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Images and Places in the Upper Palaeolithic of the Douro Basin, Iberian Peninsula: An Ontological Approach

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Abstract

In this paper, I attempt to test whether Palaeolithic rock art can be used to deduce the mode of identification (*sensu* Descola 2005) that dominates the ontology or ontologies from which it originated. According to Philippe Descola, there are only four modes of identification in human societies, and each ontology is dominated by one of them, even though the others may also contribute to its shaping. I review previous work on the subject, the criticisms levelled against these approaches, and what I consider their main limitation: they analyze only images. In fact, rock art allows us to investigate not only its imagery but also the ways in which space was socially appropriated. I argue that this social appropriation of space is conditioned by the dominant mode of identification within the ontology from which a specific rock art *corpus* emerges. Because animals play such an important role in Palaeolithic art, this visual tradition provides an excellent source of evidence for exploring these issues.

As a case study, I contrast the Gravettian to Middle Solutrean rock art from the Douro Basin's highest concentration of sites in the Côa Valley with the coeval imagery of the region's smaller and more isolated sites. I argue that the patterns revealed by this comparison can be convincingly explained by a totemic mode of identification-dominated ontology. I conclude by confronting my inferences with other evidence from Western Europe. This comparison enables me to speculate about the applicability of my findings to the remaining Palaeolithic art of Western Europe. In fact, I believe that similar patterns will emerge in the remaining regions with Palaeolithic rock art of Western Europe if entire landscapes – rather than isolated sites separated from their 'taskscape' (*sensu* Ingold 1993) – are brought into comparison.

Keywords:
Upper Palaeolithic, rock art, Côa Valley, Douro Basin, ontology, Iberian Peninsula

Introduction

For many years now, so-called ontological approaches have been common in archaeological research (e.g., Alberti/Bray 2009, 293; Watts 2013; Jones 2014; Alberti 2016; Birouste et al. 2016; Birouste 2018; Goldhahn 2019a; 2019b), especially in studies of rock art (e.g., Porr/Bell 2012; Robinson 2013; Borić 2013; Porr 2015; 2018; Jones/Díaz-Guardamino 2017; Santos 2017; 2019; Fuentes/Pinçon 2018; Moro-Abadía/Porr 2021; Honoré 2024). Nonetheless, several distinct research strands fall under the broad category of 'ontological approaches.' According to Benjamin Alberti (2016), ontology can be conceived 'either as people's "beliefs about" reality or as people's reality.' He argues that 'the former can be assimilated into a cultural or discursive construction argument where baseline "reality" is untouched,'

whereas 'the latter requires us to investigate the ground on which we and our theories stand as well' (Alberti 2016, 164). In this chapter, I address the first concept, undertaking what Alberti calls the archaeology of social ontologies (Alberti 2016, 169).

I think that it is impossible to fully grasp the specifics of past peoples' 'beliefs about reality' – that is, their ontologies. However, according to Philippe Descola (e.g., 2005; 2010a; 2014; 2021), each ontology is *dominated* by one of four modes of identification, and I argue that the *dominant* mode of identification of a given society can be identified through an analysis of its rock art, provided certain conditions are met. The words above have been italicized to emphasize the concept of domination, implying that modes of identification other than the dominant one also contribute to the development of each distinct ontology (Descola 2005, 322).

Different modes of identification foster distinct practices, intellectual enquiries and forms of relationship between the different 'beings' of the world, while at the same time preventing the emergence of others (Descola 2005). In consequence, if we can identify the dominant mode of identification underlying the archaeological material we are studying – in this case, rock art – it becomes theoretically possible to make further inferences, particularly regarding the social relations between different collectives, both human and non-human.

I think that Palaeolithic rock art presents the specific conditions required to infer the mode of identification that dominated the ontology or ontologies shared by the people who created it. In essence, the required conditions that enable me to do so stem from three inherent characteristics of this rock art tradition:

a. Animal imagery – and, to a lesser extent, anthropomorphic imagery – occupies a central place in its repertoire;
b. Its repertoire is very limited and reiterative across a region;
c. It is fixed in place.

When I emphasize the importance of animal and anthropomorphic imagery, I do not imply that 'transactional human–animal relationships [are] the only ontological concern' (Whitley 2024a, 2–3). Rather, in terms of imagery, these themes are simply better suited for comparative analysis. In fact, both abstract and naturalistic designs are known in all types of societies, regardless of the mode of identification that dominates their ontology. For example, both the figurative imagery of the Kuninijiku and the non-figurative imagery of the Warlpiri (Morphy 1998) are visual manifestations of a totemic type of ontology, and the same holds for animist ontological regimes. Human and non-human animal imagery can be recurrent, as among the Inuit (Laugrand 2010), but non-figurative imagery can also be predominantly geometric, as observed among several South American groups (Taylor 2010).

However, although the study of abstract designs is difficult without an informed approach (*sensu* Taçon/Chippindale 1998), the differences between the visual productions of animals – with or without anthropomorphic figures – under animistic and totemic modes of identification (the two principal types of ontologies identified among hunter-gatherer communities (Guenther 2010 [1999]) are sufficiently pronounced (Ingold 2000a; Descola 2021) to enable us to begin building our approach from the generic characteristics of the compositions we are studying.

Most published works that aim to determine the dominant mode of identification underlying a given visual *corpus* consider only this aspect of rock art (e.g., Borić 2013; Fuentes/Pinçon 2018). Both Timothy Ingold (2000a, 130) and Philippe Descola (2010b, 11) have expressed reservations regarding the possibility of determining past modes of identification solely through the study of images. Descola, however, does not rule out the 'speculative' extrapolation of interpretations to well-documented image *corpora* about which we otherwise know nothing (Descola 2014, 278). Moreover, he considers it very plausible that Palaeolithic images were produced within a totemic ontological context, as proposed by Alain Testart (2016; see also Descola 2021, 595–598; Grosos/Valentin 2022).

But as mentioned before, Palaeolithic rock art has two other inherent characteristics. It is fixed in place, which makes it possible to study its relationship with the surrounding landscape; and its themes are highly reiterative, which allows the examination of the relationships between different places within a territory through their common imagery. This is crucial because, although hunter-gatherers appear to have shared a general perception of the landscape as a network of places connected by paths (e.g., Leroi-Gourhan 2002 [1965]; Kelly 2003), the social appropriation of space promoted by each mode of identification differs in ways that, in my opinion, have left distinct patterns in the distribution of rock art motifs (as will be discussed later).

To investigate the possibility of applying Descola's fourfold ontological model to the study of Palaeolithic

rock art – specifically, to infer the dominant mode of ontology shared by the people who created it – I will use the earliest phase of Palaeolithic rock art in the Douro Basin (Santos 2019) as a case study. At the core of this region lies the Côa Valley, home to 'the biggest known collection of open-air Ice Age art' (Bahn 2024, 175), for which an extraordinary amount of data regarding its archaeological context is available (e.g., Aubry 2009; 2015). These data are crucial not only because they allow us to make inferences regarding the dating of the rock art and the context of its use, but also because part of this material provides important complementary evidence supporting the mode of identification that our study of the rock art suggests was dominant in the region at the time of its production.

This study will be restricted to the oldest phase of Palaeolithic rock art in the Douro Basin because:

a. This phase is relatively well defined chronologically;
b. The large majority of its panels have been fully recorded;
c. The 'cultural' unity of the region is well established – not only through the remarkable similarities of its rock art (e.g., Santos 2019), but also through the presence of tools in the excavated sites of the Côa Valley made from lithic raw materials extracted from several locations across the area (Fig. 1; e.g., Aubry et al. 2022).

Descola's modes of identification and their relationship with images

Philippe Descola considers the existence of two human universals: physicality and interiority. The first concept

> *concerne la forme extérieure, la substance, les processus physiologiques, perceptifs et sensori-moteurs, voire le tempérament ou la façon d'agir dans le monde en tant qu'ils manifesteraient l'influence exercée sur les conduites ou les habitus par des humeurs corporelles, des régimes alimentaires, des traits anatomiques ou un mode de reproduction particuliers.*[1]
>
> *(Descola 2005, 168–169)*

1 [*tr.* concerns exterior shape, substance, physiological, perceptual and sensorial-motor processes, even temper and ways of acting in the world, as long as they express the influence of body humours, diets, anatomical traits and particular modes of reproduction over behaviours or habits]. Translation: A. T. Santos.

Figure 1: The sites discussed in the text in relation to Palaeolithic art and of the territory defined by lithic raw material sources identified through excavations in the Côa Valley. Figure: A. T. Santos.

Interiority is defined as '*une gamme de propriétés reconnues par tous les humains et recouvrant en partie ce que nous appelons d'ordinaire l'esprit, l'âme ou la conscience*'[2] (Descola 2005, 168–169).

According to Descola, this duality is not a simple projection of the Western opposition between spirit and body, but rather something attested in different forms all over the world (Descola 2005, 168), as demonstrated, for example, by developmental psychology or world-linguistics studies. This holds true despite the fact that materialist theorists of the mind such as António Damásio or Daniel Dennet show that consciousness has a real physical grounding (Descola 2005, 173).

Four modes of identification arise from the relationship between the continuities and discontinuities along these universals. The naturalistic mode of identification dominates our own ontology. For us, physicality – what we call matter or nature – is continuous and subject to the same natural laws. On the other hand, our interiority – what we call culture – is discontinuous (Descola 2005, 221), and it is by means of this discontinuous interiority that our collectives are formed. Humanity distinguishes itself from nature because it possesses a culture and is itself divided into several collectives with different cultures (Descola 2005, 397–400). The naturalistic mode of identification is thus characterized by cultural relativity and natural universalism (Descola 2005, 417).

On the opposite side is animism, which is characterized by cultural universalism and natural relativism (Descola 2005, 416). The worlds of ontologies dominated by this mode of identification are composed of different collectives, not distinguished by the existence of culture – since interiority is not exclusive to humans – but by their physical shape. The non-human collectives of animistic worlds are differentiated by having a distinct physicality. Human collectives, meanwhile, are also distinguished from one another by the way they are 'dressed.' These collectives are self-sufficient, and their concomitant presence in the world obliges them to engage in permanent negotiations with one another, notably through physical transformation – a capacity inherent to all persons, human and non-human alike. This negotiation happens at the individual level, as in the case of the Cree hunter before the caribou (Ingold 2000b, 13), or between entire collectives through the intermedium of the 'shaman' and/or the 'master of the animals' (Descola 2005, 39, 192–196).

The worlds of ontologies dominated by the totemic mode of identification are composed of mixed collectives of both humans and non-humans that share a similar physicality and interiority (Descola 2005, 176). Each component of the totemic collective is made of the same substance, which in Aboriginal Australia – where, according to the author, the 'purest' form of totemic ontology is to be found – has its origin in the beings that shaped the world during the Dreamtime (Descola 2005, 206–208). Because each of these components is an emanation of that being, the places from which the emanated substance originates, or which are in some way or another related to those beings, have a fundamental ontological value for these people (Descola 2014, 325–327). These places constitute the main identity anchors of Australian Aboriginal communities, even more so than language, which only comes to the foreground 'where social and territorial relationships to land have undergone drastic transformation and where the small (average 15–70) pre-colonial landowning groups' ties to the land have been disrupted' (Peterson 2010 [1999], 319).

By contrast, and unlike animistic societies, these collectives are not self-sufficient. Each exists only as a function of the other(s), with the various schemes regulating marriage being the most eloquent manifestation of this interdependence (Descola 2005, 364–369). This also explains why it is more difficult to isolate 'tribes' in Australia than in other parts of the world, particularly where the animistic mode of identification is prevalent (Descola 2005, 366–367). In fact, in Australia, the same collective '*se retrouvent dans des "tribus" différentes, et pas nécessairement adjacentes*'[3] (Descola 2005, 367).

