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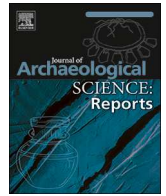
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Modes of space appropriation in the decorated caves of El Castillo and La Pasiega (Puente Viesgo, Cantabria, Spain)

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ABSTRACT

The iconographic, formal and technical analysis of the decoration elements of El Castillo and La Pasiega (Cantabria) highlights a heterogeneous distribution of the main themes, with distribution logics that are very different in each of the caves. In El Castillo, the main themes appear in distinct sectors, each one containing a central area with a high density of motifs and an end that sets its limit. Consequently, the decoration appears as a mosaic formed of small sets of motifs. In contrast, using the same analysis criteria for the cave of La Pasiega shows that, besides motifs of the same type spread in the network space, there are more structured decorated sets. The set of Gallery A shows an increasing number of motifs from the beginning to the end of the sector, with a maximum density at the level of the back areas. In turn, the set of Gallery B comprises animal figures that stood out all the more to the viewers that they were illuminated by natural light. Whereas the decoration of Gallery A is organised in the manner of deep sanctuaries, the ornamentation of the Salle du Mégacéros of Gallery B falls rather in the logic of open-air sanctuaries.

1. The issue of space in decorated caves

The idea of a codified distribution of motifs is widely accepted today thanks to the works of Max Raphaël, Annette Laming-Empeire, André Leroi-Gourhan and, more recently, Denis Vialou, even if the criteria used to analyse the organisation of the cave wall arrangement vary according to interpretations (synchronic and/or diachronic relations between motifs, relations between iconographic themes...). In the proposed systems, motifs always prevail over the spatial context in which they are found.

In the 1940's, Raphaël suggests that the decorated cave is organised as a coherent composition within which animal figures denote the history of a clan, materialised by the relationships between the represented animals. In the context of this interpretation, it becomes possible to read the sequence of events by moving through the subterranean space: *les deux premiers couloirs des Combarelles semblent donc représenter des événements historiques importants pour le clan des chevaux et dans lesquels la biche et le cerf ont joué un rôle épisodique* (the first two corridors of Les Combarelles therefore seem to represent important historical events for the clan of the horses and in which hind and deer played an episodic role) (Raphaël, 1986: 93). Laming-Empeire (1962: 294) observes also that *ce sont les animaux et leurs rapports entre eux ou avec les hommes qui jouent le rôle primordial* (the animals and their relationships with each other or with humans are playing a key role). While studying meaning criteria, she highlights preferred themes whose meaning could be mythical, metaphysical and religious. The concept of

composition remains central to Laming-Empeire, and it is through this concept that the question of space arises. The author identifies two types of panels: *les uns destinés à être vus et sans doute admirés par une assistance, les autres soigneusement cachés* (some are intended to be seen and likely admired by an audience, the others are carefully concealed) (Laming-Empeire, 1962: 271). Space intervenes to stress the impression of show, as she says. At the same moment, Leroi-Gourhan, (1958a,bc, 1965) undertakes to integrate the motifs topographically, by showing their preferred distribution according to space types (entrance, transit, end figures and central panels). Following Leroi-Gourhan, a common structure prevails in all decorated caves throughout the entire Upper Palaeolithic. Cave systems may be more or less complex and the number of motifs may vary, but *entre ces sanctuaires simples (...) et les sanctuaires comme le Castillo (...) il y a toute la distance d'une chapelle rurale à une cathédrale* (between these simple sanctuaries... and sanctuaries such as El Castillo... there is all the distance from a rural chapel to a cathedral) (Leroi-Gourhan, 1965: 110).

Actually, these researchers each try to highlight meaningful relations between motifs. In this context, space is approached ambiguously. It is first considered as a support – the word panel, so much used, refers unequivocally to a two-dimensional space. But it is also considered as a volume (tri-dimensional space) structured by an entrance, by halls and by corridors, in which the decorated panels follow one another. Such conception also appears in Reynaldo González's overview (2001) dedicated to identifying iconographic programmes in the caves of Cantabria. In all these

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works, contrary to what we might think, the cave space is not studied according to its morphological peculiarities but is treated as an abstract entity in which relations systems are organising between motifs.

It should however be noted that the structure of space is taken into account, but only very occasionally. Henri Breuil observes, for instance, that the tectiforms are *massés sans figures animales loin, dans des recoins isolés et écartés et des fissures minuscules* (assembled without animal figures, far, in isolated recesses and remote and in tiny cracks) and which, in his opinion, indicate *la fixation de la résidence des esprits des ancêtres* (the place of residence of the ancestors spirits) (Breuil, 1952: 24). This particularity related to signs is also used by Leroi-Gourhan (1958a) by Laming-Emperaire (1962: 269–271) and more recently by (Jean Clottes and David Lewis Williams, 1996: 82–86).

Yet, a reversal is taking place today: a stronger emphasis is given to the architectonic role of the cave with respect to motifs arrangements. (Denis Vialou, 2004) shows that Palaeolithic art is based on a series of four embedded expression levels, which include graphic space, cave wall space, architectural space and symbolic construction. For his part, Marc Groenen (2017) demonstrates that the architectonic structure of the network served as starting point to the organisation of the cave wall arrangements in the decorated caves of Mount Castillo. Finally, the rich work of Blanca Ochoa (2017) dedicated to the sites of Cantabria integrates the specific characteristics of the different space types. She puts the human being back in her analysis, insisting particularly on the conditions of visibility and accessibility to the decorated panels.

The systems whose main lines were just recalled relate to deep cave systems. But we know that there also exist many decorated sites located in rock shelters. When Breuil observes that *la localisation des parreaux peints au fond des galeries profondes témoigne de la recherche de véritables arcanes presque inaccessibles au vulgaire* (the location of painted panels at the end of deep galleries shows that genuine mysteries inaccessible to the common people were sought), he instantly puts his comments into perspective by reminding that open-air sites may have been numerous before they were destroyed by action of natural agents (Breuil, 1952: 23–24). Yet, he makes no distinction between these two types of decorated sites. The magical interpretation that prevails then allows indeed the cave space to be neglected in the analysis, since the figures were made during one-time ceremonies. Shortly after, nevertheless, Laming-Emperaire (1962: 179–207, 291–294) shows, on the basis of the location criterion, that open-air sites and subterranean sanctuaries of South-West France are part of distinct traditions that both possess a deep inspiration unity. For his part, Leroi-Gourhan (1965: 114–115) considers that these two types of sanctuaries belong to different periods – the open-air sites preceding the deep sanctuaries, an idea that we also find in Ochoa (2017: 438–439). For Leroi-Gourhan, however, the decoration structure remains identical in both cases. Surprisingly, such concept of outside sanctuary has not been much used further, except by Javier Fortea Pérez (1994), who identifies their presence in Cantabria and in Asturias, on the basis of stylistic criteria specific to representations of engraved hinds. This distinction between deep sanctuaries and open-air sanctuaries may be advantageously extended to painted sets when taphonomic conditions permit, as we will see for La Pasiega.

2. Permanence of cave wall decoration

The stability of the cave wall decoration had led Leroi-Gourhan (1965: 28–29) to envisage the existence of symbolic traditions that would have crossed the entire Upper Palaeolithic without any fundamental modification. Such large unity needs however reviewing today in light of a richer material and of more analytical studies, as highlighted by Denis Vialou (1986: 336) for the Magdalenian decorated caves of the Ariège. Nevertheless, exposing symbolic, stylistic or technical analogies within a material located in a territory extending on both sides of the Pyrenees helped to identify some phenomena of dissemination or exchanges of information from the Middle Magdalenian, but which do not allow to deny the existence of particularisms (Sauvet et al., 2007, 2008). Such more or less distant relation networks, according to time, are all the more credible that the gaps,

which have long existed between South-West France and Cantabria, have now largely been overcome (Garate Maidagan, 2017 and this volume).

So, the continuation of forms in time and their homogeneity in space, so dear to Leroi-Gourhan, prove to be more apparent than real on the scale of the Upper Palaeolithic. On the contrary, we think it is more interesting to identify particularisms or differences in aesthetic productions, than to seek to consolidate them in one framework. Such singularities have been identified iconographically (Sauvet et al., 2006 and this volume). To stick to the geographic area located on both sides of the Pyrenees, the hind – very rare in the Pyrenees – prevails over the horse during the archaic period in Cantabria. Such variations exist also in time. In the Périgord, the horse is four times more frequent than the bison before the Magdalenian, whereas in Cantabria it is not dominant before the end of the Lower Magdalenian.

