexual attri-

butes (Díaz-Andreu García, 1998; Escoriza, 2002a, 2002b). The consequence of the categorization as men of many non-gendered human figures is the conclusion that women are underrepresented.

### *Schematic*

The Schematic style is the one with a wider spatial and chronological distribution. It is found throughout the Iberian Peninsula and in different phases of recent Prehistory. It can also be found in cists, megaliths, rock shelters or outcrops (Bueno Ramírez and de Balbín Behrmann, 1997, 2001; Bradley, 2002) (Fig. 4). The significance of these multiple contexts in terms of social meaning is an open question, but their recognition has certainly affected the value of this style as an important archaeological manifestation.

Because of its wide spread, the heterogeneity of different regional groups is even more evident for Schematic style than it was for Levantine style. The representations labelled as 'schematic' throughout the Iberian prehistory demonstrate a wide variety of techniques, themes and media. And in different areas, the criteria used to define stylistic subgroups are also different: typology of motifs, techniques (painting or carvings), or contexts (Bradley, 2002: 232). As a consequence, some of these subgroups or categories may overlap.

In Mediterranean Iberia the Schematic paintings, as with the Levantine ones, are depicted in open-air rock shelters; in fact, it is frequent that both styles share the same sites (for example, UNESCO report 1997; Torregrosa, 2000–2001). Further recurrences between these two styles can be seen in the imagery (human and animal figures, geometric motifs), although their form differs. For example, there are some scenes of deer hunt of Schematic style (e.g. in *Barfaluy* or *Mallata*) (Utrilla, 2002), and sometimes the human figures are depicted carrying bows, a typical feature of Levantine motifs (e.g. in *Benirrama*).

Interestingly, the absolute frequency of the combinations of motifs are inversely proportional in Schematic and Levantine styles (Cruz Berrocal, 2005) (this was also an argument that allowed us to analyze both styles, defined traditionally as such, as effectively different objects, so that we could compare them).

All these recurrences indicate that there is some degree of complementariness between these two styles, despite the also evident differences in

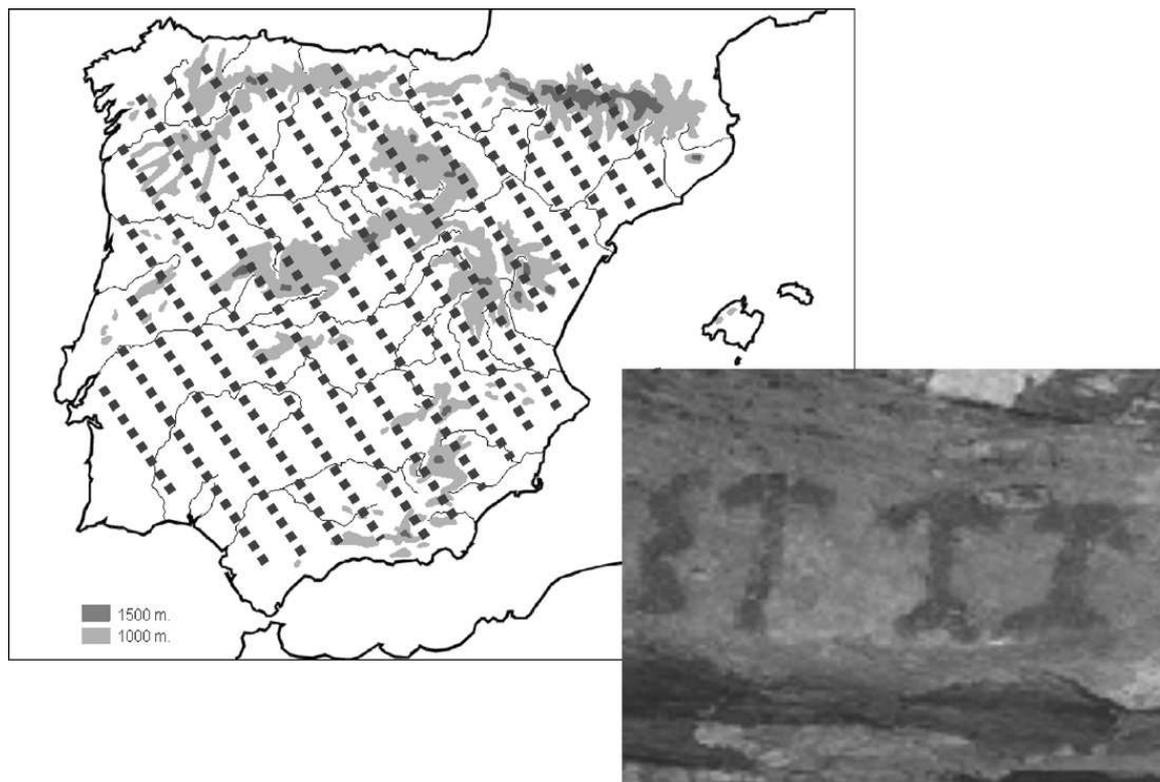


Fig. 4. Schematic style. Abrigo de Selva Pascuala, Cuenca (partial picture) (Source: Corpus de Pintura Rupestre Levantina, <http://www.ih.csic.es>). The lines indicate the area of distribution of this style.

the pigments and instruments used to depict each one of them, as well as in their degree of abstraction and naturalism. In general, Schematic motifs tend to be simpler in their design, and frequently the figures are composed of a few simple or even a single stroke.

#### *Macroschematic*

The characteristic motifs of the Macroschematic style are anthropomorphic and geometric figures of large dimensions, made with irregular strokes using a dense and dark-coloured red pigment (Fig. 5). Anthropomorphs show a high degree of abstraction. The torso can be either represented by a solid bar or outlined using two parallel strokes; the head appears as a semi-circle on top of the torso, and usually the arms are raised and the fingers outspread. Geometric motifs are composed of long meandering thick lines, sometimes parallel. These figures, usually a meter wide but occasionally larger, can be found either in ample rock shelters (where they always occupy central and visible positions), or in smaller ones hanging over spacious platforms (Hernández Pérez et al., 1988).

Initially the distribution of this style was considered to be restricted to a small area in Alicante, in central Mediterranean Iberia, where the first sites discovered were located. However, as we will show below, recent discoveries are contributing to change this initial panorama.

#### **Chronological issues**

As a result of a lack of absolute dates for these paintings their chronology thus far is based on indirect evidence: stylistic stratigraphies and the identification of similar motifs on portable media (pottery, bone idols, etc.). Consequently, this relative chronology is continually subjected to changes as new evidence is considered.