It is crucial, however, not to confuse totemism as a *mode of identification* with totemism as a *type of social organization*, the latter being based on a correlation between a natural series (e.g., animals) and a cultural one (e.g., human groups), as it proposed by Claude Lévi-Strauss (1963 [1962]). As Descola (2005, 233) puts it:

> *ce dispositif classificatoire possède le plus souvent un aspect purement dénotatif et n'implique en aucune façon que des continuités matérielles ou spirituelles entre les humains et leurs espèces éponymes soient reconnue.*[4]

2 [*tr.* a range of properties recognized by all humans and partially encompassing what we call normally spirit, soul or conscience]. Translation: A. T. Santos.

3 [*tr.* is found in different 'tribes,' not necessarily adjacent]. Translation: A. T. Santos.

4 [*tr.* this classificatory device has, most often, a purely denotative aspect and does not imply in any way that material and spiritual continuity are recognized between humans and their eponym species]. Translation: A. T. Santos.

Taking this into account, we must reject as eminently totemic those ontologies shared by societies divided into exogamic clans or moieties with animal names if there is no continuity between human and non-human eponym species. That is, a totemic form of social organization is always present in societies whose ontologies are dominated by the totemic mode of identification, but it can also be found in societies whose ontologies are dominated by the animistic mode of identification, where totemism is present only 'in a minor mode' (Descola 2005, 240).

This is, for instance, the case of the Serrano and the Cahuilla, who are divided into exogamic moieties named *?istam* [*tr.* coyote] and *tuktum* [*tr.* wildcat] (Bean 1978, 580; Bean/Smith 1978, 572). However, their members do not consider themselves to be part of the collectives that are also constituted by their eponym animals. On the contrary, those animals (*?isily* and *tukut*, respectively) '*represented*' those moieties (Bean 1972, 167, my emphasis). At the same time, the Cahuilla saw themselves as an integral part of nature, 'one of a number of cooperating beings, who [...] shared in the works of the universe' (Bean 1972, 165). Among those beings was *pentexweva*, a kind of 'master of the animals.' As in the case of the Cree mentioned above, 'deer allowed themselves to be caught, while man was careful not to overkill or waste the products provided by the deer' (*idem*, *ibidem*). *Puul* (shamans), as in other animist societies, were able to transform themselves into animals, and one of their abilities was communication with them (*idem*, 113). In short, the Serrano and the Cahuilla, although possessing a totemic type of social organization in the sense of Lévi-Strauss, share an ontology dominated by the animistic mode of identification in the sense of Descola.

The fourth mode of identification is analogism. Analogism divides

> *l'ensemble des existants en une multiplicité d'essences, de formes et de substances séparées par de faibles écarts, parfois ordonnées dans une échelle graduée, de sorte qu'il devient possible de recomposer le système des contrastes initiaux en un dense réseau d'analogies reliant les propriétés intrinsèques des entités distinguées.*[5]
>
> *(Descola 2005, 280)*

The worlds of the ontologies dominated by this mode of identification have a profoundly hierarchical structure (Descola 2005, 316), and divination and manipulation of the relations (as in sympathetic magic) are very common. The intricacy of the relationships between the components of the analogist world explains why chained analogical cycles in a *mise en abîme* fashion are so widespread among these societies (Descola 2005, 376–377).

All known ontologies are institutionalized manifestations of these four modes of identification (Descola 2014, 236–240). As previously mentioned, one mode of identification dominates each ontology, but the other modes are never entirely absent, or only very rarely so (Descola 2005, 322). For instance, the ontological regime of the Pacific Northwest Coast '*combine toutes les caractéristiques d'une ontologie animique avec quelques traits saillants d'une ontologie totémique de type australien*'[6] (Descola 2014, 262). Sometimes, these modes are so blurred that identification of the dominant one becomes problematic. Shoshone ontology, for example, has aspects that evoke the analogist mode of identification, such as the belief in an uneven distribution of the *puha* or *poha*, a supernatural power that pervades all life and entities with agency (Whitley 2024a). Indeed, the hierarchical grading it imposes on the world resembles the '*échelle graduée*' [*tr.* graded scale] through which the '*ensemble des existants*' [*tr.* the totality of beings] is organized in analogist ontological regimes (see above). However, the same *puha* pervades all beings; interiority is universal, as it should be in animistic ontological regimes.

Other indicators of animism include the capacity for transformation inherent in all persons, human or non-human alike, as eloquently expressed in the tale of the otter reported by David S. Whitley (2024a, 11); the differentiation of collectives by means of physicality (of animals, humans, plants and even topographic features); and the necessity of treating their representatives with respect, as described in several stories involving animals (Whitley 2024a, 4, 6), as well as the documented need to treat animal and plant collectives respectfully during hunting drives (Miller 1983, 80) and gathering practices (Fowler 1986, 96). The shaman, as in ontological contexts dominated by the animistic mode of identification, serves as an intermediary between the human collective and the hunted animals, notably by charming them (Arkush 1986).

5 [*tr.* the totality of beings in a multiplicity of essences, shapes and substances separated by feeble gaps, sometimes ordained in a graded scale, so that it becomes possible to recompose the original system of contrasts in a dense network of analogies linking the intrinsic properties of the recognized entities]. Translation: A. T. Santos.

6 [*tr.* combines all the characteristics of an animist ontology with some salient features of a totemic ontology of Australian type]. Translation: A. T. Santos.

Indeed,

> *Individuals with specific powers were known to have led antelope, deer, bighorn sheep and rabbit hunts in most areas of the Great Basin, to have predicted the coming of fish among the Pyramid Lake and Walker River Northern Paiute.*
>
> *(Fowler 1986, 96)*

These specific powers were bestowed by animals that 'were recognised as a major class of spirits from whom power in the shamanistic sense as well as in guardian and task-specific senses was readily obtained' (*idem*, *ibidem*).

Of course, this fourfold ontological model was not without criticism, and it sparked a heated but intellectually stimulating debate between the author and other colleagues, most notably Tim Ingold (Descola/Ingold 2014; Descola 2016; Ingold 2016a; 2016b). One of Ingold's most pertinent criticisms is that the very conceptualization of the four modes of identification relies on *a priori* constructs derived from the naturalistic mode of identification, which undermines the equivalence between this and the other three modes that Descola seeks to defend. Moreover, these *a priori* constructs fix what in other ontological regimes, such as the animist one, is fluid and in a permanent state of becoming. But should these criticisms compel us to discard these constructs, which Descola himself regards as heuristic devices (Descola 2016, 5)? Or should we, as Marshall Sahlins suggests in another relevant critique of Descola, 'accept [their] empirical reality' (Sahlins 2014, 281)?

Interestingly, Ingold appears to acknowledge this 'empirical reality' when he argues for the potential of each of the four modes of identification – particularly animism – if they are released from the 'drawers' in which Descola has placed them (Ingold 2016a, 319). This probably explains why Ingold never disclaimed his important paper on the depiction of animals in animistic and totemic contexts, originally published in 1993 and republished in 2000.

In fact, Ingold's paper (Ingold 2000a) was the first to highlight the differences between animistic and totemic images. Descola, however, takes this further, and through an exhibition at the Quai Branly Museum and two major publications (Descola 2010a; 2021), he not only deepens the study of these differences but also demonstrates that analogical and naturalistic visual productions possess distinct characteristics of their own.

Several works on rock art and prehistoric imagery (e.g., Borić 2013; Shapland 2013; Santos 2017; 2019; Fuentes/Pinçon 2018) have used the works of both Ingold and Descola as a basis for identifying the type of ontology that produced the studied imagery. This approach, however, has also been criticized. Alberti, for instance, argues that it merely 'satisfies our historical curiosities about how other people might have lived quite different lives, building toward a taxonomy of past ontologies,' and that what is required instead is a critical ontology that uses other ontologies (animism, in his argument) as a 'source of theory' (Alberti 2016, 171). Andrew Meirion Jones and Marta Díaz-Guardamino (2017, 8) similarly criticize this approach because within it ontologies are seen as

> *fixed and well-defined categories, as opposed to fluid descriptions devised by anthropologists as an aid to understanding [and that] these fixed categories can be excavated and defined by archaeologists – that each is a fundamentally different way of perceiving the world, each with its own material correlates, and thereby each with its own archaeological expressions.*

More recently, Jones has argued that this approach is 'unhelpful' because it perpetuates the very distinction between culture and nature (Jones 2021). Iain Davidson, for his part, while recognizing 'great authority' in the fourfold oppositions and associations of the structural divisions devised by Descola, considers that the model

> *suffers, however, from the great problem that it results from inferring the state of the ontology of a society from an understanding of the expressed views of modern people [...] who can speak to an anthropologist about their ontology and their art,*

and that it is

> *almost impossible to identify the principles for inferring similar aspects of ontology of any society that has not expressed its ideas about ontology or art using its imagery alone.*
>
> *(Davidson 2017, 12)*

Two points of Alberti's criticism should be addressed. The first concerns his call for a theoretical building based on a metaphysics that considers the contributions of ontologies other than the one that gave rise to anthropology (and archaeology, for that matter). However, this very critical stance *vis-à-vis* the limitations of our naturalist type of ontology is one of its distinctive characteristics (Descola 2014, 285). Our aim, as Descola puts it, must be to achieve a form of '*articulation entre l'ensemble des modes d'être-*

au-monde, par l'interopérabilité des concepts, c'est-à-dire par le fait de pouvoir nous voir nous-mêmes comme nous voyons les autres sociétés,'[7] and this certainly cannot be reached through a philosophical counter-model such as perspectivism (Descola 2014, 251–252).

The second point raised by Alberti that I wish to address concerns the pertinence of the approach. In this respect, it is true that identifying a given piece of material evidence as having originated within an analogist or naturalist mode of identification will not, by itself, tell us much about the society in question, given the wide variety of ontologies dominated by these modes of identification (e.g., ancient Greek, Inca and Chinese ontologies are all dominated by the analogist mode of identification). However, being able to identify the dominant mode of identification of a given hunter-gatherer community can be a major asset for addressing certain problematics. For instance, given the types of relations excluded by the totemic mode of identification (Descola 2005, 544–545), if we accept that the ontologies of Palaeolithic communities were dominated by this mode of identification, it becomes impossible to support the hypothesis – advanced by some authors (e.g., Hayden 2007; Guy 2017; 2021) – that those communities were hierarchized, such as the ones of the Pacific Northwest Coast.

The critique of Jones and Díaz Guardamino stems from a confusion between 'modes of identification' and 'ontologies.' Ontologies indeed have a dominant mode of identification, but as previously mentioned, traces of other modes may also be present. As such, it is true that 'fixed and well-defined categories can [not indeed] be excavated and defined by archaeologists' (Jones/Díaz-Guardamino 2017, 8). Nevertheless, I argue that the dominant mode of identification underlying compositions depicting animals can be identified, even when this mode does not correspond to the one that dominates the ontology of the community that produced those compositions. In fact, the same society may possess one *corpus* of images arising from its dominant mode of identification and another derived from a different mode, as is the case among the Tsimshian on the Pacific Northwest Coast (Descola 2021, 263–294). Consequently, to identify the dominant mode of identification of a given ontology, we must not restrict our analysis to images alone. This is why I will also extend it to landscape organization and other forms of archaeological evidence.

I think that the main relevance of Davidson's critique regards the definition of the principles that would allow us to infer 'similar aspects of ontology of any society that has not expressed its ideas about ontology or art using its imagery alone' (Davidson 2017, 12). Only ethnographic comparison can permit us to infer those principles. Davidson quotes the work of Lewis Binford (2001) as an example of a study grounded in explicit principles – as opposed to particularities – carefully extracted from ethnography (Davidson 2017, 8), and this should indeed be one of our goals. The works of both Ingold and Descola on the depiction of animals offer some clues regarding the principles that may be involved in the production of imagery with animals. Furthermore, Descola's work also hints at the different ways of shaping landscape, particularly in the context of totemic and analogist modes of identification (Descola 2005, 359–374). Although the author does not explore the specificities of animistic landscapes in depth, the ethnographic literature provides some insightful evidence regarding this issue. We will return to these principles just after synthesizing what is known about the rock art made of the Douro Basin produced before the end of the Last Glacial Maximum (LGM).