Such disparities exist also if we extend this examination to the formal analysis of representations within one region. It is obvious that the famous polychrome bison of the *Grand Plafond* of Altamira (Saura Ramos 1998: 63–87) or the bison-man representation of El Castillo (Ripoll Perelló, 1971; Groenen, 2004: 39, fig. 19) are based on a principle that is very different from the one that governs the finely striated hind heads of El Castillo (Cantabria) (Alcalde del Río et al., 1912: fig. 166–169). The first ones were painted and engraved on naturally suggestive reliefs, which gives them the expressive power of a relief and a stronger physical presence. The second ones are traced on relatively flat areas of the cave wall, neglecting its irregularities (reliefs, cracks or concretions), which brings them visually closer to the art of drawing or engraving of the historical periods. We have shown that the logic leading to the production of these two categories of motifs appears in very different sites, so much so that they constitute true *aesthetic systems*, each one of them having been elaborated on the basis of their own principles (Groenen, 2016: 157–177).

Lastly, from a technical point of view, some regional differences may also be highlighted. The representations of striated hinds, for instance, known in caves (El Castillo, Altamira) (Alcalde del Río et al., 1912: 170–174, fig. 166–169; (Breuil and Obermaier, 1935: 95 and 105, fig. 58 and 68), but also in portable art (El Castillo, Altamira, El Juyo or El Mirón) (Barandiarán Maestu, 1973; Almagro Basch, 1976; Corchón Rodríguez, 1987; Fernández-Lombera, 2003), are unique to Cantabria, but with a dissemination route towards Asturias (El Cierro) (Gómez Fuentes and Becares Pérez, 1979). Such technical traditions appear also in the ways of painting, as noted in red dotted animal silhouettes. If the density centre of these figures is located in Cantabria (Covalanas, La Pasiega A, Arco A...), we find also examples towards the West of Asturias (Cordoveganes I) and towards the East of Viscaya (Arenaza) (Garate Maidagan, 2004: 31–43; Garate Maidagan, 2008: 29–47). These various facts prove the existence of distinct aesthetic traditions, the implemented conceptions having spread in a geographic area within culturally related groups.

It is clear that the expansion of codified practices and their transmission over large periods of time show that these societies were not only receptive to iconographic productions, but that they were also sponsoring them. If the all-encompassing interpretations are no longer acceptable, the idea that cave art productions would be the result of unstructured individual acts – for instance, performed by teenagers or children (Guthrie, 2005) – cannot be accepted either. But insofar as aesthetic productions are codified socio-culturally, it is legitimate to rely on the formal or technical iconographic characteristics to try to assess how the cave decoration has been organised. We propose to start this analysis by comparing the Cantabrian caves of El Castillo and La Pasiega (Puente Viesgo), which we have been investigating exhaustively for many years.

3. El Castillo: one speleological network, several symbolic spaces

With a cave system of 790 m long containing 2.964 graphic entities, the El Castillo cave stands out by the importance and the diversity of its decoration (Fig. 1). After the *Vestibule* (Hallway), where excavations were led by Hugo Obermaier between 1914 and 1918, comes the *Salle A* (Hall A). The *Salle A* is continued by a long dead-end gallery (the *Diverticule/Diverticulum*). In the front part of the *Salle A*, an arched corridor (the *Entrée*

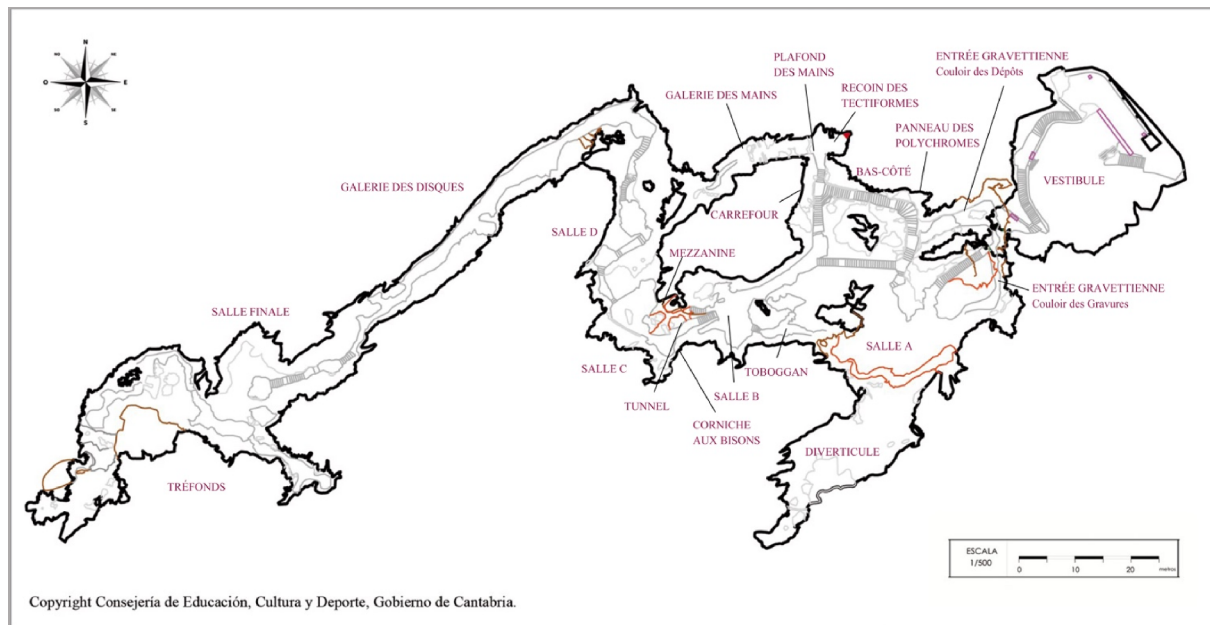


Fig. 1. El Castillo: map of the cave.

gravettienne/Gravettian Entrance) connects this hall to the *Panneau des Polychromes* (Polychromes Panel). In the back of the *Salle A*, on the right side, a “window” opens on a ramp (the *Toboggan*), whose steep slope goes down to the *Salle B* (Hall B). To the right of the *Salle A*, a stairway going down to the lower level leads to the *Plafond des Mains* (Hands Ceiling), along the *Panneau des Polychromes* and the *Bas-Côté*. The latter form a relatively steep passage, bordered on the left by a series of stalagmitic pillars rising to the high ceiling. Both spaces lead to the *Carrefour* (Crossroad), which connects to the *Plafond des Mains* and the *Salle du Chaos* (Hall of Chaos). The funnel-shaped space enclosing the *Plafond des Mains* leads to the right to an oblique narrow diachsis (the *Recoin des Tectiformes*/Tectiformes Recess) and, to the left, to a long corridor (the *Galerie des Mains*/Hands Gallery). The latter continues until the *Galerie des Disques* (Discs Gallery), with a siphon-shaped passage at midway. From the *Salle A*, a second stairway leads directly to the *Salle B*, along a chaos of blocks fallen from the ceiling (the *Salle du Chaos*). From the *Salle B*, a passage capped by a low stalagmitic floor (the *Tunnel*) leads to the *Salle C* (Hall C). The Palaeolithic people could however also reach the *Salles C* and *D* (Hall D) through a narrow passage along the left wall (the *Corniche aux Bisons*/Bisons Ridge) or crossing a small high-ceilinged hall located to the right of the *Salle B* (the *Mezzanine*). The *Salle C* opens into the *Salle D*, which contains a filled-in pit and a residual rock massif hanging 5,50 m above the ground (the *Balcon des Bouquetins*/Ibex Balcony). From the *Salle D*, a stairway leads to the *Galerie des Disques*, a long corridor which leads directly to the *Salle finale* (Final Hall), which is bordered on the left by stalagmitic pillars. This hall gives access to the lower level (the *Tréfonds*/Bowels) through a pit. This last part of the network is composed of various large halls, passages and corridors; the two last halls contain engravings on the ground.

The full range of recorded motifs includes 461 painted, drawn and engraved figurative motifs¹, 1.412 non-figurative motifs and 1.091 traces of colour. This very broad approach emphasises straightaway one of the

peculiarities of this cave: the clear dominance of non-figurative motifs and traces of colour over figurative motifs – this situation being quite different from that of the neighbouring cave of La Pasiega. To determine the chronology of the decoration, the researchers who studied the cave relied on the analysis of both cave wall stratigraphy and style. The decoration was first divided into four phases (Alcalde del Río et al., 1912: 205-216), then broken into nine stages (Breuil and Obermaier, 1935: 98-105), before being organised into four topographic phases by A. Leroi-Gourhan (1965: 272-274). Joaquín González Echegaray (González Echegaray, 1972) who took up the issue, considered a subdivision in three stages. Such way to include the motifs into coherent decorated sets is even clearer in the work of (R. González, 2001: 312), who identified five major decorative interventions, corresponding to as many iconographic programmes, performed during three or four separate decorative moments. It is surprising, and interesting, to see that, despite the evidence of numerous categories of themes and motifs treated very differently, it did not occur to the authors to give greater emphasis to the heterogeneity of the decoration. In fact, the dozen radiocarbon dates (Moure Romanillo et al., 1996) are not enough to elaborate a satisfying chronological framework. Therefore, pending additional information, we feel that it would be preferable to seek to establish first if the notion of iconographic programme makes sense in El Castillo.