The first clear sequence was that of Fortea Pérez (1974), who situated the Linear-Geometric style in a late Epipalaeolithic phase according to the stratigraphical position of the engraved plaques from *Cueva de la Cocina*. Consequently, the Levantine style, whose figures overlaid these geometric motifs in all the sites where both styles could be identified, had to be more recent. Given the hunter-gatherer

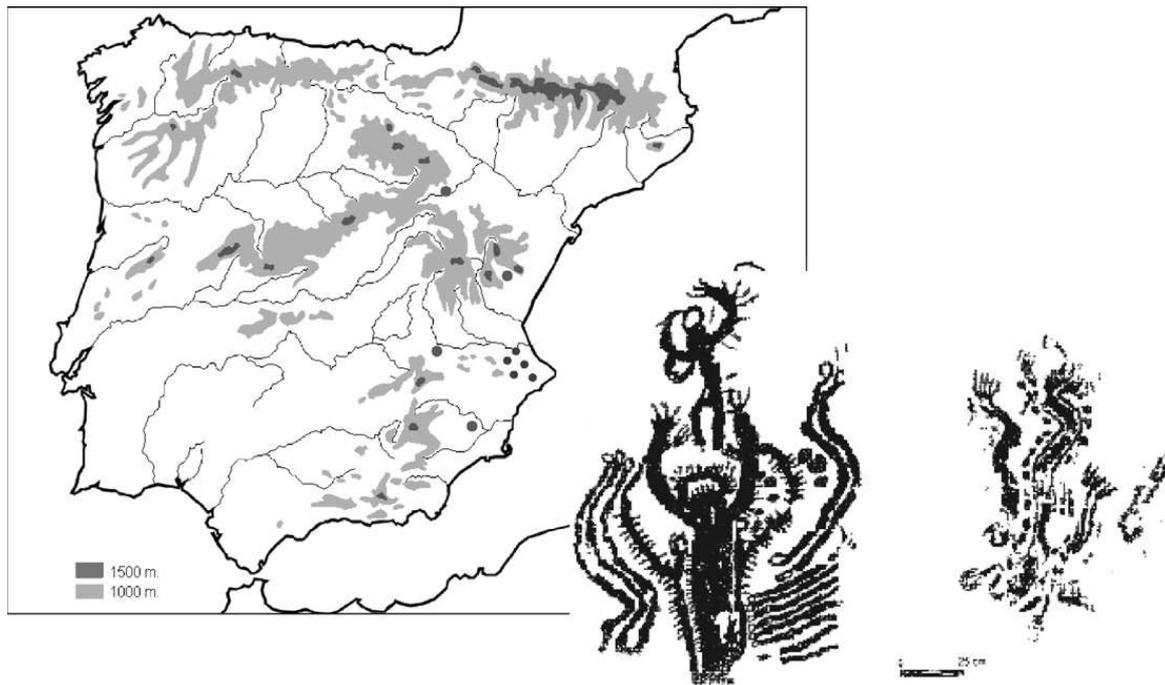


Fig. 5. Macro Schematic style. Pla de Petracos, Alicante (after Martí Oliver and Hernández Pérez, 1988). Smaller and concentrated indicate the 'classic' area of distribution of Macroschematic style. Bigger and spread indicate possible new Macroschematic style sites.

character of its compositions, its authorship was still being attributed to Epipalaeolithic groups.

In the 80s, the Macroschematic style was identified and attributed to the allegedly first farming communities arriving to Mediterranean Iberia: similar motifs were detected in the cordial impressed pottery of paradigmatic sites such as *Cova de l'Or* or *Cova de la Sarsa*, associated with these farming populations (Martí Oliver and Hernández Pérez, 1988). Rock painted motifs and those impressed on pottery were not just similar in their form; they also shared common conventions, such as the representation of anthropomorphic figures with raised arms and outspread fingers. An important conclusion followed the consideration that the Macroschematic representations belonged to the Early Neolithic: as these were superimposed by Levantine ones in sites such as *La Sarga*, the latter could not have been made before this moment. Yet, their authors were still considered to be hunter-gatherers, but now placed in a Neolithic chronology.

Finally, the Schematic style has been considered to have a Late Neolithic or Copper Age chronology since Breuil's times (Breuil, 1935; Acosta Martínez, 1968; Moure Romanillo, 1999; Hernández Pérez et al., 2000), as their compositions included idols similar to those typical of the grave goods of that period. This late chronology was consistent with

the supposed high degree of conceptualization expressed by its abstract motifs, but also with the assumption that different styles had to be related to different social groups.

According to this evidence, the rock art sequence in Mediterranean Iberia (Linear-Geometric, Macro-schematic, Levantine, and Schematic) would represent a linear progression from simple styles to the more complex ones. This progression was paralleled with social evolution, from hunter-gatherer groups to farming communities.

But superimpositions and parallels on portable media contradict these arguments. The counter arguments have increased to the point which the former sequence can no longer be sustained.

Firstly, there are solid arguments that allow one to question the very existence of Linear-geometric rock art. Some authors argue that these motifs are in fact Schematic or even Macroschematic (Hernández Pérez, 1992; Alonso and Grimal, 1994). Moreover, a review of the records for the original find of the incised plaques at *Cueva de la Cocina* raised doubts about their allegedly Epipalaeolithic chronology (Cruz Berrocal, 2005).

The second problem in the sequence is the relation between the Macroschematic style and the Levantine and Schematic ones. This is evidenced by the superimpositions, of the latter over the former, at

sites such as *La Sarga*, *Pla de Petracos* or *Barranc de Famorca* (Hernández Pérez et al., 1988: figures 28, 142, 185). According to the requirements of the 'Dual model' (see below) of Neolithisation, these superimpositions had to be read in terms of ideological confrontation (e.g. Levantine motifs would try to eliminate those produced by farming communities, and so on).

But, obviously, these superimpositions do not carry information in themselves about how much time elapsed between the different phases of painting. The confidence that there was a large temporal gap between the making of Macroschematic motifs and their obliteration by the Levantine or Schematic ones was, again, a result of the empirical needs of the sequence proposed within the 'Dual model'.

A reappraisal of the evidence provided by superimpositions and parallels on portable media revealed that the Schematic style, which was supposed to emerge late in this sequence, may be in fact as old as the Macroschematic. This is the case with Levantine style as well. In fact, their parallels in decorated impressed pottery seem to indicate that both the Schematic and the Levantine styles have, at least, an Early Neolithic chronology (Marcos Pous, 1981; Martí Oliver and Hernández Pérez, 1988; Torregrosa and Galiana, 2001; but see Alonso and Grimal (1994), Mateo Saura (2002) for a critique of the Levantine depictions on pottery). Similarly, the pictoric stratigraphy reveals that most probably these two styles were contemporary throughout all their sequence of development, from the Neolithic on (Hernández Pérez et al., 1988). The superimpositions of Schematic motifs over the Levantine ones (and vice versa) are frequent all over their common area of distribution (Alonso and Grimal, 1994). Sometimes, the superimpositions can even be found inside the same sites, resulting in intermingled compositions indicating that both styles can be considered to be contemporary in archaeological terms.