The earliest Upper Palaeolithic rock art of the Douro Basin

The Douro Basin is the largest drainage basin of the Iberian Peninsula; the Douro River has its source in the Sierra de Urbión, located in the Iberian System, and its mouth on the western façade of the peninsula, near Porto (Fig. 1).

This basin contains Europe's greatest number of open-air rock-art sites with Palaeolithic imagery. Multivariate analysis of the most complete figures of the five themes most frequently depicted in the region – aurochs, horses, ibexes, red deer males and red deer females – have suggested the existence of four classes of horses and aurochs and three of the remaining themes (Santos 2019). The study of the superimpositions between figures of different classes on the same panels, together with the observation of patterns relating specific classes to specific ancient topographies of the Côa Valley (e.g., Aubry et al. 2020), has shown that these classes result from graphic activity that took place in the region over at least four major phases (Santos 2019; 2024; Santos et al. 2021). Phase 1 took place between the Gravettian and the Middle Solutrean (c. 30,000–23,000 cal BP); Phase 2 is attributed to a period between the Late Solutrean and Early Magdalenian (c. 23,000–18,000 cal BP); Phase 3 spans the Middle to

7 [*tr.* articulation between the ensemble of modes of being-in-the-world, by the interoperability of concepts, that is to say, by being able to see ourselves in the same way we see the other societies]. Translation: A. T. Santos.

Upper Magdalenian (c. 18,000–14,000 cal BP); and Phase 4 covers a period between the Late Magdalenian and the Azilian (c. 14,000–12,000 cal BP).

The dating of Phase 1 is primarily based on data obtained from the archaeological excavations in the Côa Valley. That pecked figures characteristic of Phase 1 were already being produced in the Côa Valley during the Gravettian is attested by quartzite tools from TL-dated layers of this period at the site of Olga Grande 4 (Aubry 2001; Valladas et al. 2001). Experimental and traceological studies have shown that the impact marks on the schist by hammering with this type of tool are similar to the isolated impact marks found in several images of Phase 1, namely at Canada do Inferno (Plisson 2009).

Another line of evidence comes from excavations that took place in front of Fariseu's panel 1 (e.g., Aubry/Sampaio 2008). Eighty-nine animal motifs with morphological characteristics corresponding to Phase 1 *corpus* were identified on this rock (Aubry et al. 2014; Santos 2019, 601–619). Part of these engravings was covered by archaeological layers dated by TL and OSL of the Upper Palaeolithic; the sample recovered from the oldest layer covering the composition yielded an OSL date of 18,400±1600 BP (Mercier et al. 2006). This layer is also the oldest recovered in this sector of the site, covering a large part of the base of the rock devoid of engravings. The base of the engraved area forms a line very similar to the erosion surfaces identified in the upper part of the stratigraphic sequence. We therefore hypothesize that the 'prehistoric floor' contemporary with the engraving of the rock was eroded prior to the deposition of the layer from which the OSL date was obtained (Aubry et al. 2014). An archaeological context with lithic remains attributable to the Solutrean and a radiocarbon calibrated date of 23,110–22,630 cal BP[8] from a nearby sector of the site can be interpreted as remains of that earlier floor in front of the engraved rock (Aubry et al. 2014).

In other sites of the valley – namely Canada do Inferno, Vale de Figueira and Penascosa – it is evident that below a certain altitude only images belonging to Phases 2 to 4 were made. This has led us to hypothesize that this pattern was due to an incision episode occurred in the valley floor between Phases 1 and 2 (Santos 2019, 151–155). More recently, excavations at Cardina, a site located 3 km upriver from the Penascosa/Quinta da Barca concentration and 20 m above the present course of the Côa River, have shown that until c. 26,000 years ago all sedimentary packages of the site were of alluvial nature; from that date onward, sedimentation became colluvial. This points to changes in river dynamics, changes that probably affected the alluvial plain downstream by washing away its older infillings – the 'ancient topographies' contemporary with the Phase 1 imagery (Aubry et al. 2020).

The attribution of this phase to a period between 30,000 and 23,000 cal BP is also reinforced by the stylistic similarities between its images and other, better-dated Palaeolithic figures of Southwestern Europe (e.g., Guy 2000; Zilhão 2003; Santos 2019, 166–173).

Although a small percentage of figures are engraved by incision, pecking and abrasion constitute the primary techniques used to engrave animal figures during this phase. The use of red pigment is attested at the site of Faia, and the head of an ibex depicted in bas-relief is known from Quinta da Barca 22 (Santos 2023, 62). In terms of morphology (Fig. 2), the figures are characterized by their full-profile representation, prominent bellies and very curved dorsal lines. Species are generally easy to recognize and rendered in a highly standardized manner, with each one presenting its own figurative idiosyncrasies – for instance, specific tail or dorsal shapes. The legs are usually defined only by their lateral edges, with hooves being very rare. Animals with more than two legs also occur sporadically, and the same applies to horns and antlers; when two are represented, they are usually shown in an oblique biangular profile (*sensu* Leroi-Gourhan 1984). Anatomical details are mostly reduced to eyes – usually depicted as a single dot – nostrils and mouths, both rendered as a single line. Most representations are static; however, some remarkable examples of animation exist, achieved by decomposing movement into several parts, translated graphically through the repetition of the same anatomical element of a figure in multiple positions, the head being the frequently repeated anatomical element (e.g., Luís 2012).

In addition to the 506 inventoried animal figures in the region, a large non-figurative repertoire is also present. These graphic unit is predominantly made by incision. They are smaller and much harder to isolate as autonomous entities. A previous study identified 3849 of such units (Santos 2019, 62), most of which consist of small straight lines or line-based entities (pairs of traces, bundles, etc.). Angular forms also occur, and more recognizable shapes, such as wavy lines, have been found as well. A significant portion of this repertoire may not correspond

8 GrA-40167: 19,020±80 BP. The calibration was done with OxCal v. 4.4.4 (Bronk Ramsey 2009) and the IntCal20 atmospheric curve (Reimer et al. 2020).

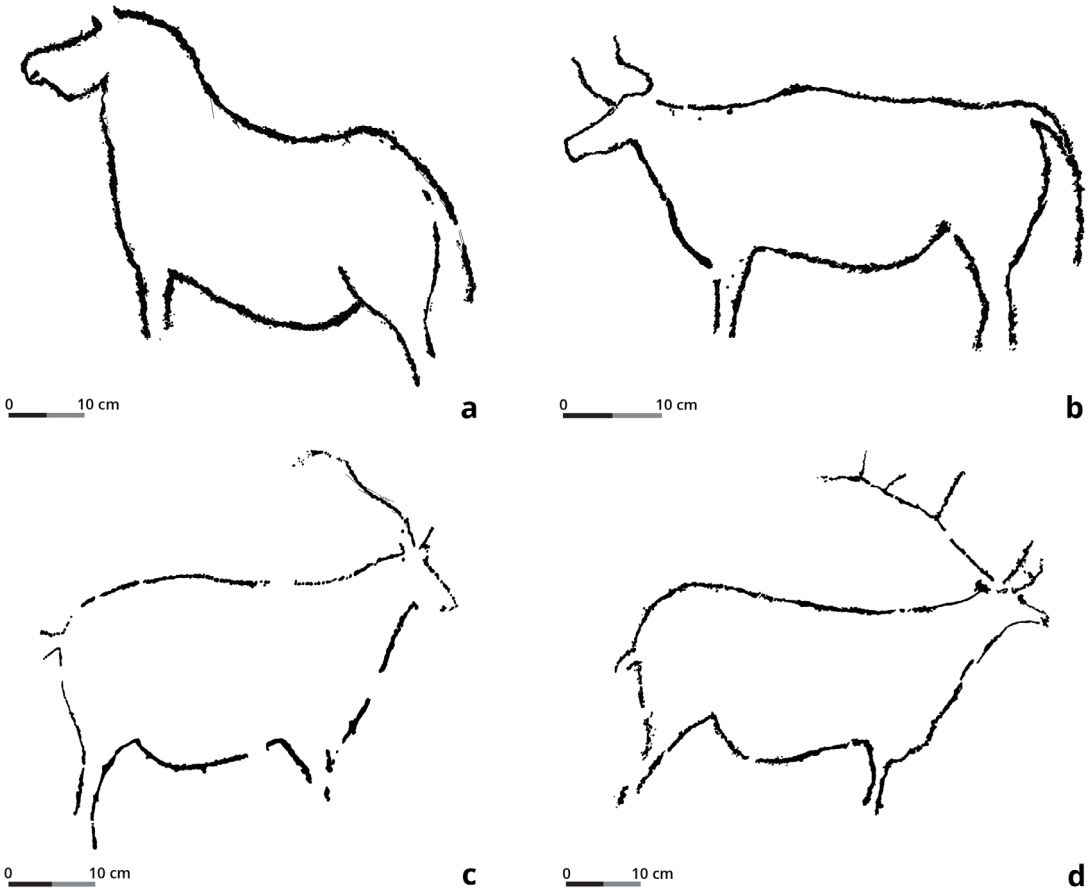

Figure 2:
Main themes represented in the Douro Basin's Upper Palaeolithic rock art during its first phase (a: Ribeira de Piscos 1 (Pi01-01); b: Canada do Inferno 1 (CI01-09); c: Penascosa 3 (Pn03-01); d: Canada do Inferno 26 (CI26-07)). Drawings: F. Barbosa, originally published in Baptista/Gomes (1997).

to signs *per se* but may instead be the by-products of actions performed on the panels – as suggested previously for similar graphic entities in other Palaeolithic contexts (Foucher 1991; Leroi-Gourhan et al. 1995, 207; Lorblanchet 2010, 335–365). For this reason, quantification and distributive analysis are essential steps in distinguishing between rock-art sites. As we will see below, this repertoire does not display a homogeneous distribution.

The Côa Valley

Most sites in the Douro Basin are located in and around the Côa Valley. So far, 61 sites with Palaeolithic imagery have been identified in the region (Reis 2023). Images appear on portable supports at four sites and on rock panels at 60 sites. Of the 625 known rocks engraved and/or painted during the Upper Palaeolithic, 70 are attributed to the oldest phase (Santos 2024, 30). They are distributed across 10 sites. In terms of motifs, 476 animal figures and 3658 non-figurative graphic units have been inventoried.

Regarding themes, aurochs slightly predominate over horses and ibexes. These are followed by red deer and, in far smaller numbers, other themes, such as chamois, fish, a bear and a bird of prey (Table 1). The non-figurative repertoire mirrors the general Douro *corpus* described above.

Animal motifs may appear alone or in monothematic groups (48.84% of the panels). However, slightly more than half of the panels in the Côa Valley contain compositions with two or more themes. Panels with three or more themes (36.04%) are even more common than those containing only two (15.12%). The distribution of these panels and the images that compose them is neither homogeneous nor random. Instead, it configures a pattern that I will try to describe below, one which reflects a particular form of social appropriation of space.

Three large clusters of sites can be recognized in the Côa Valley. The sites of Quinta da Barca and Penascosa form the largest cluster (Fig. 3, nos. 3 to 12). The second cluster lies downstream, developing around Monte do Fariseu and comprizing the sites of Ribeira de Piscos, Fariseu and Vale de Figueira (Fig. 3, nos. 13 to 16). The third cluster, located even further downstream, consists of the sites of Canada do Inferno and Rego da Vide (Fig. 3, nos. 18 to 21). Across these concentrations, all the main themes of the Douro Basin are represented.