Topographic examination of motifs types underlines their unequal distribution throughout the cave (Fig. 2). The *Salle A*, the *Panneau des Polychromes* and the *Plafond des Mains* alone total 52% of all the zoomorphic motifs of the site. On the contrary, sectors such as the *Tunnel*, the *Couloir des Dépôts* (Deposits Corridor), the *Couloir de l'Ours* (Corridor of the Bear) and the *Salle finale* do not contain any figurative motif. Likewise, the *Panneau des Polychromes* and the *Plafond des Mains* alone comprise 66% of the negative hands of the cave. Even if it is difficult to specify the periods to which the different themes belong, we know for sure that, in these two spaces, they fit in a chronology covering thousands of years². These places of the cave have therefore focussed the painters and engravers repeatedly, as if this area had a special significance. Such interest for specific cave

¹ The animal figures (362) include, in order of importance, the hind (90 = 24,876%), the horse (38 = 10,50%), the bison (33 = 9,12%), the ibex (31 = 8,56%), the deer (25 = 6,91%) and the aurochs (11 = 3,04%). A few rare animals complete the bestiary, among which 7 mammoths, 1 reindeer, 1 lion and 1 bird. Many animal representations can however not be identified with such precision. We have grouped them in more or less general categories, according to their graphic precision. Among them, we have identified herbivores (55 = 15,19%), *Bovinae* (14 = 3,87%), cervids (15 = 4,14%) and indeterminate animals (36 = 9,94%).

² On the *Panneau des Polychromes*, the negative hands (traditionally attributed to the Gravettian) are covered by numerous motifs, among which bisons drawn with charcoal and dated to the Upper Magdalenian (Moure Romanillo et al., 1996). Likewise, on the *Plafond des Mains*, violet discs and violet and red negative hands are covered by yellow bisons, covered themselves by red motifs and engraved hinds.

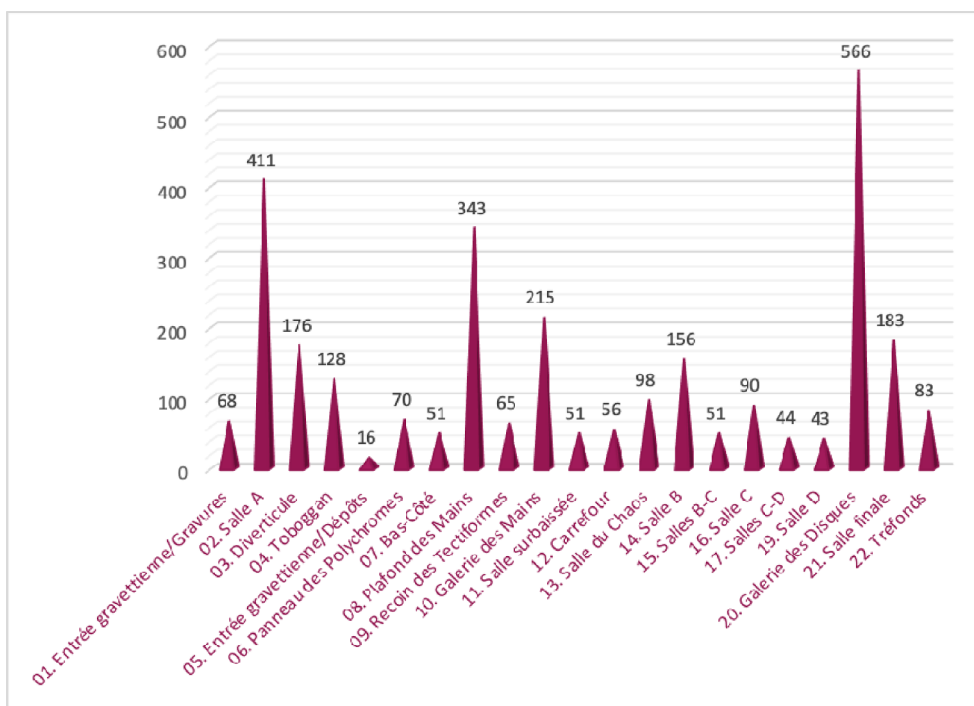


Fig. 2. El Castillo: number of motifs in each space.

sectors appears even more if we take into account the way themes and techniques are distributed in space.

The study of the distribution of the 76 negative hands underscores that they are all located in the right part only of the network³. More precisely, they are placed between the *Panneau des Polychromes* and the *Galerie des Disques* with a maximum density on the *Plafond des Mains* (Figs. 3 and 4). However, the presence of an isolated example in the *Galerie des Disques*, showing a morphology that differs from that of the other hands (it is finer and smaller), is worth noting. Such way of distributing a theme as particular as the negative hand in a limited sector appears also for complex patterns, such as triangles with rounded angles or partitioned quadrangles, both positioned exclusively in the right part of the cave. The 16 red partitioned quadrangles have been placed from the *Entrée gravettienne* up to the *Salle C* (recess of the *Bauge aux Ours*, at the entrance of the hall), with a maximum density in the *Recoin des Tectiformes* (Figs. 5 and 6). In that case too, an example is situated off-centre (*Salle du Chaos*) and singles out in its form compared to the others, since it consists of two cross-shaped motifs included in a quadrangle. A similar logic characterises the distribution of the triangles with rounded angles, whose 16 examples are located between the *Plafond des Mains* and the beginning of the *Galerie des Mains*. This time, two examples have been placed off-centre. The first one is located in the *Couloir du Chaos* (Chaos Corridor) and its right half only is painted. The second one is located in a low alcove at the beginning of the *Galerie des Disques* and singles out by a shaft of the same colour, which passes through it (Fig. 7).

Lastly, a similar logic applies to the 36 striated hinds, dated to the Cantabrian Lower Magdalenian thanks to the engraved scapulae from the same site (16.850 ± 220 BP). They are located in the left part of the cave, and more particularly at the back of the *Salle A*, if we except however the one that has been placed in an alcove of the *Diverticule* and the two examples of the *Toboggan* (Fig. 8). As we know, these motifs are characterised both by

the theme and by the technique. Can it be that the technique used – engraving and painting – is also being distributed in sectors? In any case, it applies to the yellow-painted 53 motifs, which concentrate in the sector between the *Bas-Côté* and the beginning of the *Galerie des Mains*, with the exception, nevertheless, of the motifs of the *Toboggan* and the *Salle A* (Fig. 9).

As far as the red-painted motifs are concerned, such selective distribution of pigments is of course more difficult to assess. However, our analyses, done in collaboration with Marie-Paule Delplancke, also confirm the fragmentation of the decoration. In the frame of this research project, we examined 72 samples by scanning electron microscopy (SEM) coupled to energy-dispersive x-ray analysis (EDX), in order to determine their morphology and their elemental composition. For the red samples, the results revealed various recipes and very different paint cans from one sample to another (Groenen et al., 2016). Once more, all indications point to a decoration more scattered than what one would have thought.

To conclude, the decoration of El Castillo does not appear as a continued series of motifs, nor as a consistent decorated set. Likewise, themes have not been organised starting from the cave entrance and they are not distributed randomly. In contrast, examination of stylistic and technical characteristics shows that the decoration has been structured in small sets of motifs, each of them located in a specific sector. These various sets are organised from a central area containing the largest number of motifs. Finally, this sector is limited by a spot of the cave that closes the symbolic arrangement. Surprisingly, the off-centre motifs found there offer a peculiarity, which distinguishes them from their counterpart of the central area. Everything happens as if numerous successive artists had claimed spaces of El Castillo, selecting them according to their particular architectonic properties (recess, diverticulum...). In other words, everything shows that the various groups who have occupied the cave have extracted from the speleological space, spaces which they have loaded with symbolic meaning through the decoration they have applied on them (Groenen, 2017).

4. The organisation of La Pasiega

The cave of La Pasiega, next door to that of El Castillo, contains several galleries (A to C), connected to a long gallery running roughly in parallel to the mountain slope (Central Gallery) (Fig. 10). A wall built in the 1960's separates today Gallery C from the Central Gallery. It is

³ One negative hand is located in the *Salle A*, published by García Guinea and González Echegaray (1966: 31, Fig. 1). However, close examination shows that it is a forgery done by bordering the hand with a thin strip of colour, diagnosis retained by Collado Giraldo (2018). This hand is not included in the 76 negative hands mentioned above.