Other arrangements in the panels, such as Levantine motifs placed at the center of the composition and Schematic motifs around them (such as in *Labarta*, Huesca (Beltrán, 1998)) are also significant and prevent the proposition that a single sequence of styles was produced throughout the whole Mediterranean region. This also prevents the attribution of general chronological meaning to the superimpositions because the alleged sequences in one region contradict those of other regions. Moreover, there is absolutely no possible way of determining that one region was the origin of any pictoric tradition

(in fact, we will argue exactly the opposite situation, see below). Superimpositions and all sorts of relations among the different styles in the panels are most probably the result of their symbolic meaning or the result of factors other than chronology.

Considering this evidence, it seems that the rigidity of the traditional sequence was a consequence of identifying different archaeological 'cultures' associated with different groups of population, thus fitting them within a previously defined model of Neolithisation. A reassessment of the evidence demonstrates that rather than the existence of separate social groups, different styles were not only concurrent but also complementary in their uses. Therefore, it is possible to read this stylistic variability in functional terms: different styles serving different uses within a same community. This hypothesis has important implications when we consider alternatives to the demic diffusion models of Neolithisation.

### **The neolithisation process: Demic diffusion vs. Local adoption of domesticates**

The prevailing hypothesis for the arrival of domesticates and Neolithic material culture to the Iberian Peninsula is the so-called 'Dual model' which champions a mixed model of colonisation and indigenous acculturation (Fortea Pérez, 1973; Bernabeu et al., 1993, among others). Archaeologically, this model requires the identification of a clear-cut stratigraphic separation of Neolithic deposits (defined by the simultaneous appearance of all the features contained in the 'Neolithic package') from pre-Neolithic layers in previously inhabited sites (Bernabeu et al., 2001: 598). Moreover, it also requires the appearance of new sites showing no continuity in relation to earlier settlement or burial patterns.

Therefore, the identification of separate rock art styles reinforces the empirical evidence required by this model: Neolithic groups arriving from the central Mediterranean would bring to the Iberian Peninsula the Macroschematic style, along with the other components of the typical Neolithic assemblages -animal and plant domesticates, cardial impressed ware, etc. The indigenous Mesolithic groups, which so far would have only produced the simple Linear-Geometric style, would then develop a new one (Levantine) as a response to the ideological and territorial confrontation with the new farming communities. Finally, when these

Mesolithic groups had either disappeared or adopted the Neolithic economy through acculturation, the resulting new population would develop the Schematic style (Fortea Pérez and Aura Tortosa, 1987). In this context, the continuity between the Macroschematic and the Schematic styles was as crucial as the cultural rupture indicated by the replacement of the Linear-Geometric by the Macroschematic, or the development of the Levantine as a consequence of this substitution.

Considering the importance of this stylistic sequence to sustain a certain view of the Neolithisation process, it is noteworthy that some of the former supporters of the sequence have acknowledged that a) there is not such style as the Linear-Geometric; and b) the Levantine style was produced by the same farming communities that developed both the Macroschematic and the Schematic ones (Hernández Pérez and Martí Oliver, 2000–2001). However, these changes have not had further empirical consequences within the model that the previous sequence sustained. Rather, as its concurrent character cannot be accommodated within the model, rock art is no longer being used as an argument in the debate about the Neolithisation: an easier but not really satisfying option.

The contradictions within the demic diffusion model are not restricted to the evidence provided by the rock art. Among the supporters of the demic diffusion hypothesis there are also divergences regarding the way in which the colonization might have taken place. For instance, although initially the ‘Wave of advance model’ (Ammerman and Cavalli-Sforza, 1984) prevailed (Bernabeu et al., 1993), the more recent ‘Maritime pioneer colonization model’ (subsequent long distance relocation episodes through sea routes) has questioned its validity, relying on statistically indistinguishable dates for the first appearance of the Neolithic assemblages from central Italy to Portugal. This would indicate a faster rate of spread than the terrestrial displacement allows (Zilhão, 2001).

This model raises different and specific problems, though. Unfortunately, a complete revision of these is beyond the scope of this paper (Cruz Berrocal in preparation). In general terms however, the evidence for the demic diffusion models, either from terrestrial or maritime sources, is disputable. For instance, these models admit that the incoming Neolithic populations (by definition, isolated in certain coastal Mediterranean enclaves) would have created complex, long distance exchange networks from this

moment on (Orozco Köhler, 2000). This does not consider the possibility of previously existing exchange-networks among the local Mesolithic communities, which in fact would be a better explanation for the rapid diffusion of ‘Neolithic’ items such as the first domesticates or decorated pottery (Barnett, 1990; Vicent García, 1997; Rodríguez et al., 1995; Hernando Gonzalo, 1999). Another disputed topic are genetic and isotopic analyses. These are scarce and not conclusive (Chandler et al., 2005).

But the main problem still remains the explanation of the historical causes for the supposed process of long distance colonization. Zilhão (2001: 14185) and others (Bernabeu et al., 2003: 55) have argued that the spread of farming groups is the result of subsequent fissions intended to avoid increasing social stress or the development of social inequalities. Moreover, this tendency to fission and move on would have been reinforced further because opportunities for settlement and expansion around initial enclaves were limited by physical geography and the presence of local hunter-gatherer groups (Zilhão, 2001:14185). This would explain both the fast pace of the spread and the relatively reduced size of the groups involved (in contrast to the constant demographic growth required by the Wave of advance model).

This is scarcely a consistent argument. First, it is difficult to see how these reduced subgroups would constantly fission and move on in order to avoid potential social distresses. This constant necessity of expansion has been dismissed by Hernando (2002: 159) as a projection of colonial attitudes that are more appropriate of historical state societies than of prehistoric ones. Secondly, if the presence of local hunter-gatherers groups was strong enough to limit the expansion of farmers, it does not seem clear why the former groups disappeared/became acculturated after a very brief period of contact. Thirdly, no reason explains why this spread ended up in Portugal and did not continue further along the coasts of Atlantic Europe. Fourth, the coastal distribution of early Neolithic sites seems to be more apparent than real, and could be explained by different traditions of archaeological activity in Iberia. Indeed, the recent discovery of new inland sites (for instance in *Ambrona*, Soria) might be a starting point to change the panorama known so far (Kunst and Rojo, 2000; Zapata et al., 2004: 308). Finally, there are absolutely no archaeological traces of interaction between local and incoming populations. Violent confrontations would certainly leave

traces, while the presence of ceramic or domesticates in sites previously occupied during the Epipalaeolithic can be also explained in relation to long distance exchange activities.

The arguments that sustain the Maritime pioneer colonization model seem a trap for the supporters of the Dual model, because they provide just an *ad hoc* explanation for the old dates of certain sites (see these dates, for instance, in Zilhão, 2001). As these dates increase in number and are obtained from more inland sites on the Iberian Peninsula, the problems both for the Wave of Advance or the Maritime pioneer colonization models also increase (for a discussion of the dates, Cruz Berrocal in preparation), and the lack of credibility of the historical reasons for the colonization remains.