In addition to these clusters, three decorated rocks are found at the Faia site (Fig. 3, nos. 1 and 2), about 7 km upstream of Penascosa/Quinta da Barca; a single decorated rock appears at the Vale Escuro site (Fig. 3, n. 22), downstream of the Côa's mouth, on a tributary of the Douro; and

Clusters	Zones	E	Ce	Ca	B	R	I	O	U	Al.	Ind.	Total
Faia	Fa (M)	0	1	0	0	0	0	0	0	0	0	1
	Fa (J)	2	0	0	5	0	0	0	0	1	0	8
Penascosa / Quinta da Barca	Pn (M)	4	0	5	1	0	0	0	0	0	1	11
	Pn (C)	13	7	13	14	0	1	0	0	0	15	63
	Pn (J)	0	2	0	2	0	0	0	0	0	1	5
	QB (F)	22	8	23	22	0	0	1	1	0	10	87
	QB (R)	4	4	4	5	0	0	0	0	0	8	25
	QB (N1)	0	2	0	1	0	0	0	0	0	0	3
	QB (N2)	0	0	0	0	0	0	0	0	0	1	1
	QB (T)	2	0	2	2	0	0	0	0	0	3	9
	QB (E)	6	0	2	2	0	0	0	0	0	0	10
	QB (NO)	1	0	3	3	1	0	0	0	0	0	8
Hill of Fariseu	Pi1	2	0	0	0	0	0	0	0	0	0	2
	Pi2	1	2	1	3	0	0	0	0	0	0	7
	Fr	23	16	21	30	4	0	0	0	1	19	114
	VF	0	1	0	2	0	0	0	0	0	5	8
Vale de Videiro	VV	0	1	0	0	0	0	0	0	0	0	1
Canada do Inferno / Rego da Vide	CI (M)	6	2	8	25	0	0	0	0	0	11	52
	CI (J)	10	7	14	17	1	0	0	0	0	9	58
	CI (R)	0	0	0	1	0	0	0	0	0	0	1
	RV	1	0	0	0	0	0	0	0	0	0	1
Vale Escuro	VE	0	1	0	0	0	0	0	0	0	0	1
Total		97	54	96	135	6	1	1	1	2	83	476
Frequency		20.4	11.43	20.2	28.4	1.3	0.2	0.2	0.2	0.4	17.5	100

Table 1: Theme diversity of Phase 1 in the Côa Valley, broken down by zone (E: horse; Ce: red deer; Ca: ibex; B: aurochs; R: chamois; I: fish; O: bird; U: bear; Al.: other; Ind.: indeterminate).

another rock at Vale de Videiro (Fig. 3, n. 17), far enough from Vale de Figueira (the closest site) to be considered separately. Each of the panels from Vale Escuro and Vale de Videiro contains one red deer (Santos 2019, 268, 309). At Faia, two decorated rocks on the right bank display a repertoire dominated by the aurochs, although two horses and an indeterminate quadruped are also present (Baptista 1999, 156–157; Reis et al. 2022). On the left bank, a red deer doe is depicted (Santos et al. 2019). I think it is highly significant that these small sites contain only red deer or are dominated by aurochs – themes that, as we will see below, are particularly related in the Côa Valley.

Given the predominant techniques used to depict animals, engravings are easy to recognize; however, the dense superimpositions recorded on some rocks do not facilitate legibility from a distance. Thus, although it is possible to find vantage points where all engraved rocks of a site are recognizable as such (Aubry/Luís 2012), the distance required to accurately identify motifs on the most densely engraved rocks means that these panels would have been 'read' individually or in small groups visible from a distance. This allows us to hypothesize that these rocks were experienced in sequence. This idea is further reinforced by their spatial distribution along almost straight paths – such as the base of the Penascosa slope – or along natural pathways, such as the bank of the Quinta da Barca stream (Fig. 4).

The orientation of the animals themselves also appears to indicate such sequential reading. In fact, the most common orientation on any given panel seems to point toward the next rock that should be observed (Santos 2012). This stratagem not only guide movement between rocks that are not intervisible but also indicates which rock of a group of intervisible panels is next to be observed. For example, in the upstream zone of Penascosa, the orientations of the animals indicate that the prescribed sequence should be rock 6 – rock 7 – rock 9 – rock 8 (Fig. 5). It is of crucial

importance that rock 8 is the final one to be observed. In fact, it is located exactly in front of rock 1 of Quinta da Barca, located on the opposite bank (Fig. 6). Significantly:

a. These two rocks contain the only two depictions of female ibexes with their heads shown in front view, and they face one another;
b. Wavy lines are depicted only on rock 8 of Penascosa, which could denote the river crossing required before reaching rock 1 of Quinta da Barca;
c. The remaining two animals on rock 8 are oriented in opposite directions, as if marking the end of the trail on this side of the river.

The application of this reasoning to the rock art of the Côa Valley enabled the definition of trails between panels. To understand how thematic composition changes along these routes, the rocks of some of the sites were grouped into smaller sets (which I call 'zones'). These zones are defined either by their relative position in the context of the site (e.g., 'Penascosa upstream' [Pn (M)], 'Penascosa central' [Pn (C)] and 'Penascosa downstream' [Pn (J)]) or by a specific geomorphological context (e.g., 'brook of Quinta da Barca' [QB (R)], 'terrace of Quinta da Barca' [QB (T)], 'Ribeira de Piscos 1' [Pi1], which corresponds to the sector of the site located on the bank of the eponymous stream; and 'Ribeira de Piscos 2' [Pi2], corresponding to the sector located on the bank of the Côa River).

To identify similarities between the various multi-thematic zones, I carried out a simple correspondence analysis of their thematic compositions, followed by a hierarchical cluster analysis. These analyses revealed four classes of zones (Fig. 7):

- Zones characterized by a strong presence of aurochs, specifically the upstream zone of Faia, Fa (M), to which we have already alluded, Vale de Figueira, VF, and the upstream zone of Canada do Inferno, CI (J);
- Zones characterized by the presence of red deer and aurochs, namely the downstream zone of Penascosa, Pn (M), and Quinta da Barca springs 1, QB (N1);
- Zones characterized by a high frequency of horses and ibexes, namely Penascosa downstream, Pn (J), and three zones of Quinta da Barca, QB (E), QB (T) and QB (NO);
- Zones of great thematic diversity (the remaining ones).

The same analysis also showed a strong relationship between red deer and aurochs and, above all, between horses and ibexes (Fig. 8).

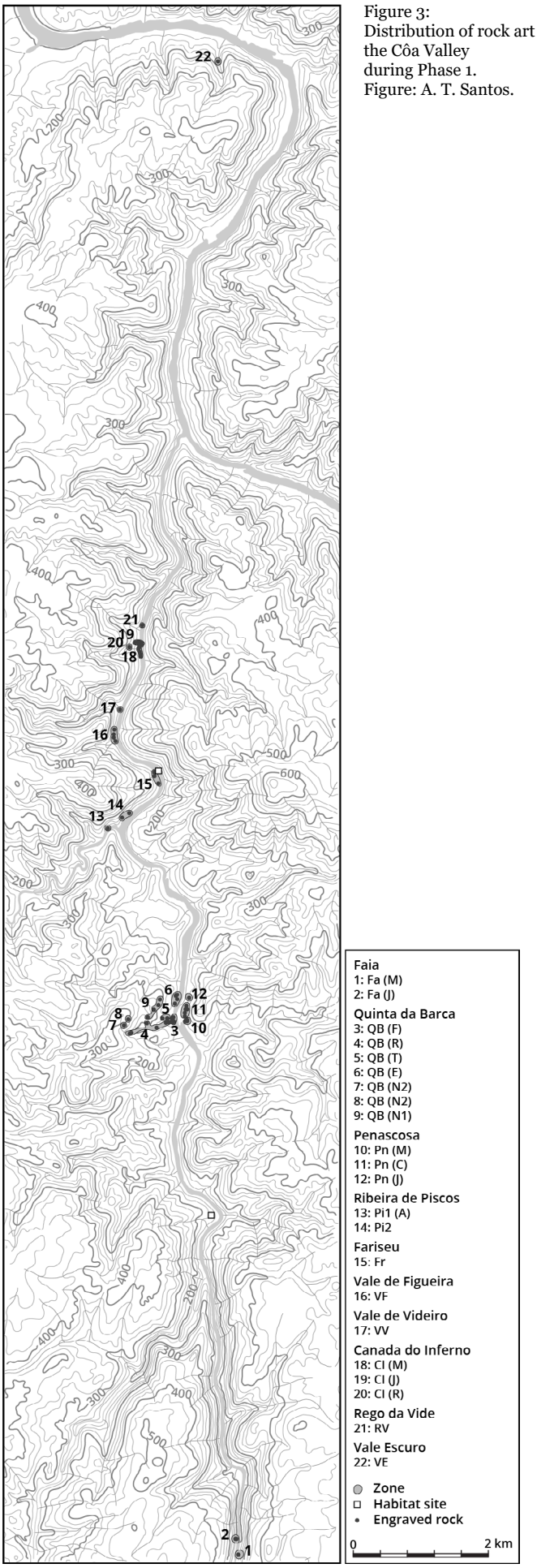

Figure 3:
Distribution of rock art in the Côa Valley during Phase 1.
Figure: A. T. Santos.

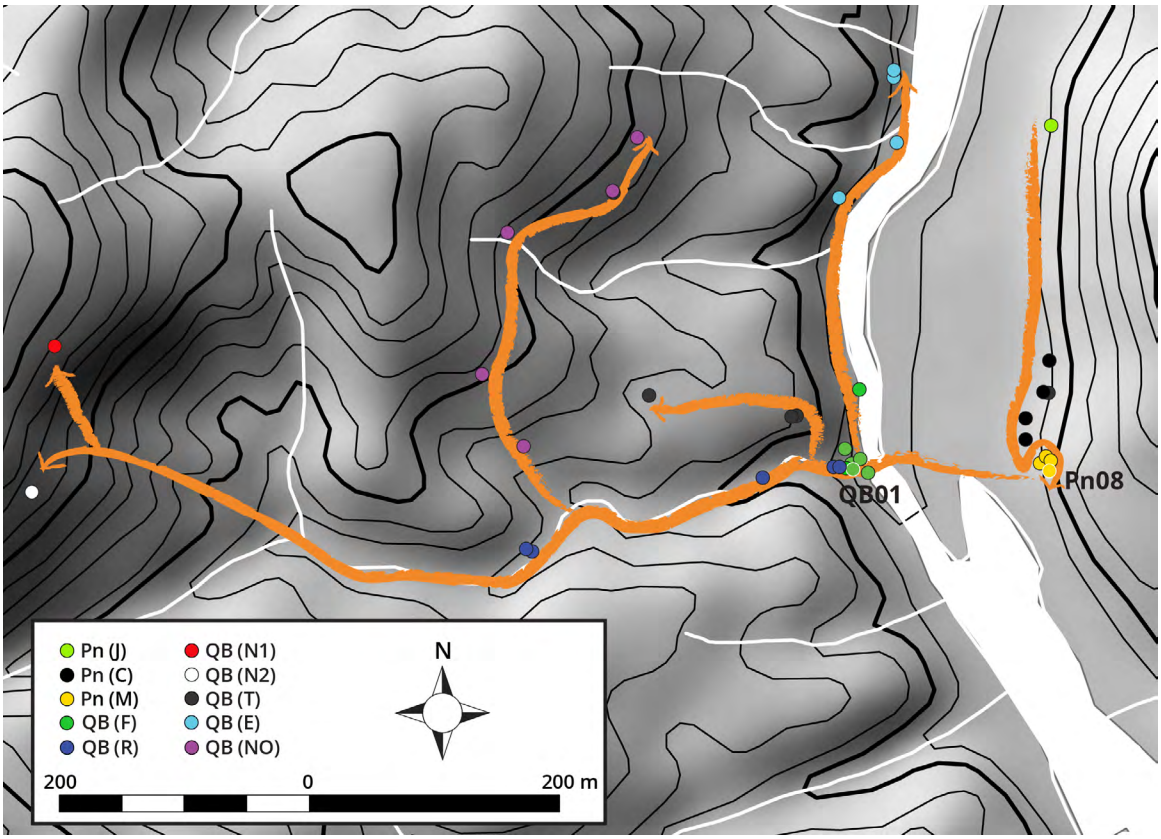

Figure 4: Distribution of Phase 1 rock art at Quinta da Barca (western bank) and Penascosa (eastern bank). Zones are distinguished by colour codes. Rock 1 of Quinta da Barca (BB01) and rock 8 of Penascosa (Pn08) are highlighted by a white rim. Based on the orientation of the majority of animals in each panel, orange lines indicate the tracks between the rocks.
Figure: A. T. Santos.