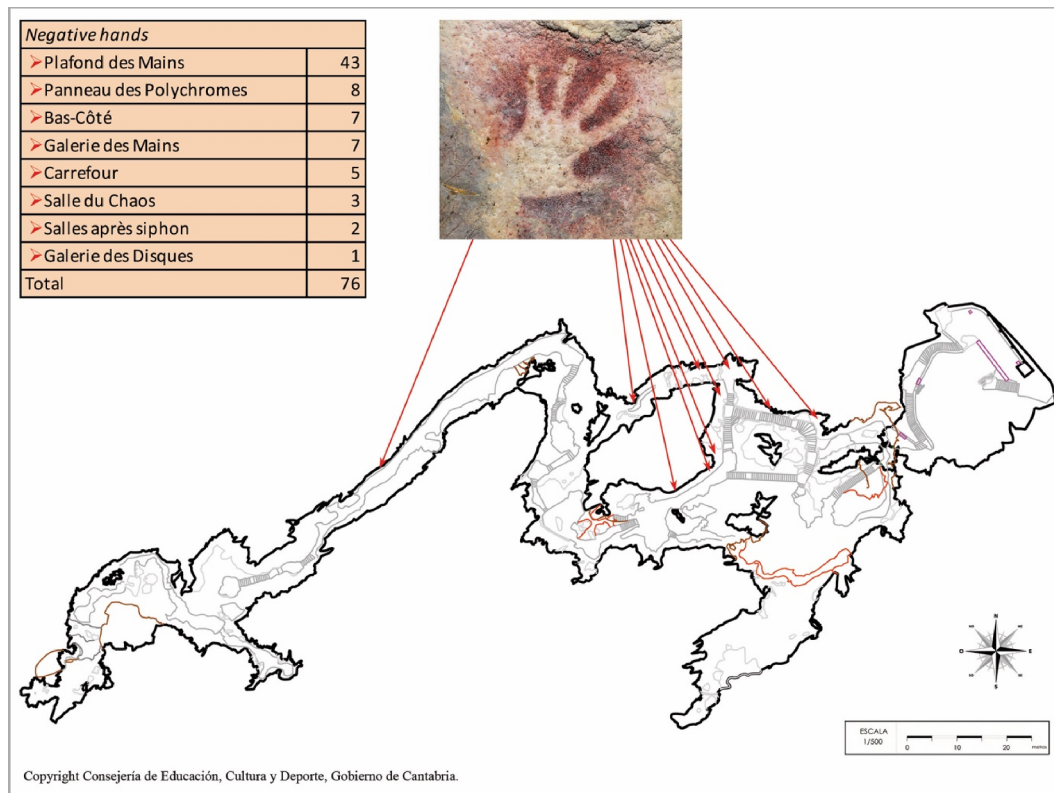


Fig. 3. El Castillo: distribution of the negative hands.



Fig. 4. El Castillo, Plafond des Mains: view of the right part.

important to recall that the current entrances do not correspond to the original ones. Several former entrances have been identified, but they are now sealed or closed⁴. One of them, located in Gallery B, was passable during the Upper Palaeolithic, since a former archaeological sounding delivered lithic and bone material belonging to the Solutrean and the Magdalenian (González Echegaray and Ripoll Perelló, 1954). It should be noted also that while fitting out the cave, the cave system morphology underwent more or less important changes in some places (Ochoa et al., 2016). The floor of some sectors of Gallery A or of the Central Gallery, in particular, was lowered in order to facilitate visitors' transit today.

⁴ The first entrance gives access to Galleries A and B through the Central Gallery (sometimes called Gallery D), the second entrance provides access to Gallery C and a third one leads through a chimney down below the present pathway. Both current entrances were built between 1954 and 1964 and therefore did not exist formerly.

The current entrance corridor of La Pasiega A leads to the main gallery. The latter arrives, to the left, at the Central Gallery and, to the right, towards Gallery B. At the crossroads of the current entrance corridor and of the main gallery there is a small hall (the *Salle du Sondage/Sounding Hall*) where an archaeological sounding was carried out earlier. From this small hall to the end of Gallery A, the main gallery extends over about 40 m. Halfway up the walls, several remains of stalagmitic floors are shrinking the path. The main gallery contains several recesses and alcoves decorated with painted figures. It ends with a long and high perpendicular fault (the *Grande Diaclase/Large Diaclasis*) sumptuously decorated with complex patterns and animals. Whatever the entrance used by Palaeolithic groups it seems that La Pasiega A may be considered as a deep part of the cave system.

Gallery B is formed of several corridors and halls of varying sizes, punctuated by large rock pendants and recesses. The former entrance, which is sealed today, leads to an elongated decorated hall, which connects to the right to a large space divided in two parts by rock pendants. To the left, a long hall, whose front part contains a diaclasis and an alcove, both decorated, presents an irregular floor formed of calcite-covered gourds (the *Salle des Vagues/Waves Hall*). To the right, a long and meandering transit space leads directly to Gallery A. The right wall of this transit space (the *Couloir du Pictogramme/Pictogram Corridor*) shows a complex red-painted pattern placed overhead, composed a.o. of two bear paws. Shortly after, the upper part of an enormous stalagmitic cascade opens on a catwalk that leads to a decorated corridor. The latter extends into a low-ceilinged small room decorated with engravings whose access is hampered by a bottleneck.

La Pasiega C starts on the other side of the artificial wall. The current entrance to this part of the network is located at about 75 m to the West of the current entrance of La Pasiega A, in the extension of the pathway along the mountain towards the cave of Las Monedas. The current entrance corridor leads after a bend to a relatively high gallery that forms an elongated hall (*Salle du Trône/Throne Room of Breuil*) and ending by a now sealed entrance. The left wall is decorated with various painted animals and complex patterns. At mid-course, a large alcove opens between a stalagmitic pillar and a large rock pendant, followed by a vertical fault, all decorated with paintings, drawings and engravings. On the right side, several

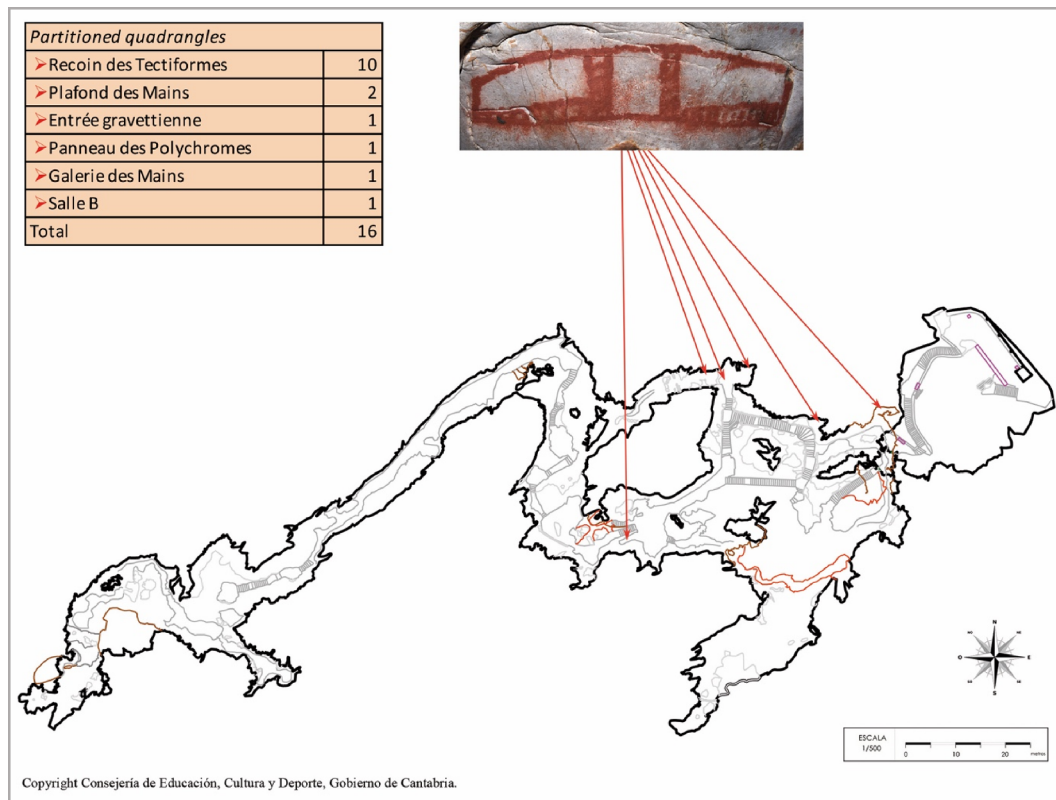


Fig. 5. El Castillo: distribution of the partitioned quadrangles.



Fig. 6. El Castillo, Recoin des Tectiformes: view from the entrance of the recess.

decorated stalagmitic pillars rise up to the ceiling. Behind them, the space contains also an overhead room and a larger hall, both decorated.