Recent archaeological evidence from other areas of the Peninsula is becoming strong enough to sustain alternative visions of the Neolithisation process. Together with the old inland dates, there is a range of different situations in Epipalaeolithic sites where different Neolithic elements are found (being the evidence of early introduction of domesticates extremely scarce, though), contradicting the idea that the whole assemblage of features involved in the earliest agro-pastoral practices appeared simultaneously as a package (Barandiarán and Cava, 1992; Schuhmacher and Weniger, 1995; Hernando Gonzalo, 1999; Zapata et al., 2004). Finally, the presence of fully Neolithic communities in the inner mountain ranges of Andalucía early in the Neolithic sequence has also been proposed (Román Díaz et al., 1996; Sánchez Quirante et al., 1996; Gavilán Ceballos and Vera Rodríguez, 1997).

The most important criticism that can be made of the demic diffusion models does not refer to the archaeological record, but to the inferences drawn from it following the culture-historic approach. Yet, there are alternatives to the particular dynamics of change proposed by this approach, that are able to explain the Neolithisation process. These alternatives emphasize the active role of the local Mesolithic populations in the development of the process, selecting and adopting only certain features from the Neolithic assemblages. Indeed, the consideration of the particular backgrounds in which the adoption of domesticates took place would make it easier to understand the variety of situations appreciable within the Iberian archaeological record, a variability which is even more evident when the process is considered at a European scale. Both these records and the historical processes

related to them would have been more varied than the diffusion models have considered. Moreover, these alternative approaches provide an explanation for the diffusion of the Neolithic material culture that does not require the movement of groups of population. Among these proposals, the reference for our argumentation would be the 'Capillary diffusion model' (Vicent García, 1990, 1997; Rodríguez et al., 1995; Hernando Gonzalo, 1999).

This model is based on two basic premises: (a) that there is continuity between the Mesolithic and Neolithic periods; and (b) that local hunter-gatherers were dynamic social entities, able to engender, by themselves, a process of economic transformation and increasing social complexity. Moreover, the model involves other factors such as the introduction of the first domesticates as prestige items (Testart, 1982; Barnett, 1990); the existence of kinship and reciprocity networks among the local hunter-gatherers, which eventually would also connect them to more distant areas of the Mediterranean; the development of strategies of intensification and diversification of the economic basis during the Mesolithic; the existence of cycles of delayed-return consumption, through the seasonal storage of both wild resources and domesticates (Vicent García, 1997: 9-10); and, finally, the fact that these partial transformations in their economic and social practices, although initially intended to assure the stability of the way of life of the local hunter-gatherers, would have unexpected consequences (Vicent García, 1990, 1997).

The sequence of the arguments in this model is more elegant because it does not require additional answers about which groups would have been moving around, where they came from and, more importantly, how and why they moved (Vicent García, 1997: 7). Moreover, it suggests greater complexity in the social and economic life of the local hunter-gatherers, and also emphasizes their active role in shaping the process of adoption of domesticates and the Neolithic material culture according to their particular requirements. This contrasts with the role attributed to these same groups within the Dual model, which is reduced to its minimum possible expression.

Finally, the Capillary diffusion model is more plausible in its theoretical as well as anthropological and archaeological dimensions. It has a higher explanative potential than the demic diffusion models because its proposal referring to the selective adoption of certain aspects of the Neolithic assemblages can accommodate more easily new evidence.

For instance, although archaeological evidence is not absolutely conclusive, research at the local and regional scale illustrates that there is continuity (Martí Oliver and Juan-Cabanilles, 1997: 220) between the 'Mesolithic and 'Neolithic' periods. For instance, in exchange networks (in places such as *Dourgne*, *Font del Ros*, *Roc del Migdia*, *Balma Margineda*, *Sota Palou...*) (Pallarés et al., 1997; Hernando Gonzalo, 1999), in the introduction of domestic ovicaprids within the previous economic strategies (such as in *Cova de les Mallaetes*) (Davidson, 1989), in the mixing of Mesolithic (wild animals and/or lithic industry) and Neolithic (domesticates and/or pottery) elements in a wide range of sites all over the Peninsula (Schuhmacher and Weniger, 1995; Hernando Gonzalo, 1999), showing that the early introduction of domesticates took place within the frame of broad spectrum economies, in association with previous predatory practices. This happened not only in the traditional core areas of the Neolithisation process (central Mediterranean and central Atlantic Iberia), but also in areas habitually considered as marginal in the initial process, such as the Pyrenees or the central Peninsula (Barandiarán and Cava, 1992; Cava Almuzara, 1994; Schuhmacher and Weniger, 1995; Pallarés et al., 1997; Hernando Gonzalo, 1999; Zapata et al., 2004).

This alternative model also considers a different vision of the Neolithic as a historical process. This label marks the moment during which the use of domesticates is so widespread that it becomes visible in the archaeological record (Cruz Berrocal in preparation); in some cases, this parallels outstanding investments such as the accumulation of valuables or the creation of particular structures (such as the ditched enclosure identified at the open-air site of *Mas d'Is* (Bernabeu et al., 2003)). Therefore, the Neolithic would not be a new phase of social evolution triggered by the arrival of new groups of Mediterranean origin, but the last stage of a long-term process of indigenous transformation. Only from this point of view can we understand the simultaneity of the different Neolithic contexts throughout the Peninsula and the west Mediterranean, as well as their apparently sudden complexity from this moment on.

### **Rock art within the alternative conception of the neolithic**

The emergence of rock art in the Neolithic archaeological record has exactly the same charac-

teristics as the other aspects mentioned above. The different traditions appear simultaneously in a very wide territory, within which it is impossible to identify original focuses or lines of diffusion for particular stylistic traits. Consequently, both rock art and those aspects of the archaeological record related to other spheres of human activity might be explained in the same way, that is, as the result and symptom of a new model of social relations, related to the previously existing kinship and exchange networks among the local hunter-gatherers communities.

From this point of view it seems clear why, thus far, the models proposed to explain the origin and diversity of the Neolithic rock art styles (which attributed these styles to different and successive groups with increasing levels of socio-cultural complexity) can no be longer sustained. First, the argument that less complex social groups can only develop simple art traditions is absolutely unwarranted. Second, both the probable simultaneity of these styles and their defining formal qualities make it difficult to argue that any of them could have been developed just as an evolution of the others.

All these aspects could be better explained from the point of view of the alternative conception of the Neolithic proposed by the Capillary model. The strongest piece of evidence to sustain the simultaneous and complementary development of the rock art styles has been provided by an analysis of their location. To begin with, it is not likely that two or three different social groups would simultaneously use the same rock shelters for painting (and the activities related to this practice) without leaving evidence of interaction or conflict in the archaeological record. It is noteworthy that, according to the Dual model, this should happen in those areas where different groups coexisted. But the combination of motifs belonging to different styles in certain sites seems to indicate the opposite, a continuity and complementariness which fits better the proposal that they were all made by the same social formation.