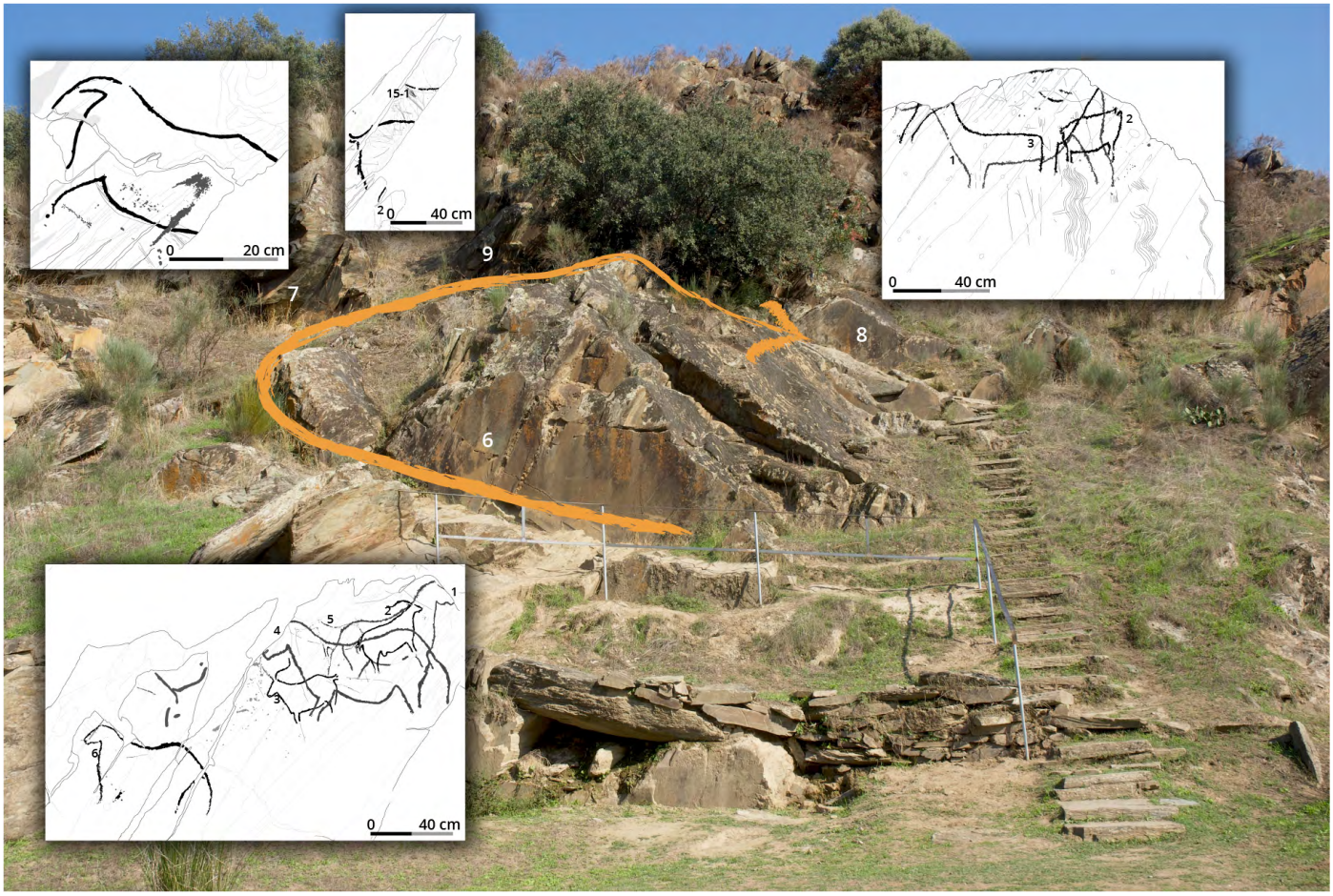

Figure 5: Upstream zone of Penascosa, Pn (J). The reading order between rocks 6, 7, 9 and 8 is indicated by the orientation of the majority of the animals in each panel. Drawings: F. Barbosa, originally published in Baptista/Gomes (1997).

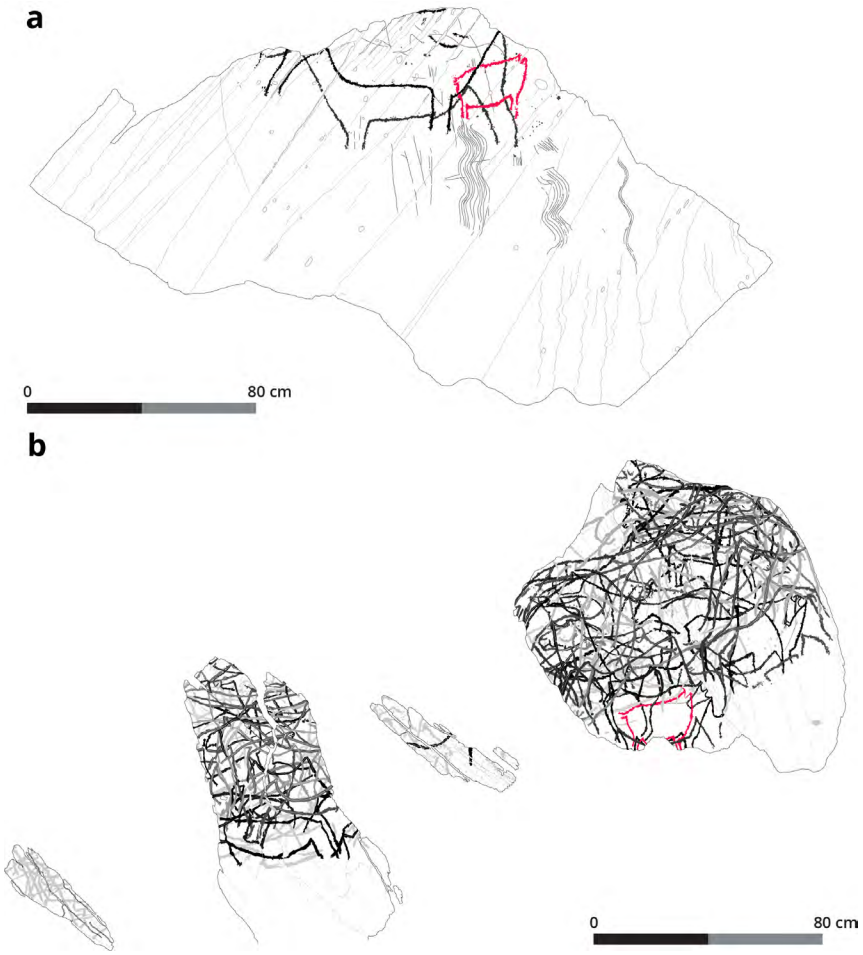

Figure 6: Depictions of Penascosa 8 and Quinta da Barca 1 (a: Penascosa 8; b: Quinta da Barca 1). The female ibexes in frontal view on both rocks are shown in red. Drawings: F. Barbosa (a); F. Barbosa, A. T. Santos (b).

When we observe the spatial relationships between these zones in each of the three main clusters, we find that:

a. The central zones of the Fariseu hill concentration (Ribeira de Piscos 2 and Fariseu) and of the Canada do Inferno/Rego da Vide cluster are characterized by great thematic diversity. These are flanked on one side by monothematic areas dedicated to the horse (Pi1 in the Fariseu hill and RV in the Canada do Inferno/Rego da Vide sector) and, on the other side, by a monothematic zone dedicated to the aurochs (CIR) or by a plurithematic zone strongly dominated by aurochs (Vale de Figueira [VF] and the upstream zone of Canada do Inferno [CI (J)]);
b. In the Penascosa/Quinta da Barca cluster, the aurochs/horse opposition detected in the other concentrations expands into an opposition between aurochs/red deer and horse/ibex, with both types of zones equally separated by those characterized by thematic diversity (Fig. 4).

In sum, an opposition between two pairs of animals is spatially expressed in the Côa Valley, although their interaction is attested in specific zones. In fact, the zones characterized by each pair (or by the particularly high frequency or exclusivity of their most representative theme) are systematically separated by zones where all themes are mixed, as if reflecting their necessary complementarity. These are also the places where we find the highest number of non-figurative graphic units (Santos 2019, 356), highlighting the density of activity that took place in front of panels with compositions that do not occur at other coeval rock art sites in the Douro Basin, which we will discuss next.

The remaining images of the Douro Basin

Outside the Côa Valley, all but one of the rock art sites are monothematic or bithematic. Among the former are Sampaio (Baptista 2009, 200–203), Ribeira da Sardinha (Baptista 2009, 196–197), Redor do Porco (Baptista/Reis 2011) and Siega Verde (Alcolea González/Balbín Behrmann 2006). Only aurochs are depicted at these sites. In the case of Siega Verde, the authors of the reference monograph attribute to this phase not only aurochs but also two horses (Alcolea González/Balbín Behrmann 2006, 293). However, as we have discussed previously (Santos 2019),

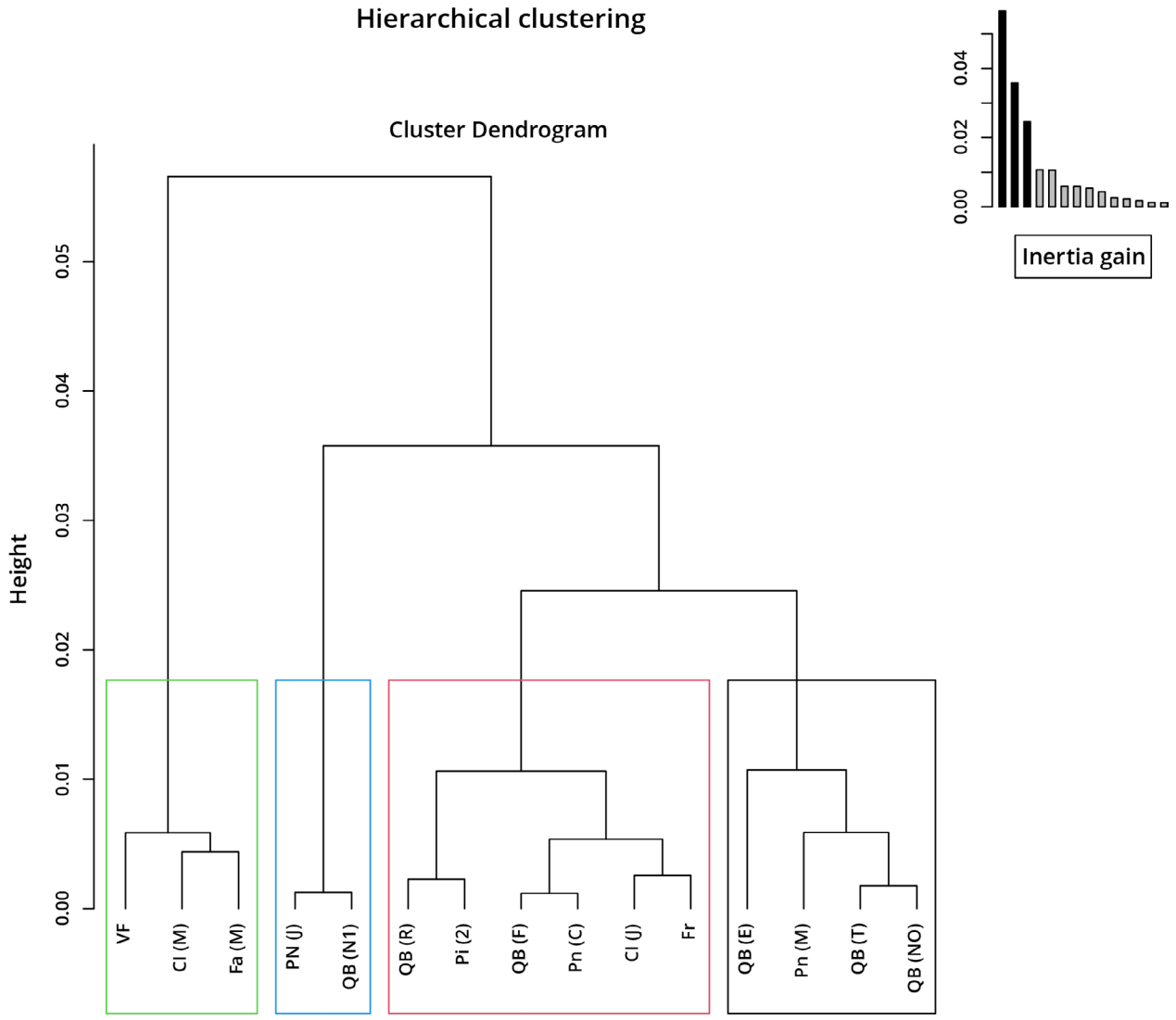

Figure 7: Hierarchical clustering of the zones of the Côa Valley based on the correspondence analysis of their thematic frequency. Calculations and image produced using the R language (R Core Team 2024) and the package FactoMineR (Husson et al. 2024). Figure: A. T. Santos.