The Central Gallery can be accessed from the *Salle du Sondage* through a long meandering corridor with several successive recesses, of which several are decorated. This corridor eventually leads to two rooms located one on top of the other, and to a high and deep fault. The upper room, whose ceiling shows two painted horses, also opens on this fault. All these sectors used to communicate during the Upper Paleolithic.

Following the first monograph by Breuil, Obermaier and Alcalde del Río (Breuil et al., 1913), Rodrigo de Balbín Behrmann and Cesar González Sainz (de Balbín Behrmann and González Sainz, 1993, 1994, 1995, 1996) studied the cave between 1982 and 1989. They have identified 440 figures, among which 2 anthropomorphic figures, 295 animals, 143 signs, as well as 339 human evidences (de Balbín Behrmann and González Sainz, 1995: 297). Between 2013 and 2014, Blanca Ochoa (2017: 167-294) spent there several fieldwork periods in order to specify the relations between cave art and spaces in this complex cave system.

Lastly, we started ourselves a new study of the cave in 2017.

The decoration chronology points to the very recent part of the Upper Palaeolithic, if we except however the chronology of the authors of the first monograph, who linked most of the figures to the Aurignacian (Breuil et al., 1913: 49–54). More recently, Leroi-Gourhan (1965: 272–274) opted to place the decoration in his style III, before González Sainz and Balbín Behrmann (González Sainz and de Balbín Behrmann, 2010: 191–204) inserted it between style III (recent Solutrean/ancient Magdalenian) and IV (middle Magdalenian/recent Magdalenian). In this respect, it should be recalled that cave motifs, across all galleries, have predominantly been painted with mineral colourings and engraved, so much so that they fall outside any possible absolute dating. There are nevertheless some charcoal figures. Among them, two – one ibex and one bison – from Gallery C were dated to 13.730 ± 130 BP (GifA 98166) for the first one and to 12.469 ± 160 (GifA 98165) and 11.990 ± 170 BP (GifA 98164) for the second one (Moure Romanillo and González Sainz, 2000; González Sainz, 2005). As we have observed for El Castillo, objective data are consequently still largely lacking for this site⁵.

Although our study is still ongoing, it appears already that some

⁵ Alistair Pike et al. (2012) and Dirk Hoffmann et al. (2016, 2018) have recently applied the uranium-series method to date the calcite that covers the motifs. The results obtained are however too disparate to be exploited. Indeed, among the 29 dates available for La Pasiega, 23 are attributed to the Holocene, 5 to the Upper Palaeolithic and 1 to the Middle Palaeolithic (the range from 730 years to 79.660 years). Of course, this may be due to the fact that the calcite formation is an irregular and poorly controlled process. Three dates from the first study, obtained from samples from Gallery C, fall nevertheless in a chronological range consistent with the archaeological and radiometric data available to us for this cave system. They place a red deer at 11.890 years, a red dot at 12.580 years and a red triangle to 18.468 years. They would consequently refer to the Magdalenian for the first ones and to the Solutrean for the last one. Of course, these dates represent a *terminus ante quem*, and nothing allows specifying the amount of time separating the motif and its overlying calcite veil. For the methodological problems, see Pons-Branchu et al. 2014.

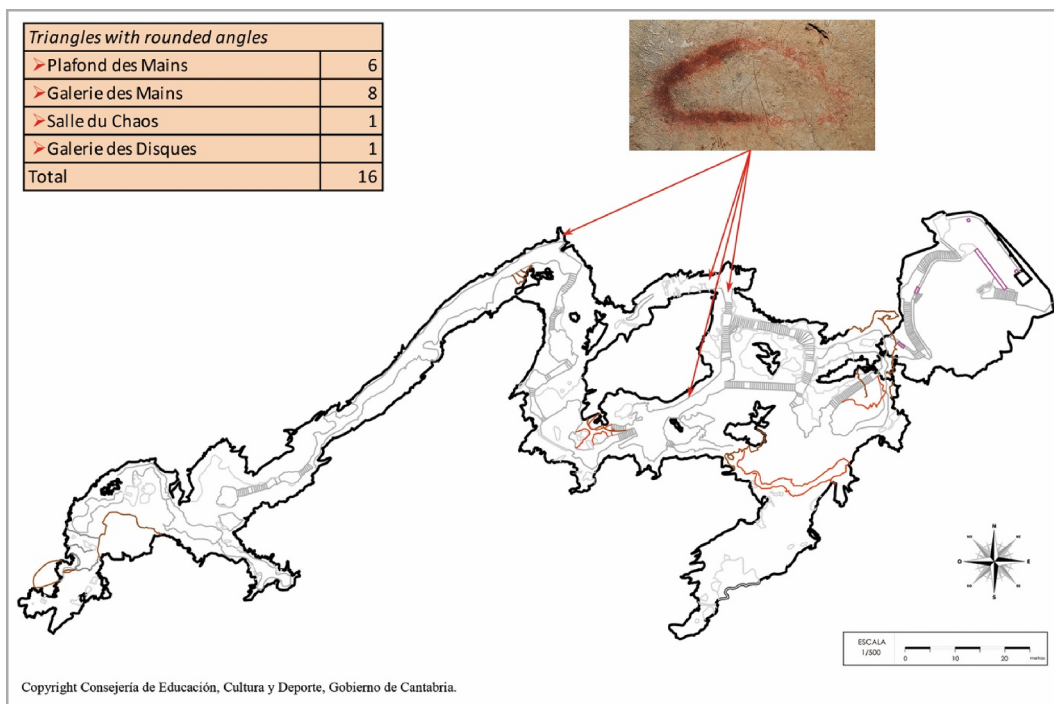


Fig. 7. El Castillo: distribution of the triangles with rounded angles.

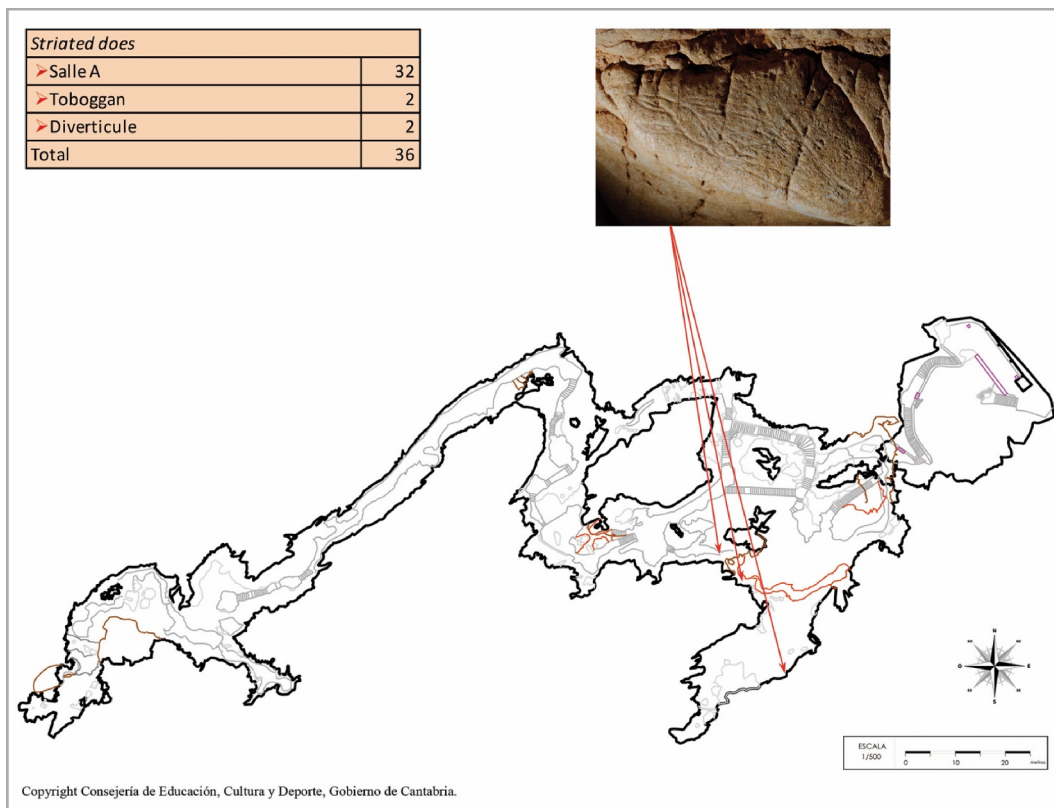


Fig. 8. El Castillo: distribution of the striated hinds.