Second, the territorial distribution of the Macro-schematic style has been frequently used to sustain the existence of a process of colonization, associating this style with the incoming Neolithic populations that would have settled in Alicante. Against this hypothesis we can mention that this style is beginning to be recognized not only in neighbouring areas like Murcia (*Abrigo de la Fuente*) and Valencia (*Barranc de Carbonera*, *Barranc del Bosquet*, *Cueva*

*de la Araña* and *Balsa de Calicanto*), but also in rock shelters well inland: in Albacete (*Cueva de la Vieja*), Cuenca (*Abrigo del Tío Modesto*) and even the province of Soria (*Abrigo de Carlos Álvarez*<sup>2</sup>) (Fig. 5). This greatly expands its initial and very restricted context.

Moreover, despite its consideration as part of the Neolithic assemblages (and despite the increase in its area of distribution), the location of Macroschematic style does not pair the allegedly primary focuses of Neolithisation: it is not found in Portugal, North-eastern Iberia, or other Mediterranean areas, supposed routes of colonization. In this sense, this rock art style is specific to the historical processes happening in Mediterranean Iberia.

Finally, we can add a most important argument: the Levantine style is distributed throughout a vast territory that since the beginning of the Neolithic was articulated according to the seasonal exploitation of complementary sub-regions. The distribution of this style, therefore, provides a unifying factor to understand this area as a single territory, something that cannot be inferred from the more patchy distribution of the settlement evidence. In fact, the irregular distribution of the Neolithic settlement sites is usually assumed to reflect leapfrogging in the colonization of different areas from the original enclaves along the Mediterranean coast. The evidence provided by the rock art, however, indicates exactly the opposite pattern. The Levantine style is distributed throughout a territory whose seasonal exploitation combines two fundamental settings of the Mediterranean ecosystem: coast and mountain (Cruz Berrocal, 2005). The evidence of seasonal patterns of mobility between these areas can be traced back to the Palaeolithic and Mesolithic (Aura Tortosa and Pérez Ripoll, 1992; Aura Tortosa et al., 1993), while during the Neolithic, the patterns of mobility would have probably remained much the same, the major change being the consolidate use of domesticates.

Interestingly, Levantine paintings are the only archaeological evidence that materializes this supra-regional economic system, which otherwise would be archaeologically invisible.

This conclusion is based on the only analysis to date of the locations of all the known Levantine rock art sites, together with Schematic and Macro-

schematic sites: 726 rock shelters (or 482, if we group them in sites composed of one or various shelters) contained in the 1997 UNESCO report (see note 1) (Fig. 6). In order to carry out valid analysis, the eventual existence of a bias in the sample was excluded, for two reasons: (1) it was actually not a sample but the whole population of postpalaeolithic rock art sites in this area at the time when the report was elaborated. This means one century of research, in every possible condition -systematic and specific surveys, by research teams, isolated researchers or learned local persons, and under centralist or autonomical political governments, which also has a great influence in the scope and design of the research (Cruz Berrocal et al., 1999). So if a bias existed, this population would have had a completely non-random appearance, but this was not the case: (2) rock art sites appeared in the whole spectrum of possibilities we tested (orientation, geographical settings, and so on), although there were clear tendencies that, of course, provided the arguments to identify consistent and regular patterns in the locational decisions taken to place the paintings. These patterns were detected through quantitative, statistic, and interpretive analysis (Cruz Berrocal, 2005).

The patterning of rock art distribution starts at the local and regional level, in which rock art sites form recognizable systems. These systems connect in such a way as to finally materialize, as we said above, one single territory out of all the different regions. To put it another way, it is possible to identify networks of rock art sites which articulate the local scale in regional and inter-regional systems. Therefore, every rock art site is included in at least one of these networks.

We have chosen to exemplify this by briefly describing one of our case studies, that was restricted to a local and regional scale (Cruz Berrocal, 2004, 2005), the Gasulla system (Fig. 7).

This system is formed by 13 rock art sites, spread over a mountainous area structured by a principal axe (a seasonal watercourse called Rambla Carbonera). What is interesting here is that the arrangement of the sites delimites a core area and a periphery. The core is defined by the *Cingle de la Mola Remigia* and *Cueva Remigia* sites: they are specially big shelters, used as pens until recent times. They have 358 and 241 depictions, respectively, are extremely close to each other and occupy the largest gully in the area (Barranco de la Gasulla), the one that shelters more vegetation than any other. Both

<sup>2</sup> Although this site has not yet been published, pictures and references can be found at <http://www.valledeambroña.com>.

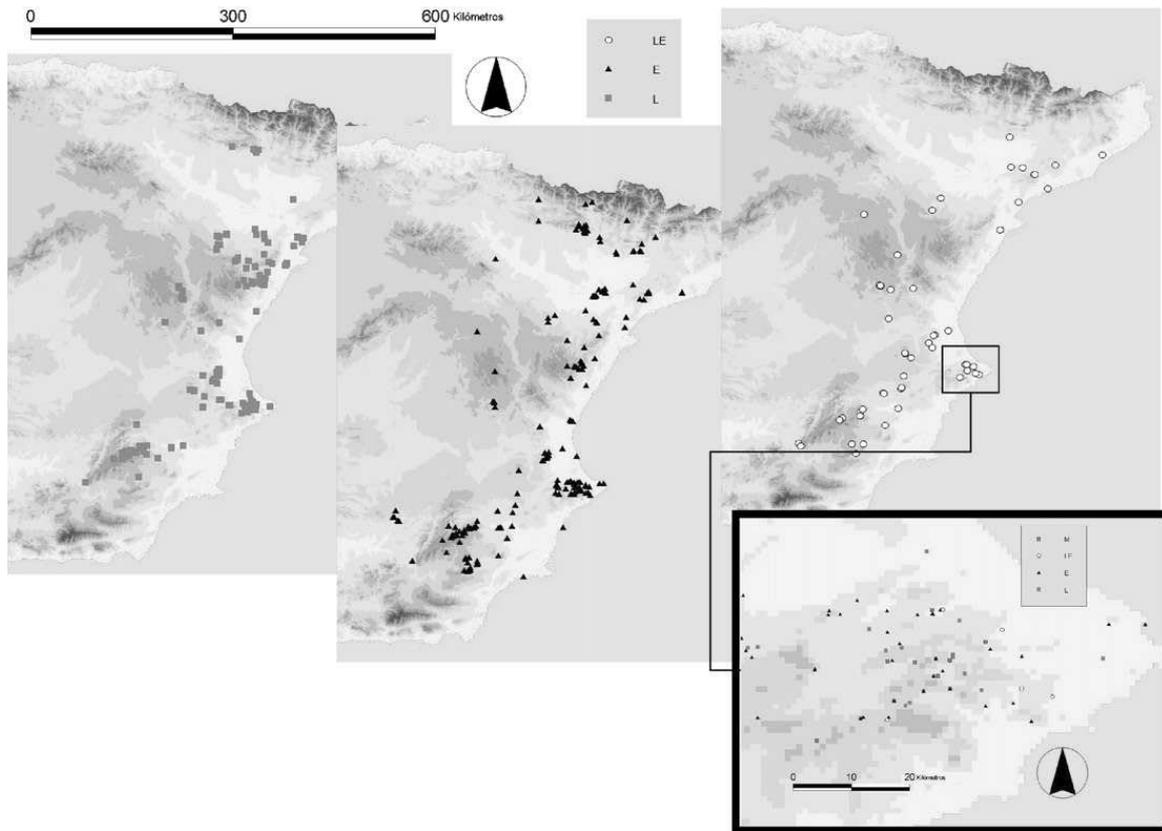


Fig. 6. UNESCO report 1997: sites by styles.