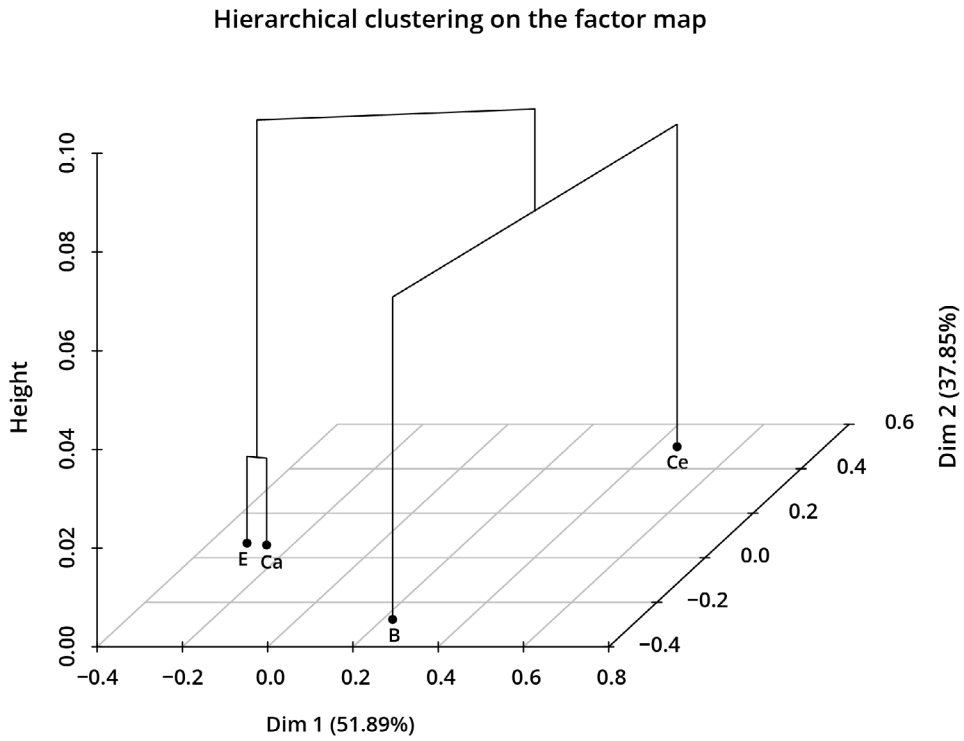

Figure 8: Hierarchical clustering of the four main themes of the Côa Valley based on the correspondence analysis of their thematic frequencies across the zones. Calculations and image produced using the R language (R Core Team 2024) and the package FactoMineR (Husson et al. 2024).
Figure: A. T. Santos.

the attribution of these horses to this phase is debatable. Even so, these horses occur in a different zone than the aurochs. Thus, even if we admit the contemporaneity of the figures, we must still consider the existence of two distinct zones, each monothematic.

The bithematic sites are Pousadouro (Baptista 2009, 204–207; Santos 2019, 331–332), Mazouco (Jorge et al. 1981, 336–338; Santos 2019) and La Salud (Garate Maidagan et al. 2016; Rivero Vilá et al. 2021). In all of them, we find the same formula associating horses with red deer – an association that contradicts the tendencies observed in the Côa Valley. The only possible exception is La Salud, where Diego Garate Maidagan and colleagues (2016, 23) cautiously hypothesize the presence of an ibex. On the other hand, the presence of red deer is also debatable, as what we interpret as a red deer dorsal line is taken by Gárate Maidagán et al. to be the dorsal line of a horse without a mane. Our interpretation is based on the similarity of that line to the female red deer dorsal lines on rock 1 at Fariseu and on the absence of horses without manes during this phase at other Douro Basin sites (Santos 2019, 342).

The compositions of these sites clearly denote the opposition between horses and aurochs. The two themes meet, however, alongside red deer at the Foz Tua shelter (Santos et al. 2015; Teixeira/Sanches 2017, 125, 127). Yet more than an exception to the rule, this site seems to demonstrate in another way the opposition between aurochs, on the one hand, and horses and red deer, on the other. In fact, the main figures on the panel are two red deer. Emerging from the body of one is the head of a horse, which in turn almost completely overlaps and obscures the head of an aurochs. The sharing of the same body here illustrates the close relationship between red deer and horses, while the near-effacement of the aurochs' head by the head of the horse clearly expresses the opposition between the two themes.

It should be noted that ibex – almost as prominent as the horse in the Côa Valley – has not been clearly identified at other Douro Basin sites of this period.

In the Ocreza Valley, which lies outside the Douro Basin but close to the southern limit of the lithic raw-mineral catchment area identified for the Côa Valley, four additional rocks preserve images from this period. Three of them – rocks 15, 20 and 22 – lie relatively close to one another, with horses being the only clearly represented theme (Baptista 2001; Danelatos 2022; Pereira et al. 2025). On rock 20, one graphic unit (GU 4) has been hypothesized as a possible aurochs, although interpretations as red deer or ibex have not been ruled out (Danelatos 2022, 106–107). I think that, were this figure an aurochs, the tail section would also be present rather than only its insertion. The triangular shape is, moreover, typical of red deer tails, and I therefore lean towards the latter hypothesis. GU 6 has also been suggested as a putative aurochs head (Danelatos 2022, 107–108). This, however, is a case of the probable association of two distinct figures. The entity on the right corresponds to a horse reduced to the jaw, ventral neck border and chest. The composition of this rock would thus represent another example of the horse/red deer associative formula. The fourth rock, numbered 21, is located 2 km from the previous zone (thus forming an autonomous site) and contains a depiction of an aurochs (Pereira et al. 2025). Thus, even near the limits of the Côa Valley lithic raw material catchment area, the same pattern observed at Douro Basin sites outside the Côa Valley is maintained. As will be seen below, the contrast between this pattern and that of the Côa Valley can be explained if we interpret this vast region as a landscape born out of an ontology dominated by a totemic mode of identification.

Inferring the dominant mode of identification of the ontology(ies) of the Douro Basin's Upper Palaeolithic communities

The visual productions

One difference between animist and totemic animal imagery highlighted by both Descola and Ingold is that totemic animals tend to be more 'hieratic' and can be markedly different from the human-like figures that appear in the same composition (Ingold 2000a, 116; Descola 2010c, 132). This occurs because the depiction of totemic entities in their animal shape in a dynamic fashion '*irait à l'encontre de ce qu'ils représentent, à savoir la charte intemporelle de l'organisation totémique*'[9] (Descola 2010c, 132). I think that this is one of the main characteristics of Palaeolithic art, not only in the Douro Basin but across Southwest Europe. Indeed, the resemblance between this generic feature and Australian totemic depictions of animals – and the strong contrast with the anthropomorphic figures – was highlighted by Michel Lorblanchet more than thirty years ago (Lorblanchet 1988, 311).

Even the high percentage of 'animated' images identified in Palaeolithic imagery, notably in the Côa Valley (e.g., Azéma 2009; 2010; Luís 2019), does not contradict this

9 [*tr.* would be against what they represent, namely the atemporal charter of the totemic organization]. Translation: A. T. Santos.

point. Most of these figures are considered animated only in contrast to a standing position taken as the norm in that particular *corpus*: an animal in full profile, head forward, tail down and with only two legs in vertical position, both of the same size (Luís 2019, 14). That is to say, although the majority of 'animated' figures deviate from that canonical standing position, they remain static nonetheless. In fact, if the same criteria were applied to the animal depictions discussed by Descola and Ingold, those would not be regarded motionless but would appear even more fully 'animated' than most of the animated figures of the Côa Valley (compare Ingold 2000a, figs. 7.2 and 7.3; Healy 2010, figs. 95–98; Luís 2012, fig. 5.5). Direct depictions of movement do exist in the Douro Basin, with split-action through segmented superposition being the most eloquent type (Luís 2012, 77). Yet this type of animation must be regarded, as Emmanuel Guy (2017, 173) put it following André Leroi-Gourhan, as an additional descriptive complement applied to the animal.

This brings us to another difference between totemic and animist animal depictions: in totemic compositions, animals 'are not generally arranged together to form a narrative scene' (Ingold 2000a, 119). Human-like figures may act upon them, but they do not react, interactions between animals are likewise absent (Ingold 2000a, 119; Descola 2010c, 132). A similar situation characterizes Palaeolithic art, where clear 'scenes' are extremely scarce and animals generally 'ignore' one another, especially if they are of different species (e.g., Davidson 2017). True, the fact that we do not recognize scenes does not necessarily imply that they did not exist (Sauvet 2024, 12–13). Compositions such that of the Salle du Fond at Chauvet Cave (Fritz/Tosello 2015), panel II at Roucadour (Lorblanchet 2009) or the ceiling of La Baume Latrone (Azéma/Pigeaud 2013) appear to depict interactions between non-human animal species (Pigeaud et al. 2016). Scenes involving human and non-human animals occur, for example, in the Puit of Lascaux (e.g., Aujoulat 2004), the cave of Villars (Delluc/Delluc 1974) and Roc de Sers (Tymula 2002). However, these remain exceptions in a universe that is largely characterized by the absence of clear scenes. This is not to say that the subject of these images was not evoked through narratives whose '*contenu s'est perdu avec ceux qui le prononçaient*'[10] (Leroi-Gourhan 1975, 52). In fact, even the most hieratic of Australian totemic prototypes are embedded in narrative traditions; however, when expressed graphically, they tend to convey the 'atemporality of the totemic organisation,' as Descola puts it (see above). Something similar may have occurred in Palaeolithic art, a graphic tradition that '*offre beaucoup plus d'assemblages de figures en ordre mythographique qu'en disposition pictographique*'[11] (Leroi-Gourhan 1975, 53). In the Côa Valley, the few putative scenes are no earlier than Phase 2 and always involve the same species (e.g., Santos 2024, fig. 2.7).

A third contrast concerns how collectives are defined in animist and totemic modes of identification. Collectives of the animist mode of identification are based on physical appearance and are self-sufficient. Collectives of the totemic mode are based on a shared substance independent of physical appearance. These collectives are autonomous and clearly defined but not self-sufficient, each depending upon the others. Thus, in animistic compositions involving several animals, one would expect figures to be grouped by species. In totemic contexts, this need not be the case (Santos 2019, 385–386). Compositions involving different species with no regard for spatial distance between them – such as several known Palaeolithic compositions, notably in the Côa Valley – are therefore expected only in totemic contexts, and that expectation appears to be confirmed.[12] However, *contra* Testart (2016, 75–76), compositions involving themes of different species arranged symmetrically, particularly nose-to-nose, are also known in the Côa Valley (Fig. 9). This should not be seen as undermining the 'totemic hypothesis.' On the contrary, the species involved in these compositions (aurochs and horses) and their exclusive occurrence at the sites of Faia and Penascosa further sustain that hypothesis, as will be discussed in the next chapter.