motifs, in any category, are present in all sectors of the cave, including the less easily accessible areas. As we have observed for El Castillo, the Palaeolithic decorators were familiar with the whole cave system. However, examination reveals also that the themes used, and the processes carried out are distributed heterogeneously, with privileged sectors, as noted, for instance in the *Rotonde* (Rotunda) or in a recess of

the *Salle des Vagues* of Gallery B (de Balbín Behrmann and González Sainz, 1995, 1996). These small-size figures all have in common their delicate incision. They are also away off areas decorated with paintings or charcoal drawings. Likewise, in the Central Gallery, a panel shows two small series of incised figures in archaic-like style (Breuil et al., 1913: 27, fig. 9,). The deeper traced line and the largest dimensions of

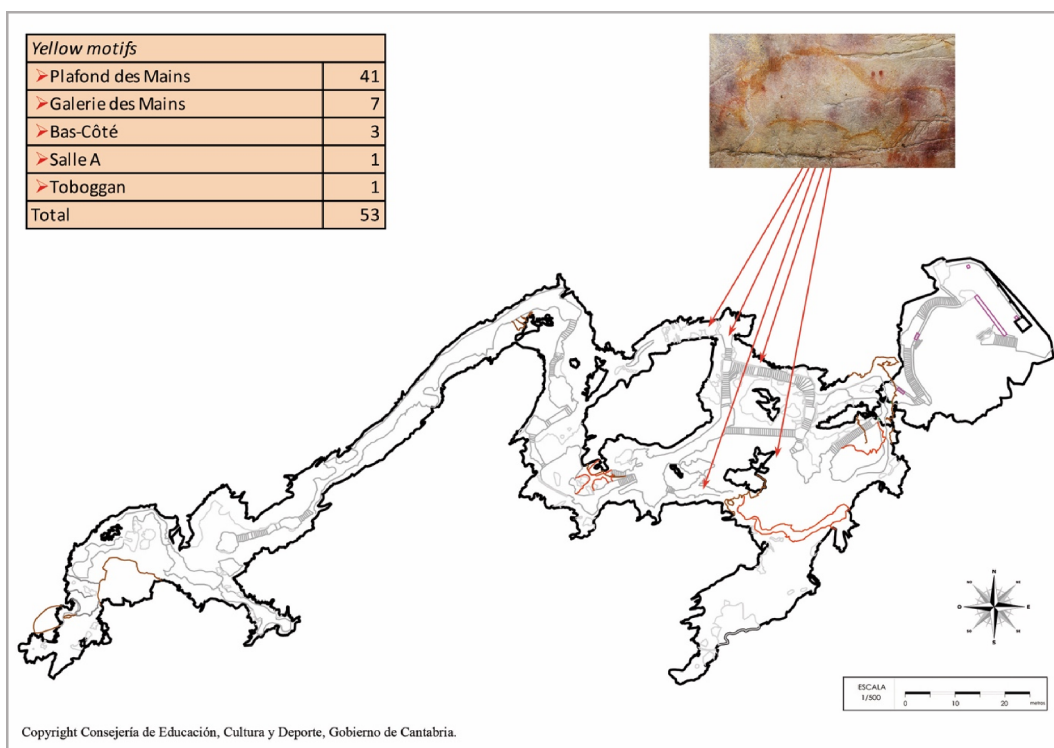


Fig. 9. El Castillo: distribution of the yellow motifs.

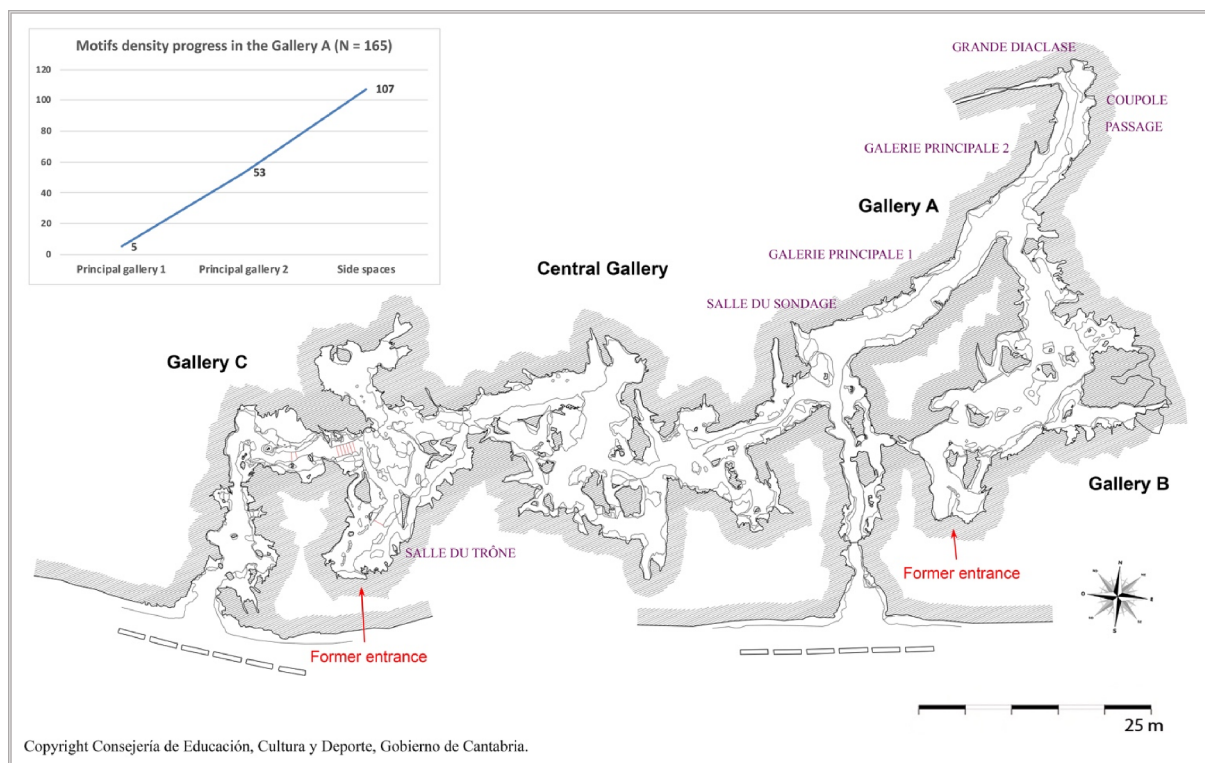


Fig. 10. La Pasiega: map of the cave. The graph above left shows the density curve of the figurative motifs and complex patterns (across all categories) in Gallery A.

the motifs prevent us from assimilating them to the two groups mentioned earlier.

Far from being distributed through the whole cave, the black drawings appear only in two distinct sectors of the network, with the exception however of a single black deer of Gallery B. Moreover, each set offers different stylistic characteristics. Compared to the 246 motifs

painted with hematite invading the space of the main gallery and of the *Grande Diaclase* in La Pasiega A, the few black figures – 2 horses in the *Coupoles* (Dome) (Fig. 11) and 1 horse and 1 ibex in the *Passage* situated in its extension – appear both isolated and localised. The way they were distributed is much more reminiscent of the figures made with manganese dioxide in the *Mezzanine* of El Castillo than of the series of

negative hands or of partitioned quadrangles of the same cave system. In Gallery C, the black motifs follow the same distribution logic in sectors, given that they are placed quite evenly along the main transit sector of this part of the cave, often in a low position relatively to the present floor (Figs. 12 and 13).

Of course, in the absence of objective analyses of colouring matters, it is not easy to carry out a discriminant analysis for the painted animal representations. It should however be noted that stylistic examination helps to identify authors whose graphic conception is entirely different within the cave, as we have shown together with Didier Martens for some artworks of Gallery A (Groenen and Martens, 2010). In addition, it is possible, following the method used previously for El Castillo, to pinpoint the topographic situation of specific themes in the cave, in order to assess the homogeneity of the decoration. Thanks to their formal singularity, complex patterns may be suitably used here too. In this context, it is important to recall that our starting point is taken from art history. The iconographic theme is determined by a motif presenting certain attributes and peculiarities that allow to distinguish it from similar motifs. Therefore, the iconographic type analysis differs from the traditional morphological analysis used for signs, be it general (Casado López, 1977; Sauvet et al., 1977...) or local (Míngo Álvarez, 2010; Sanchidrián, 1994; Vialou, 1986). The latter consists in the definition of a general form based on particular motifs. This is why we have treated separately the partitioned quadrangles from the set of rectangular-shaped motifs or the “pirogue-shaped” motifs from the set of oval “signs”. This approach led us to favor more synthetic terms.