are Levantine sites, but a much smaller Schematic site, *Cingle del Puig*, is found nearby. There is another Levantine site, *Racó Molero*, associated with a Schematic one, *Rocas del Mas de Molero*, in a gully close to the Barranco de la Gasulla. These are, therefore, the most complex, largest and relevant sites, and form the core of the system. In its periphery, the remaining sites (all Schematic) are found in a circular arrangement around the core. They all contain scarce depictions, being all of them signs (the dependence of stylistic and iconographic descriptions can, by the way, be well exemplified by this case).

In the Gasulla system, therefore, central and peripheral sites are complementary in a geographical, stylistic and iconographical sense, and together they comprise the whole territory defined by the Rambla Carbonera and its subsidiary gullies, transferring cultural and social meaning to it.

Moreover, the Gasulla system is linked to another system close to it, the one we called the Valltorta System (Cruz Berrocal, 2004, 2005). Their configurations are very different, though, because their local settings are also different. This means that rock art sites would construct landscapes in different ways

(the Valltorta system, for instance, has only Levantine sites, something that can not be explained by chronological or ethnic factors), depending on how they must adapt to the particular setting.

Together, the Gasulla and Valltorta systems define an important region, which is the origin of four hydrographic basins. Through these basins, both systems do eventually connect to others. In this way, looking through different scales led us finally to the consideration of the distribution of sites at its largest scale. At this point, the use of an ethnographic analogy proved to be valuable in interpreting the archaeological evidence. The analogy we used is the traditional pastoral model of land use, whose patterns of exploitation of complementary territories in a seasonal basis has a long history in the Mediterranean, and in fact is still in use today.

First, many rock art sites present traces of traditional occupation by shepherds (either as pens or as fire traces left by the shepherds). In the sites visited in our fieldwork, 70% had these traces. In 90.9% of the cases (total sample), rock art sites are sheltered inside gullies, certainly appropriate to keep and feed livestock, in terms of size, water and vegetation. This evidence led us to observe rock art sites and

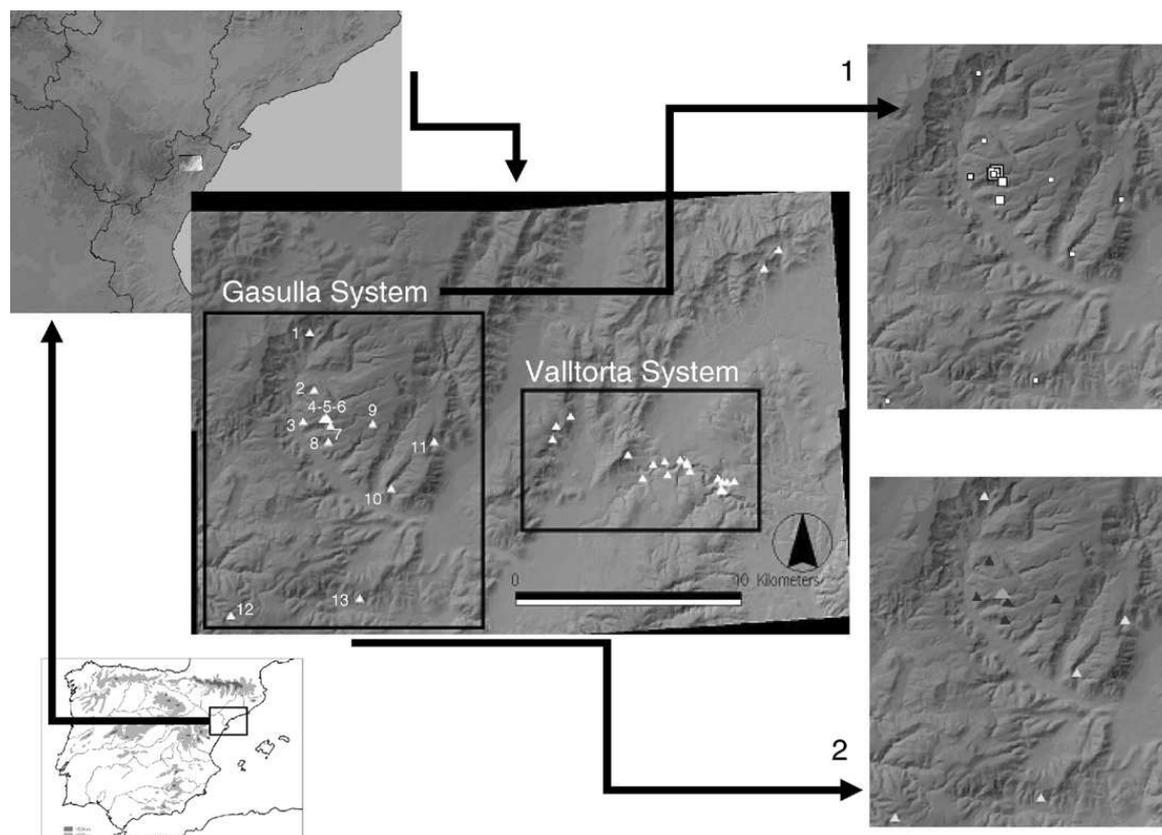


Fig. 7. The Gasulla System (Mapa Militar de España, 1:25000, Albocàsser, Castellón). Sites: (1) Molí Darrer; (2) Peña de Vilarroches; (3) Racó Gasparo; (4) Cueva Remigia; (5) Mola Remigia and Cingle del Puig; (6) Abrigo dels Cirerals; (7) Racó Molero and Rocas del Mas de Molero; (8) Les Dogues; (9) Abric de Mas Blanc; (10) Barranc del Puig; (11) Raco d'en Gil; (12) Covassa; (13) Covassa del Molinell. Maps on the right indicate (1) amount of figures (proportional to square size), (2) stylistic classification (orange, Levantine and Schematic; blue, Levantine; green, Schematic). (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

gullies as primary economic resources. In this sense, the analysis of visibility from the sites reinforce this conclusion, because visibility is almost in all the cases scarce and fragmented. This means that it is not a relevant variable to explain their locations.