A frequent argument presented by researchers advocating 'shamanic' interpretations of Palaeolithic rock art is the presence of therianthropes, considered representations of shamanic metamorphosis (Chippindale et al. 2000, 70; Clottes/Lewis-Williams 2001, 19–20, 108). Metamorphosis is indeed central to animism and completely absent from totemic ontological regimes. This absence sustains Descola's proposition that the rare known Palaeolithic composite beings – such as the Lion-Man of Hohlenstein-Stadel – reflect 'animist pockets' in the European Upper Palaeolithic (Grosos/Valentin 2022, 290–291). This interpretation is based on the putative

10 [*tr.* whose content was lost with those who have told it]. Translation: A. T. Santos.

11 [*tr.* has a lot more ensembles of figures in mythographic order than in pictographic disposition]. Translation: A. T. Santos.

12 See, for instance figures 43, 46, 47, 126, 194 or 215 of Eric Joseph Brandl (1988 [1973]) or several panels of the amazing site of Nawarla Gabarnmang (Gunn 2016).

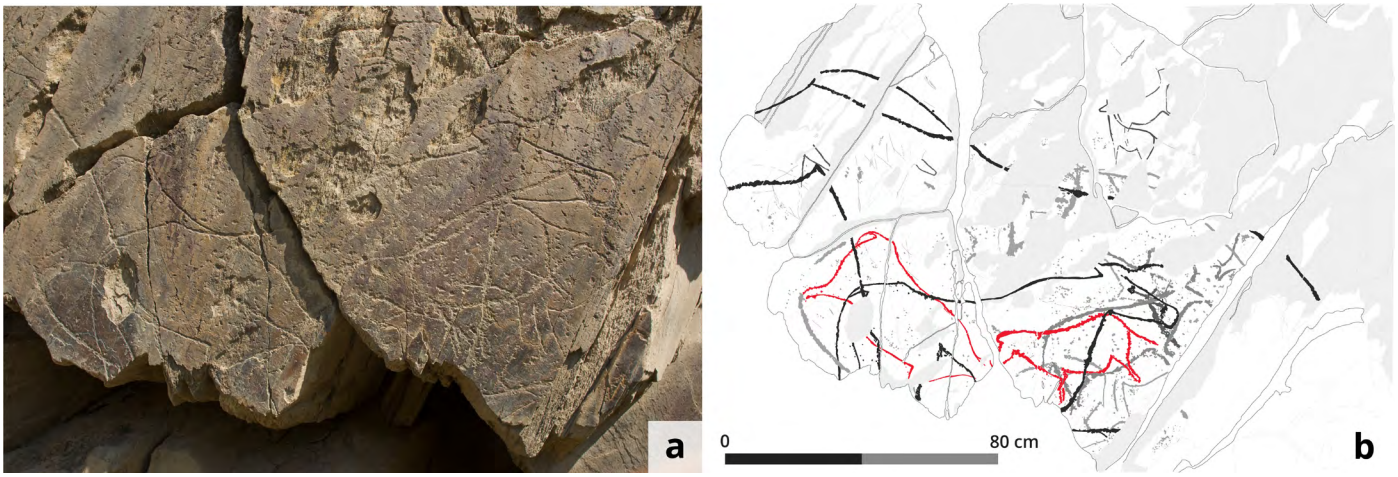

Figure 9: Penascosa 5 (a: photo of a detail; b: drawing of a detail, a clear association between horse and aurochs is shown in red). Photo: A. T. Santos. Drawing: F. Barbosa, originally published in Baptista/Gomes (1997).

absence of composite figures in totemic ontological regimes (Descola 2021, 307). However, this type of figures is also identified in Australian rock art and contemporary Aboriginal art (Taçon/Chippindale 2001). Among the earlier examples, we may note the kangaroo-headed and flying-fox-headed humans of Arnhem Land mentioned by the quoted authors. Among contemporary images, the Kunwinjku 'transforming figures' studied by Luke Taylor (*apud* Taçon/Chippindale 2001, 198–199) are particularly significant. As the composite being of Trois-Frères, these figures combine human and non-human characteristics from several species and represent Ancestral Beings. The Lion-Man – like the kangaroo- and the flying-fox-headed humans – may therefore represent not a metamorphosis but a prototypical totemic entity. This discussion does not deny the possibility of 'ontological hybridation' (Grosos/Valentin 2022, 291), but it does rule out hybrid figures as a diagnostic criterion for identifying an ontological type of regimen.

The forms of landscape

All hunter-gatherer societies experience annual periods of aggregation and others of dispersion, and some also undergo episodes of 'super-aggregation' at pluri-annual intervals that occur for reasons not strictly related to subsistence (Binford 2001, 117, 213).

For more than 40 years, prehistoric images have been used to identify aggregation sites. In fact, it was in 1980 that Margaret Conkey published her seminal study of Altamira, identifying it as an aggregation locale through an analysis of coeval portable art in the region (Conkey 1980). According to her, a site can be identified as an aggregation site if the following criteria are met:

- The site must contain the greatest diversity of pieces in the region;
- Most of the designs found there must also be known at other sites in the region;
- Some designs must be unique to the site;
- No designs should appear elsewhere that are not also identified there.

More recently, Jo McDonald and Peter Veth refined these criteria, adapting them to the rock art of the Australian Western Desert (McDonald/Veth 2012). Importantly, they highlight the difficulty of isolating a single site as an aggregation locale, arguing that

> *Desert, hypermobility of groups, and social alliance and avoidance relationships, plus the absence of caves large enough to host hundreds of occupants, means that a cluster of spatially associated sites is needed.*
>
> *(McDonald/Veth 2012, 99)*

Apart from the desert, these factors also apply to the Palaeolithic regions of Southwest Europe. Most known caves would probably not aggregate large numbers of people if 'social alliance and avoidance relationships' were to be respected – Altamira or Lascaux certainly would not. Interestingly, none of the biggest decorated caves (e.g., Isturitz, El Pendo or Cullalvera) fulfils the criteria listed above for identifying aggregation locales via their rock art. Most probably, even in Upper Palaeolithic Europe, it is only possible to speak of 'cluster(s) of spatially associated sites.' This is certainly the case in the Côa Valley, where caves do not exist, and probably elsewhere in Palaeolithic Europe as well. Consequently, we should stop looking for caves that served as aggregation locales (at least of

the 'super-aggregation' type – Binford's group 3) and instead identify 'clusters of spatially associated sites,' even in landscapes where caves are present. Given this, I will refer from now on to an 'aggregation setting,' rather than an 'aggregation locale' or 'aggregation site.'

The description above of the *corpus* of images from the Côa Valley and the remaining sites of the Douro Basin clearly shows that the former meets all the criteria proposed by Conkey – and especially by McDonald and Veth – for identifying an aggregation setting:

a. Its repertoire reflects the regional repertoire: zoomorphic representations outside the Côa Valley are morphologically and stylistically similar to those within the region.
b. The Côa Valley contains the sites with the greatest stylistic and thematic diversity – actually, only in some Côa Valley sites can we find aurochs and horses clearly associated, as well as panels combining those species with ibex, or those first two or three with red deer (e.g., Canada do Inferno, Fariseu, Quinta da Barca and Penascosa). These are accompanied by rarer themes, such as chamois (Fariseu 1), bear, bird of prey (Quinta da Barca 1) or fish (Penascosa 5). By contrast, outside the Côa Valley, aurochs appear as the sole depicted specimens, and horses are only accompanied by red deer, the pair replacing aurochs at the Foz Tua shelter.
c. Some themes, including visually striking ones, can only be found in the Côa Valley. Besides the rare themes mentioned previously, a particular mention should be made regarding the ibex, whose numbers in the Côa Valley are very similar to those of horses, and whose execution is sometimes particularly careful – the ibex being the only theme rendered (partially) in bas-relief (Quinta da Barca 22).
d. No motifs appear outside the Côa Valley that are not also depicted there.

Aggregation events occur in both totemic and animistic contexts, although 'super-aggregation' episodes are more common in Australia than in regions where animism is the dominant mode of identification. It is very significant that the Australian cases motivated Binford to reify his group 3 (the demographic structure of groups during those episodes) and that such events are only sporadically attested on the Pacific Northwest Coast or the Arctic Shores (Binford 2001, 350). Nevertheless, these super-aggregation episodes – or at least inter-tribal gatherings – are also documented in animistic contexts. Where rock art is present, the diversity and quantity of motifs can also serve as criteria for identifying such sites or site clusters. Examples of this case are found in the Canadian Shield (Zawadzka 2019, 88–89). Other concentrations of rock art in animistic worlds may similarly be interpreted as resulting from aggregation episodes, such as the Drakensberg in South Africa (e.g., Lewis-Williams 2003, 62) or, according to some researchers, the Coso Range in the Great Basin (Yohe II/Garfinkel 2012, 210–211). However, in this last case, David Whitley argues that it was the site's special connection with rain-making shamanic powers that attracted shamans from across and beyond the region (Whitley 1998, 164–165; 2024b, 348–349). In any case, what should be stressed is that in all these scenarios, rock art from these locales is created and experienced by people from different collectives, and both processes lead to higher diversity and quantity of images. Moreover, regardless of their totemic or animistic context, none of these places is isolated; all are part of a wider network of smaller sites.

Can the contrasts between the repertoires of the largest concentrations and those of smaller sites help us infer the dominant mode of identification of the ontologies from which each case emerges? I think that the answer is yes, provided that those repertoires feature a high frequency of non-human animal representations. As noted above, animals have different statuses in totemic and animistic regimes, and this affects not only how they are depicted but also which animals are selected. At the same time, because the forms of social appropriation of space also differ, the resulting spatial patterns created by those choices will also diverge.

To understand this reasoning, let us recall that in animist contexts, some animal species are seen as collectives that understand and organize themselves as human collectives do (e.g., Viveiros de Castro 1998). In totemic contexts, each animal belongs to a collective that includes not only other individuals of its species but also some humans and other elements of the world (Descola 2005). In animist regimes, therefore, images of animals are always of an 'other' for all human collectives, whereas in totemic contexts, animal images denote an 'other' only for those humans who do not share the totemic substance of the depicted species. In the former case, animal images never include humans; in the latter, they always include some humans.

Regarding forms of spatial appropriation, totemic landscapes are characterized by segmentation, each segment forming an 'estate' (e.g., Stanner 1965) belonging to a different totemic collective. Each totemic collective is responsible for the curation of their estate, including ritual maintenance fundamental to the conservation of the

collective – humans and non-human animals alike. This curation may involve the making and conservation (namely, repainting) of rock art. In the Western Kimberley, for instance, rock art at each site is produced by members of the responsible clan or by people affiliated with the same moiety (Layton 2009 [1992], 40–46).

Some places that compose the totemic landscape are open to all, while others may be accessed only by specific collectives. The 'social geography' of Central Australia, as characterized by Bruno David (2002, 52–85), is a perfect illustration. The landscape comprizes aggregation sites, such as Therreyererte, and smaller restricted sites, such as Keringke, which belongs to the kangaroo clan. The former receives periodic visits from people of different totemic collectives. Some of these people speak different languages from that spoken in the region, and some groups explore territories up to 500 km apart from each other (Kimber/Smith 1987). This example also illustrates the importance of 'super-aggregation events' in totemic regimes. Their ubiquity in Australia is certainly a consequence of the necessary complementarity between the totemic collectives. Because these collectives include animals in their constitution, it is reasonable to assume that, if depicted in an aggregation setting, at least a pair of them – if not more – will be represented in a balanced way to comply with the necessity of complementarity between collectives. Conversely, at sites accessible only to specific collectives, one would expect the zoomorphic repertoire to be dominated by one of the species depicted in the great aggregation locales.