The 12 pirogue-shaped motifs, striped or not, for instance, are strictly limited to the *Grande Diaclase* of Gallery A, right and left of the main gallery, away from it and in confined areas. If the saucer-shaped motifs occupy distinct sectors of Galleries B and C, they share the fact that they are located above or in an opening of the cave wall (Fig. 14). In this regard, we must note the presence of two kinds of – perhaps related – saucer-shaped motifs, of which one belongs to the Placard sub-type and the other to the Altamira sub-type (Fig. 15). A similar selective allocation concerns the 43 partitioned quadrangles recorded, spread in small sets in very different spaces (Fig. 16). Seven of them are distributed on the left cave wall of the hall extending from a former entrance to Gallery C. Two others are located at an access to the *Salle des Vagues* in Gallery B and four are partially concealed by a stalagmitic massif in the *Salle du Sondage* of the Central Gallery. However, the majority (30) are found in the *Grande Diaclase* and in the *Passage* of Gallery A (Fig. 17), both being confined areas that are reminiscent of the *Recoin des Tectiformes* of El Castillo, because of their narrowness.

In any case, from an iconographic and technical point of view, it appears that the elements of the decoration are unequally distributed and that they occupy selective areas. Under these conditions, it seems difficult to postulate an organisation scheme that would repeat throughout the cave. However, since some sectors of this network contain many figures, we believe that we are entitled to verify if we may identify an organisation principle for each of these sectors. We will try to do so for the decorated sets of Galleries A and B.

5. An identical organisation for Galleries A and B?

About 324 motifs, all types combined, decorate Gallery A, up to and including the borderline areas of the *Grande Diaclase*. Once overcome the chaotic feeling that one might experience first, analysis shows that motifs have been distributed according to an increasing density, from the beginning to the end of the gallery, where they invade the narrowest recesses (diaclasis, high alcoves...) (cf. Fig. 10). The decorators have clearly privileged the deep sector of this part of the network, but they have also tried to appropriate the places located off-centre from the main circulation space. At the beginning of the decorated sector, the figures follow in disorder. Then, they invade the space progressively (walls and ceiling). To two-thirds along the main gallery, an alcove in the ceiling leads to a confidential space formed by a dome and a



Fig. 11. La Pasiega A, *Coupole*: 2 black horses among red animals.

diaclasis bending on the right side. Several animals, represented on the move, have been oriented in such a way that some seem to enter the space, while others seem to leave it. The same distribution logic – increasing density and motifs arrangement in relation to borderline spaces – concerns the painted motifs of the *Grande Diaclase*. Several animals of the upper part, represented head down, are heading to the main space. Likewise, red animals in the right sector of the *Grande Diaclase* are connected with such a coherence with respect to conches, alcoves or cracks that we must envisage a symbolic relation between the motifs and these peculiarities, which, by the way, has forced the decorators to adopt uncomfortable acrobatic positions to be able to make them. In this whole area, the figurative and non-figurative motifs have consequently been organised according to the architectonic space features, but also according to an increasing distribution.

A completely different logic presided over the arrangement of the animal paintings of the sector of the former entrance to La Pasiega B. The decoration comprises a series of silhouetted animals, drawn by means of a broad line, and a quadrangle painted in solid colour⁶. These figures are quite large (between 0,60 m and more than 1 m long) and they adapt to the cave wall irregularities, exploiting them, as we may observe with the large megaloceros with his enormous antlers (use of cracks and of suggestive reliefs). The traced line of the animals is quite awkward. Formally, the animals show odd proportions and a rather stiff look (Fig. 18). From a thematic point of view, hind, deer and horse are dominant in Gallery A. If the horse is also present in this group of animals of Gallery B, it is associated here to *Bovinae* and to a megaloceros. The thematic association is thus very different. However, the interesting element is the situation held by this group of animals. These representations were painted on the ceiling and on the cave walls of a space that, during the Palaeolithic, was open to the outside, since, as we have seen, excavations have uncovered Solutrean and Magdalenian archaeological levels there (Groenen 2019). Consequently, these artworks were directly illuminated by natural light, thanks to the vicinity of the (South-facing) entrance and were therefore immediately visible to those who were entering the cave. It is difficult to determine how the entrance appeared at that time, but we may assume that the porch itself was decorated, at least in part, since remains of animal figures can still be seen in a conch of the ceiling behind this entrance. Contrary to what we have noted for Gallery A, the representations decrease here in density from the entrance to the back of the sector, with three or four representations still appearing after the bend following the *Salle du Mégacéros* (Hall of the Megaloceros), in particular on the front face of an

⁶ We refer the 3 delicately incised horses to another decorated set (González Sainz & Balbín Behrmann, 2010), which finds an equivalent in an engraved horse of the cave of Sovilla (San Felices de Buelna, Cantabria) (analysis in: Groenen 2019).

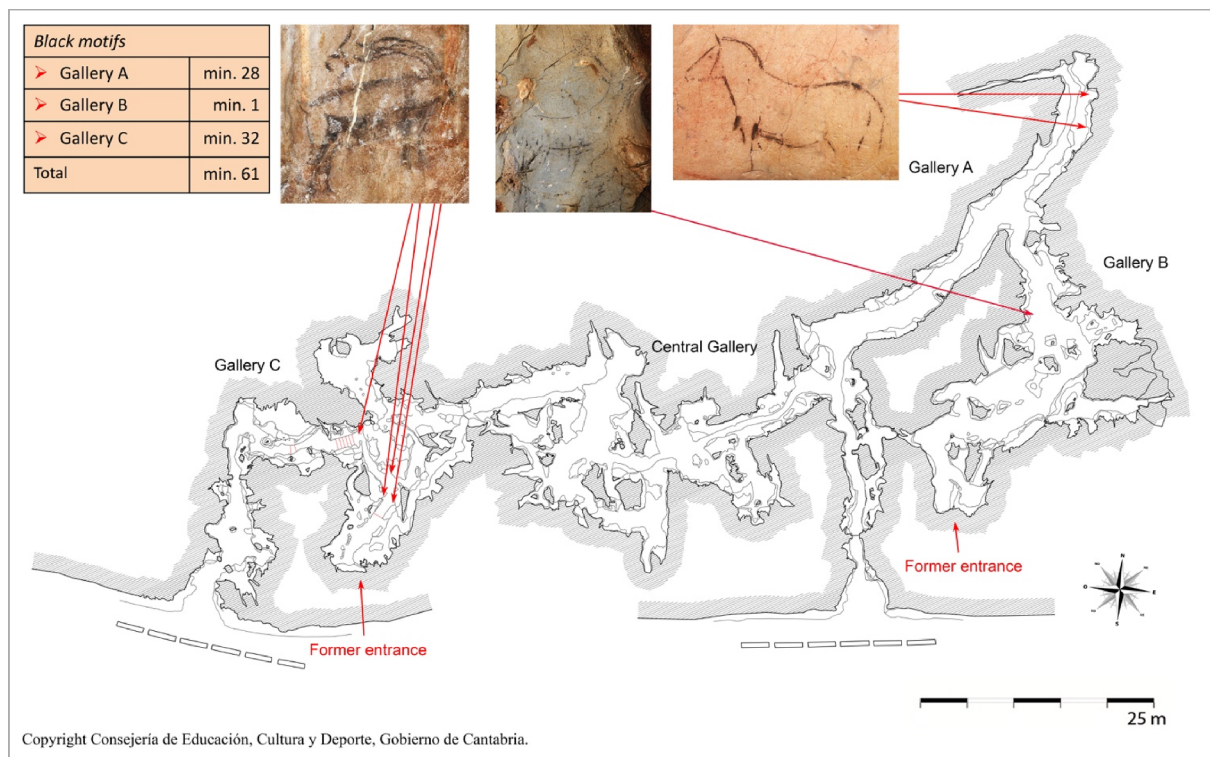


Fig. 12. La Pasiega: distribution of the black motifs.



Fig. 13. Pasiega C: red horse (?) silhouetted in black and 4 or 5 black herbivores partially superimposed (colours enhanced).

impressive rock pillar, which must have been partially illuminated by natural light streaming through the cave openings. Hence, the number of artworks of this arrangement declines as we gain the dark areas, as we may observe, for instance, in La Lluera in Asturias or in Chufin in Cantabria. Therefore, we believe that we are entitled to link this



Fig. 14. Pasiega B: red-painted saucer-shaped motifs in an overhead alcove.