Second, not only do rock art sites tend to correspond with traditional sites used by shepherds, but there is also a strong correlation between rock art sites and the short and long-distance traditional paths used by herders to displace livestock to different seasonal feeding sources. These paths were important for us as material links among sites. No one of them was found to be far from one of these paths. In the case study of the Gasulla system, the distance from the sites to paths for livestock was statistically determined as significantly short (172 m on average) (Cruz Berrocal, 2004, 2005) (Fig. 8). The association of rock art sites to paths, in this case not specifically paths for livestock but least-cost paths generated by GIS, was also high-

lighted by Fairén (2004b) for the inland Alicante. These findings do not imply, from our point of view, that Neolithic groups must be seen as eternally 'wandering' people, but as another evidence of the non-randomness of rock art sites distribution. Paths reflect structural features of the landscape, such as those reflected by the sites themselves.

Third, the net of pathways for livestock, summer and winter pastures, and rock art sites, overlap almost perfectly, leading us to the conclusion that the seasonal exploitation patterns that traditional herders used to follow, alternating winter and summer feeding sources, or, put it another way, coastal and inland ones, were shared to an extent by Neolithic farmers. This supra-regional dimension of rock art is absolutely significant in the structuring of the Neolithic economic landscape (this, however, does not necessarily mean that the scope of the displacements were the same for Neolithic and historic times) (Cruz Berrocal, 2004, 2005).

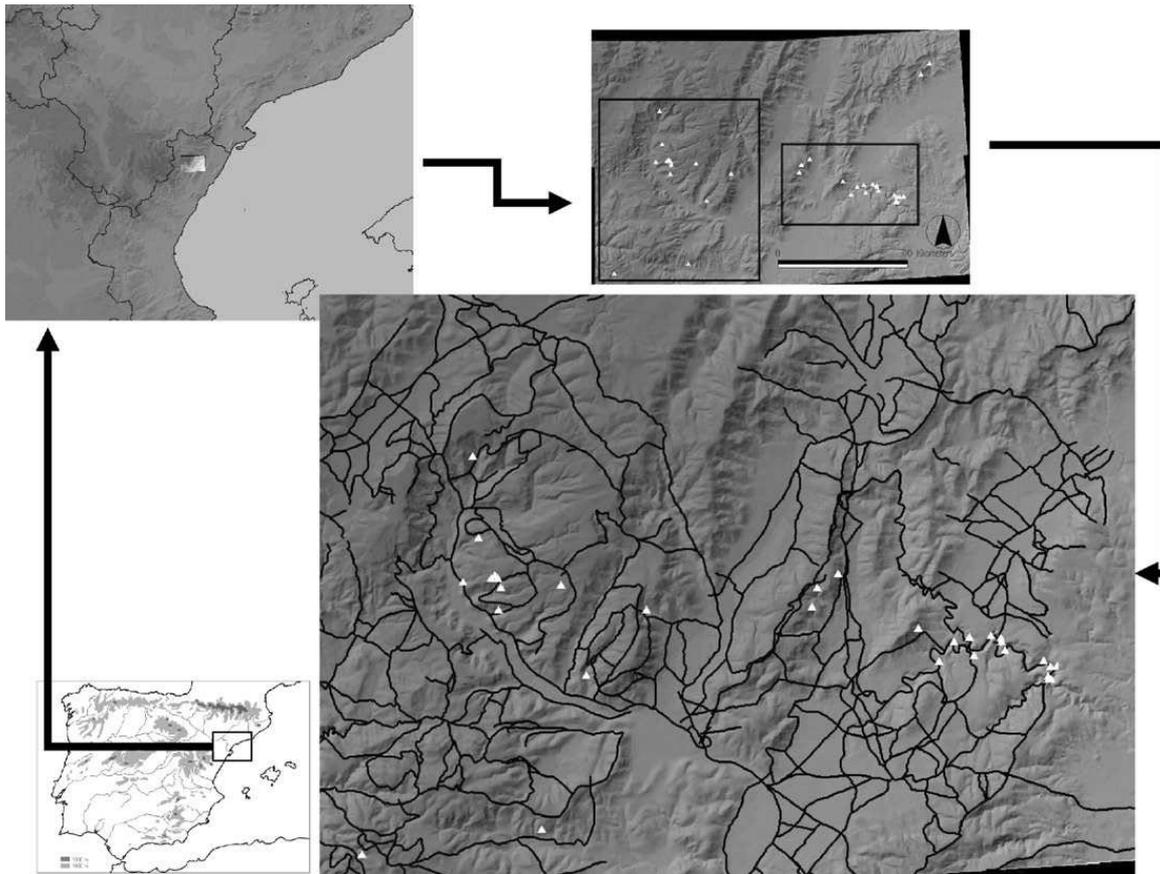


Fig. 8. Paths for livestock in the Gasulla and their relation to Gasulla and Valltorta systems rock art sites.

As a result, we see the distribution of rock art sites in Mediterranean Iberia as guided by structural reasons, based on a particular system of economic exploitation of different and complementary territories. This system can be traced back from the present to the Neolithic, although its roots lay in the seasonal exploitation of different territories already developed by Palaeolithic hunter-gatherers. Consequently, it seems difficult to sustain that this system would have been organized *ex novo* by small groups of farmers recently arrived to the Peninsula. On the contrary, it is more parsimonious to think that this mode of exploitation preceded the existence of rock art, and was only materialized through it when particular social conditions required or allowed it.

#### The role of rock art in the construction of archaeological models

Culture-historic approaches to the rock art tend to treat styles as ethnic markers. As a result of this aprioristic consideration, it can happen that specific details of the art itself, or its location, are not fur-

ther explored, diminishing the archaeological potential of rock art.

We assume, however, that rock art can act as a social agent with an active role in the definition of the social world (Gell, 1998: 7). As a consequence, the very existence of rock art can be considered in itself an indicator of certain kinds of social relations. Yet, the appreciation of this role requires a previous understanding of the particular historic conjuncture in which it emerged. This should be the main aim of archaeological research, which so far has been more focused on the particular imagery of each tradition.

Our position is that the historic dynamics in which rock art is produced would always be more significant than the imagery itself, which can not be treated as a narrative of those times. In the case analyzed here, we consider that changes in the subsistence strategies are a consequence of a previous shift in the social structure. Similarly, the distribution of rock art sites is evidence for a particular economic use of a territory. This materialization is made in a specific historic context, subsequent to

the development of this economic system. Therefore, we propose that the production of rock art was situated in the centre of the social and economic transformations previously described.

This central role can be also inferred from the nature of the rock art itself. From an anthropological point of view, rock art is a system of great technical and conceptual complexity that can be understood in terms of knowledge and control of knowledge: the training process required for its representation can facilitate the restriction of the access to the ideas embedded in the rock art. Consequently, we may say that this knowledge was monopolized by 'specialists' in a broad sense, that is, people who controlled a restricted knowledge, mediating in technical processes that required particular skills. The technical difficulties that can be presumed from the representation of rock art would therefore facilitate the social differentiation of these 'specialists'. This would allow both the artwork and its authors to acquire an active role in the control and definition of social relations (Gell, 1999: 178 ff). Therefore, although this is not a necessary consequence, the very nature of rock art express an uneven distribution of power, that eventually could lead to unexpected social developments.