Animistic landscapes, by contrast, can also be understood as networks of significant places connected by paths (e.g., Ingold 2000b; Thornton 2008; Zawadzka 2021), but the relations between human collectives and places – although emotionally powerful and often embedded in collective histories – do not have the same 'visceral' quality found in totemic societies. In fact, something ontologically unthinkable in totemic societies, such as alienating places to another collective, is a phenomenon documented, for instance, among the Tlingit (Thornton 2008). It is therefore unsurprising that very few documented rock art sites in animistic societies are connected to the relationship between human collectives and specific territories, the exception being some zoomorphic blazons in the Pacific Northwest Coast (Keyser/Poetschat 2012). By contrast, in the Temagami region (Canadian Shield), for example, no correlation has been identified between totemic animal representation and the hunting territories of affiliated groups (Zawadzka 2016, 269–270).[13]

In fact, most North American rock art – with or without animal depictions – is related to shamanic practices and 'vision quests' (Whitley 2014). Animal depictions in these contexts are privileged partners in human dialogue (masters of the animals, familial spirits, etc.). These privileged partners are not exclusive to a given human collective but are shared across several groups within each 'cultural' area (the bear in Northeast Asia, the jaguar in Amazonia, etc.). As a consequence, the same dominant animal tends to appear across all kinds of rock art sites where animal depictions are important, whether those sites are large or small. This happens because:

a. Most rock art sites are related to shamanic practices;
b. In this context, animals are the 'other' with which each collective has a 'privileged partnership';
c. This privileged partnership is shared across several human collectives.

This is the case in South Africa, where the eland – the most frequent theme in the Drakensberg, a possible aggregation setting – also occurs in the nearby, more isolated sites (Lewis-Williams 2003). The same occurs in the Coso Range (Grant et al. 1968; Whitley 2000; 2024b, 357), where the most depicted animal – the bighorn sheep – also dominates the repertoires of the remaining sites in the region used by groups such as the Shoshone, Serrano or Cahuilla (Whitley 1998; 2024a; 2024b; Whitley et al. 2025). Despite the lack of consensus about whether the Coso Range constitutes an aggregation setting (see above), people from various collectives created and experienced its rock art – either together at a single event or separately across time.

One of the expected direct consequences of these processes is that when animal depictions are a major feature of a rock art tradition, a dominant animal will be clearly recognizable in animistic contexts but not in totemic ones. Moreover, in animistic contexts, the animal that dominates the largest concentrations will also dominate the repertoire of the majority of smaller sites. Conversely, in totemic regimes, no animal will be clearly dominant at the aggregation sites, and smaller sites will each be dominated by a single theme, although not necessarily the same

13 The 'totem' to which we refer here must be understood in the context of Lévi-Strauss's 'sociological totemism' (Lévi-Strauss 1963 [1962]). See above, section 'Descola's modes of identification and their relationship with images.'

one across all sites. This may explain the contrast between the thematic diversity of the Côa Valley sites and the limited diversity of sites elsewhere in the Douro Basin. The Côa Valley is an aggregation setting; the other sites likely served different functions, probably related to specific totemic collectives, as animal depictions are always present. The interpretation of the Côa Valley as an aggregation setting is further supported by the presence of lithic tools made from raw materials originating more than 250 km away, from different directions – some near the Atlantic shore and others in central Iberia (e.g., Aubry et al. 2022).

Another piece of evidence strengthens our interpretation of the Côa Valley as a totemic aggregation setting: the main associative thematic tendencies of the Côa Valley (ibex/horse on the one hand and red deer/aurochs on the other) are reversed outside the Côa. There, red deer are systematically associated with horses; aurochs occur alone; and ibex are absent. This evokes the kinship ties of a totemic community structured into sections, as Lévi-Strauss demonstrated in his Durand/Dupont example (Lévi-Strauss 1968 [1947], 187). In fact, the sites outside the Côa Valley may represent each moiety – the 'horse moiety,' composed of horse and red deer sections, and the 'aurochs moiety,' composed of aurochs and ibex. If we replace the Durands with the horse sections and the Duponts with the aurochs sections, the first two cells of each line reproduce the associative tendencies of the Côa Valley (Table 2). Of course, we may ask why ibex do not appear at the sites of the aurochs moiety. This is probably related to the myths themselves and their localization: perhaps the 'ibex section' has a specific narrative function only within the Côa Valley. This function appears highly significant, as its inclusion is required for the assembly of different collectives. It is worth emphasizing that an aggregation setting is not a 'neutral' or 'empty' space but also an 'estate' belonging to a specific collective. For instance, Therreyerte, mentioned above, was part of the 'native cat' estate (Kimber/Smith 1987). Likewise, in the Côa Valley, there is strong evidence of a year-round occupation (Aubry 2015, 24).

Discussion: Behind (these) times and spaces

The structural patterns we have described continue, in a *nuanced* form, until the end of the Magdalenian. In fact, in the Côa Valley, we observe a progressive reinforcement of the equilibrium between the main themes, even if other motifs – such as anthropomorphic figures – make their appearance (Santos 2024, 36–52). On the other hand, some of the new sites of the Douro Basin – the cave of La Griega (e.g., Corchón Rodriguez 1997) or the sites of Domingo García (e.g., Ripoll López/Municio González 1999) – and of the expanded sites, such as Siega Verde (Alcolea González/Balbín Behrmann 2006), are no longer monothematic or cease to be so. However, they remain strongly dominated by horses, with red deer appearing in larger numbers than aurochs or in similar quantities, and ibex retaining a marginal presence by comparison. In a way, this represents a reformulation of graphic structures either within the same ontology or within a different ontology that nevertheless shares the same dominant mode of identification.

During the Azilian, however, we observe a major change in the Côa Valley. Red deer now clearly constitutes the dominant species, and the difference between its representations and those of the second most represented theme (ibex) exceeds the difference between the most depicted Magdalenian theme and the fourth one (red deer) (Santos 2023, 106–107). At the same time, the depicted themes at smaller coeval sites in the Douro Basin are now the same as those in the Côa Valley. The emerging pattern now corresponds to an ontology dominated by the animistic mode of identification.

Beyond the Douro Basin, can rock art give us some clues regarding its ontological context in addition to what compositions reveal? The indications are limited, because Upper Palaeolithic landscapes remain poorly approached. Caves have often been studied as isolated cases rather than as nodes within networks of image clusters fixed in the landscape. I think that each site is a chapter of a larger book

If a man	marries a woman	the children will be
Durand of Paris (horse)	Dupont of Bordeaux (ibex)	Dupont of Paris (aurochs)
Durand of Bordeaux (red deer)	Dupont of Paris (aurochs)	Dupont of Bordeaux (ibex)
Dupont of Paris (aurochs)	Durand of Bordeaux (red deer)	Durand of Paris (horse)
Dupont of Bordeaux (ibex)	Durand of Paris (horse)	Durand of Bordeaux (red deer)

Table 2: Connections between each component of a classical totemic society (as defined by Lévi-Strauss 1968 [1947], 187) and their equivalents in the relationships among the Douro Basin's four major themes. The first two cells of each line express the main associative tendencies of the Côa Valley sites. The thematic diversity of the smaller sites reflects the composition of the 'Durand' moiety and one section of the 'Dupont' moiety.

(the group of sites in each landscape) that must be read in its entirety to be fully understood (Santos 2019, 378).

However, some studies support the 'totemic' hypothesis. In the Cantabrian region, for example, at least during the Magdalenian, most sites are dominated either by bison or by horse, with few places where both themes appear in a balanced way (González Sainz 2019, 77–78). A differential distribution of themes across the landscape has also been identified, for example, in the Sierra de Cuera in Asturias, although a chronological explanation was proposed to explain that pattern (Ruiz Redondo/Garate Maidagan 2014). The same relationship between themes and distinct landscape locations was noted at Domingo García (Ripoll López/Municio González 1999, 200–201) and between the neighbouring caves of Combarelles and Font-de-Gaume in France (Roussot 1984). These distinctions in fact evoke aspects of totemism, even if such interpretations were later discarded (Sauvet/Wlodarczyk 2000–2001). More recently, two nearby sites of the Swabian Jura – Vogelherd and Hohlenstein-Stadel – were linked, respectively, with the mammoth and the lion, further suggesting a 'structured and negotiated creation of identity that not only recognises the interdependence of animals and humans but also the role of the landscape and its features in these processes' (Porr 2015). The author rightly highlights the behavioural characteristics of each species and correlates the mammoths with females and lions with males (Porr 2010, 151). This interpretation may be somewhat essentialist in its linking of specific behaviours to gender, but the relationship between particular human and non-human behaviours (regardless of gender) and the animal that embodies them lies at the heart of totem definitions in Australian totemism, as understood by Descola following closely the work of Carl Georg von Brandenstein (Descola 2005, 217–277).

In this regard, it is worth remembering that similarities between Australian totemic landscapes and Palaeolithic rock-art landscapes have been highlighted by other authors (e.g., Lorblanchet 1989, 277–278; Monney 2012).

Moreover, part of our expectations regarding animist and totemic landscapes is curiously reflected in a series of works beginning with a paper by Robert Layton (2000) and continued by him and others for more than a decade (Sauvet et al. 2006; 2009; 2012). These works compare several rock art traditions by considering the frequency of the most depicted animal in each tradition and the frequency of its appearance across sites. The authors classify traditions for which ethnographic information exists into totemic, secular and shamanic clusters. The frequency of the most depicted theme does provide an approximate sense of a dominant theme in each tradition, and its frequency at the sites of that tradition hints at the presence of smaller sites dominated by different themes. Yet these criteria also obscure the fact that a dominant regional theme does not necessarily dominate every site of the region and may even be less widely distributed than other themes. The authors themselves observe this in the recent phase of Périgord, where mammoths dominate only because of Rouffignac, while appearing in only 40% of sites (Sauvet et al. 2012, 1773). Most probably, although mammoths appear in 40% of sites, Rouffignac is the only cave where they are dominant. The eccentricity of this situation makes it conspicuous. Another example: according to the authors, 77.3% of Magdalenian caves in Cantabria contain representations of bison (Sauvet et al. 2012, 1767). However, if we disregard caves with earlier depictions, the difference between caves dominated by bison and those dominated by horses is only of three sites (four if earlier decorated caves are taken into account), both themes being in numerical equilibrium only at La Pasiega C and Atxurra (González Sainz 2019, 77–78).

The study further separates secular from totemic sites, although the former were created within a totemic context (the Laura region). Our approach would group both types, because – even if their functions are different – all of them emerge from a totemic ontology; consequently, their animal depictions share important commonalities regardless of the objective of their production, because animals could not be imagined in an ontologically different manner. This is clearly illustrated by a case study of Kurrmurnnyini, a site 'specialized' in sorcery due to its contextual location in the Dreaming of the Region (Brady/Bradley 2016). Sorcery sites fall within the secular group in Georges Sauvet et al.'s classification (Sauvet et al. 2012, 1774). Yet, the animal depictions at Kurrmurnnyini represent the ancestral beings of the persons targeted by sorcery (Brady/Bradley 2016, 10). Even if not linked through imagery to the clan that owns it, it remains tied only to a very restricted group of animals (those not belonging to the totemic group owning the sorcery site). Spatially, this mirrors the pattern seen at the smaller sites, where imagery is closely related to its own totemic collective.

Interestingly, even with the limitations mentioned above, when we regroup the ethnographically informed sites published by Sauvet et al. (2012) according to the dominant mode of identification underlying their ontology, the hypothesis that totemism was the dominant Upper

Palaeolithic mode of identification cannot be ruled out (Santos 2019, 389, fig. 7.1).

In sum, at least for the earliest Palaeolithic rock art of the Douro Basin, Descola's fourfold ontological model proves a useful interpretative tool, provided that both proper strategies regarding images and landscapes are considered. In fact, in this particular case, the general characteristics of the compositions and the 'forms of the landscape' (*sensu* Descola 2013) appear to converge in confirming totemism as the dominant mode of identification of the ontology of those who created, experienced and were shaped by this rock art. Although much remains to be done before extending this conclusion to the rest of Western European Palaeolithic rock art, some evidence points to its plausibility. To delve deeper into this problem, we must treat Palaeolithic landscapes – rather than isolated sites – as our unit of study. We must stop comparing caves detached from their contexts and instead compare landscapes and the ways they are shaped. But we must also clearly define those landscapes (e.g., why separate the Ariège sites from those of the western Pyrenees?) and understand the contextual difference between sites. As we have seen, the structure of a composition at an aggregation setting may be the exact opposite of a composition at a site occupying a different contextual position in the 'taskscape' (*sensu* Ingold 1993) of a given community. In short, we must stop reading and comparing isolated chapters and begin reading and comparing entire works of art.

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