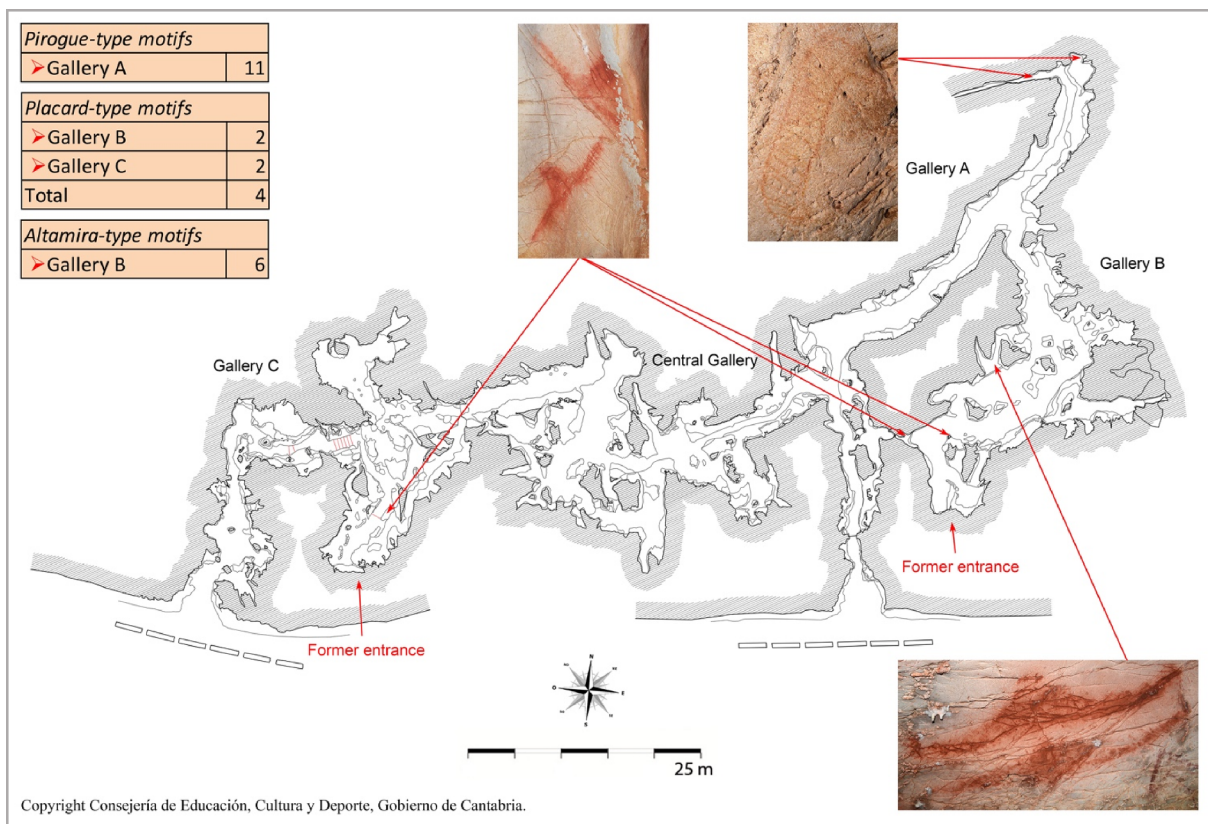


Fig. 15. La Pasiega: distribution of the pirogue-shaped motifs and of the saucer-shaped motifs belonging to the Placard and Altamira sub-types.

decorated set to open air sanctuaries such as those that were defined by F.J. Fortea Pérez (Fortea Pérez, 1994; Fortea Pérez and Rodrigo Otero, 2008) and not to the deep cave arrangements organised in relation with borderline spaces.

6. Discussion

In this work, we have set an objective to try to understand how the decoration has been organised in the caves of El Castillo and of La

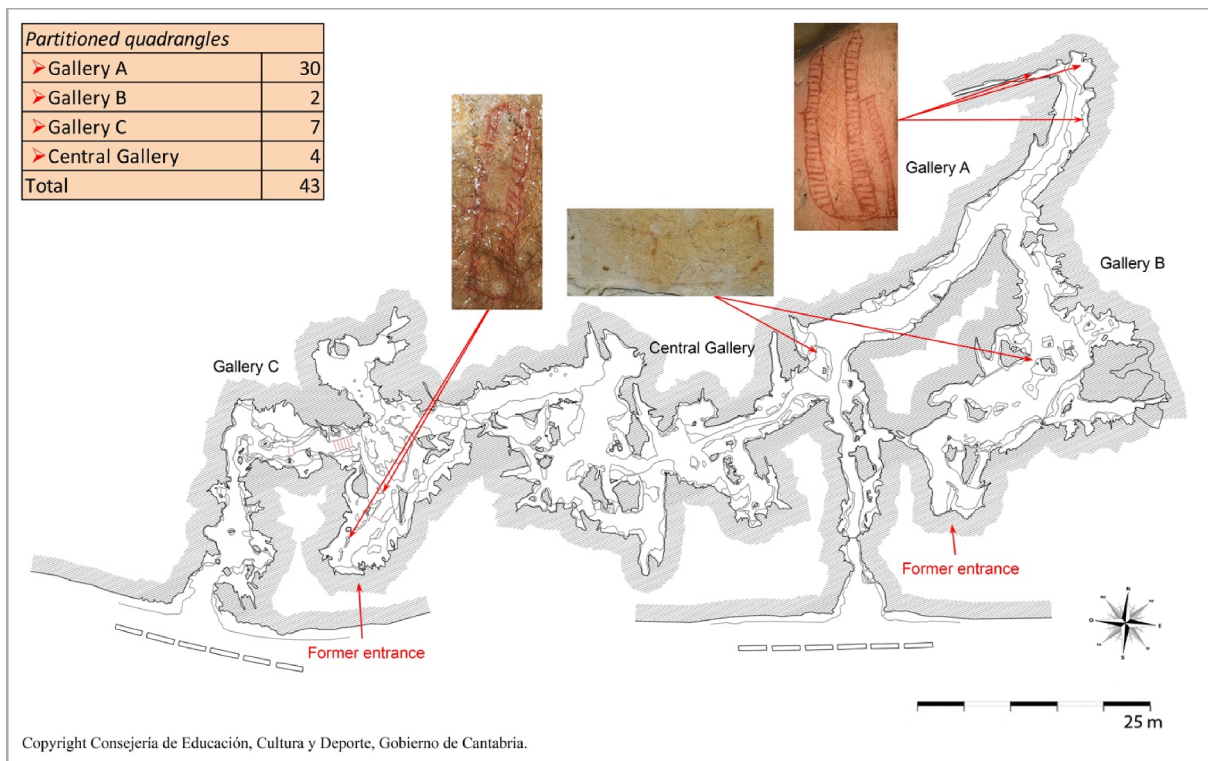


Fig. 16. La Pasiega: distribution of the partitioned quadrangles.



Fig. 17. Pasiega A, *Grande Diaclose*: view of some partitioned quadrangles.



Fig. 18. Pasiega B: red-painted horse placed above the former entrance.

Pasiega, exploiting the data accumulated in the course of the comprehensive study we are carrying out in both sites. We have purposefully left the periodisation-related issue, which remains always hazardous, considering the (too) many chronological uncertainties. It has appeared that these two neighbouring caves were very different from one another. In El Castillo, the thematic, stylistic and technical analysis shows a selective distribution. Everything indicates that particular sectors have been isolated symbolically from the rest of the cave in order to place a specific decoration. It is both interesting and surprising to note that these different sectors share a similar distribution logic, with a high-density central area and a borderline area that sets the limit of the arrangement. This choice has very often been guided by the

architectonic characteristics of the cave. Finally, the decoration organisation is being done independently from the entrance of the cave system. Speleological and symbolic networks do clearly not overlap.

The same distinction may be done for La Pasiega. From a speleological point of view, the cave system consists of a series of galleries or halls directly connected to each other. In symbolic terms, this cave comprises several decorated arrangements, which occupy distinct sectors and have their own logic. As it is the case in El Castillo, the thematic, stylistic and technical analysis shows a spreading of motifs belonging to a particular type. Nevertheless, we observe highly decorated sectors, which helps us to raise the question of a logic in their distribution. We examined two decorated sets. The painted animals of the former entrance to Gallery B, clearly visible, stood out straightaway thanks to the direct illumination of natural light. The arrangement of the main gallery of Gallery A would rather reveal itself gradually along the journey through the deep and confined areas leading to the borderline spaces of the sector. Contrary to what we have noted for El Castillo, the area with the highest density lies here to the back of the sector, with a decreasing number of motifs when we reach the front part of the cave.

From the works of M. Raphaël, A. Leroi-Gourhan or A. Laming-Emperaire, prehistorians have retained that cave wall motifs have not been placed in the network space in uncontrolled manner or at random. If the field data confirm the existence of a coherent logic in the motifs distribution, it appears however that it is likely to vary, including within the same cave system. Examination of the sites shows, moreover, that the decoration is closely supportive of the architectonic rock structure to which it moulds or adapts. We tried to demonstrate that the analysis of the picture features – theme, form, style, technique – helps to better characterise these distribution logics. This analysing principle applied to various decorated caves could facilitate the identification of common organisation schemes, which would probably be better adapted to the complexity of cave art than the use of a global interpretation framework that never really reflects the specific reality of the field.

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