In the context of production of economic surpluses (essential for the reproduction of the agricultural cycle) and the need to control them, rock art, whose distribution marks places that are central in the economic exploitation of the landscape, could have been significant enough so that no other monumentalization of this landscape was required. Indeed, the rock art tradition developed during the Neolithic in Mediterranean Iberia can be considered a monument in the sense that it was designed to remain visible, indicating with its presence the configuration of a social landscape (Criado Boado, 1993: 47). Once this way of life was fully consolidated as a peasant society (which would only happen with the development of stratified societies that characterize the Bronze Age), the pervasiveness of rock art seems to disappear, and it has been proposed that its production acquires a different character.<sup>3</sup>

The proposal that rock art is made by specialists, and that it acted as an institution that regulated or sanctioned the complementary economic uses of a

wide territory, means that its production was central to the articulation of the social relationships (intra and inter-group) that regulated the process of accumulation mentioned before. The role of rock art in this process would be double. Its sudden emergence in the Mediterranean, where no other monuments of similar chronology have been identified,<sup>4</sup> can only be understood within a strategy of appropriation of the landscape that happened in a particular historic setting. Further, the production of rock art cannot be attributed to a particular social group, but to a supra-regional network of communities that belonged to the same social formation. Indeed, the emergence of Neolithic rock art in Mediterranean Iberia can only be understood if it was simultaneous for all the groups and territories throughout which it appears.

To sum up, we propose that this rock art is indicating (a) patterns of location associated to the economic exploitation of the Mediterranean territory; and (b) the existence of a symbolic knowledge which is not equally distributed within the social group. Accordingly, our proposal is that this phenomenon functioned in two different levels. Physically it articulated different territories and metaphorically, it articulated social subgroups with a differential access to this symbolic knowledge.

As a physical (territorial) indicator, the places marked by the representation of rock art can be understood as nodal points in the landscape which have been given a social value. As mentioned before, the analysis of the distribution of rock art in a regional scale indicated the central role of these sites in the definition of economical networks. These networks articulated and linked the different areas implicated in the pastoral exploitation of the Mediterranean landscape (Cruz Berrocal, 2005). This role is consistent with the strategy indicated by the use of some caves as shelters for flocks and shepherds during the Neolithic in this area (Badal, 1999).

As a metaphor, the institutionalization of the production of rock art indicates a degree of social specialization that is not frequent in primitive societies (Clastres, 1981). This specialization would be in the core of the internal contradictions that would eventually provoke the dissolution of these societies. This occurred independently of the specific role that rock art played in the negotiation

<sup>3</sup> This is the case of the late megalithic art, which is associated with the funerary sphere and whose accessibility and social visibility is therefore restricted (Bradley 2002).

<sup>4</sup> The only exception would be the ditched enclosure of *Mas d'Is* (Bernabeu et al. 2003), so far a unique feature in the archaeological record of this area.

of the inter and intra-group social relations of power.

The fact that rock art materializes both social and economic landscapes, as well as structural social contradictions, leads to our proposal that in this case its emergence indicates a situation of increasing social complexity and reorganization of territorial relationships. The wide and complementary territories that its distribution spans added to its high degree of internal variability, make this phenomenon a clue to understand the historical context in which it appeared.

### Conclusions

All over the world, to a greater or lesser extent, rock art is integrated within the sequences that sustain different archaeological hypotheses. However, too often the role of these manifestations is reduced to circular arguments that relate, in a straightforward manner, the form of the art and its past meaning. As we have remarked, this point of view has been especially true for the research on the Levantine rock art, but we can recognize similar situations elsewhere. For instance, we can mention the Neolithisation process in Northern Africa, where rock art has been used to support the idea that “already in the Neolithic period the Sahara was inhabited by pure nomads who were cattle-keepers” (Khazanov, 1994:106). But, as Khazanov points out, rock art does not provide sound evidence for these practices because it can be imprecise in relation to the species herded. Moreover, the lack of representation does not prove the absence of agricultural practices (Khazanov, 1994: 107).

This sort of misunderstanding of the interpretive capabilities of prehistoric rock art has turned it into a ‘Cinderella of archaeological research’ (R. Wallis, comment on Smith and Ouzman, 2004: 519). With the presentation of our case study we have tried to show that, at the very least, rock art can be used to test the feasibility of current archaeological hypotheses. In Mediterranean Iberia the variability of settlement sites on a regional scale has been attributed to chronological, functional or even ethnic differences. Yet, rock art cannot be interpreted in these terms because stylistically it is relatively homogeneous throughout all this area. Consequently, the acknowledgement of the unitary character of this phenomenon can lead to a reappraisal of the real significance of the variability appreciable among settlement sites.

Moreover, rock art is a manifestation that synthesizes information from different spheres, from the economic to the ideological. This turns it into an archaeological and social indicator of greatest importance. Its visibility and durability (Criado Boado, 1993), be it intentional or not, indicate an important rupture in relation to previous stages. Therefore, rock art is not only the effect, but also a cause within a process of increasing social complexity, also because rock art, as art, is a kind of ‘surplus’ (not strictly necessary for survival). This role as a marker for complexity has been underestimated. We are not saying however, that the emergence of rock art always indicates processes of social stratification. Its role in each case would depend on its historic context, which is also vital for its understanding.

If this is so, the application worldwide of a single mechanism of interpretation, such as the shamanic hypothesis, is problematic. The oversimplified use of prefabricated interpretations can undermine the potential, but also the credibility, of rock art studies. To go beyond this situation, the consideration of the particular history of every rock art corpus is essential.

This has been our case here. We see rock art in the context of the Neolithisation of Mediterranean Iberia as an institution which sanctioned social and territorial relationships, *formalizing and creating* them.<sup>5</sup> Therefore, it is not just a simple by-product of this process, created and used by social agents. This said, it is not possible, unfortunately, to ascertain the specific uses of rock art beyond this point: it could have accelerated or retarded the process. In the same way, rock art could have acted either as an element of cohesion or of segmentation. This recognition is intended to avoid overinterpretations.

It is, thus, important that rock art researchers develop strong theoretical and interpretative frameworks, based both on the sociological significance and on the historical and archaeological context of rock art in order to reinforce its role in archaeological research.

<sup>5</sup> Although we are not concerned here with agency theory, we see some points of overlap. For instance, Pauketat (2000: 124) notes that “... practice informed solutions will be contingent on conceptual improvements, recognizing monuments, artifacts, and landscapes as process as the moments of interaction rather than as expressions or correlates of process”, as well as in the focus on unintended consequences of action.

## Acknowledgments

We thank Sara Fairén her work on the English version and some comments on the text and figures. We warmly thank Margaret Conkey for reading the paper, making suggestions and actively and kindly encouraging its submission. We thank Darren Modzelewski for the paper's final exhaustive revision in English. We thank also two anonymous reviewers for their comments. Any errors remain our own.

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