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PONDERING PREHISTORY: LEAD ARTICLE

Why is Cave Art Absent from the Upper Paleolithic Southern Levant?

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ABSTRACT

Despite one hundred years of intensive prehistoric research in the southern Levant, and particularly within the modern boundaries of the State of Israel, no decorated Upper Paleolithic caves were found in the region. Mobile imagery items are also altogether absent or rare. This frustrating state of affairs is completely unexpected, since the Levantine Upper Paleolithic Aurignacian culture bears striking resemblance to its depictions-rich counterpart in western Europe, and mutual contacts between Levantine and European groups seem likely. Moreover, natural caves are found in abundance in the Levant, and some were encountered by Levantine Aurignacian groups. So this absence has nothing to do with technological or cognitive human capabilities, nor with the lack of potential caves. In this paper we explore this intriguing conundrum, examining it in the light of human-animal relationships, prey availability and extinctions, and human ontological and cosmological beliefs. We will do our best to tie all these pieces of the puzzle together in an attempt to shed new light on the mysterious absence of parietal and mobile art from the Upper Paleolithic Levant.

KEYWORDS

Cave Art; Aurignacian; Levant; Altered States of Consciousness; Animals; Ontology

> *Painting isn't an aesthetic operation; it's a form of magic designed as a mediator between this strange hostile world and us, a way of seizing the power by giving form to our terrors as well as our desires.*
>
> —Pablo Picasso (from Françoise Gilot & Carlton Lake, *Life with Picasso*)

> *So art was around before we knew how to make it. And the way art made us is how the earth got to know what we should be. The fact that we make art has nothing to do with ourselves. It has very little to do with what we want to say and has everything to do with getting closer and closer to the reason why the earth decided for us to become.*
>
> —Wangechi Mutu (Exhibition Film/ *I Am Speaking, Are You Listening?*)

INTRODUCTION

In this paper we confront one of the most intriguing enigmas in Levantine prehistoric research: the absence of depictions on cave walls, as well as *art mobilier*, from Upper Paleolithic times (hereafter UP; dating to ca. 45-23 ka in the Levant, Shemer et al. 2023). This absence is underscored by the majestic and magnificent paintings, statues, engravings and mobile imagery items that characterize the UP of western Europe, and most specifically

the Franco-Cantabrian region and the German Swabian Jura dating to ca. 40-13ka. This absence is even more astonishing in light of the striking similarities in Aurignacian material culture and behavior in the Levant and western Europe, with some scholars even arguing in favor of back-and-forth migrations between the regions and a shared symbolic system (Tejero et al., 2021; but see Goring-Morris & Belfer-Cohen, 2006). Thus, some scholars support the view that physical as well as cultural contacts were in practice between the Aurignacian groups of western Europe and the Levant. These groups are believed to be descendants of a shared common ancestry population that migrated from Africa within the course of the late *Homo sapiens* migration some 50–70 ky ago, during Marine Isotope Stage (MIS) 3 (e.g., Groucutt et al., 2015). Regardless of these ancestral and cultural connections, the Aurignacian of western Europe is characterized by impressive cave depictions and *art mobilier*, while close to nothing of that sort is manifested in the Levantine Aurignacian. We wonder why, and investigate the probable reasons for these striking differences in this study.

We focus only on the early UP in this paper, and particularly the western European and Levantine Aurignacian. We do so because we wish to deal with one specific cultural context, representing shared adaptations of lithic and subsistence strategies, and most probably even a shared symbolic system (Tejero et al., 2021), but differentiated with regard to cave depictions and mobile imagery items. We hope that this unusual set of archaeological data will shed light on the question of why depictions and figurines prevailed in one region (e.g., Bourrillon et al., 2018; Conard, 2003, 2009; Higham et al., 2012; Moro Abadía & Maidagán, 2010; Quiles et al., 2016; but see also reservations regarding Chauvet in Jouve et al., 2020 and references therein), while being rare in the other (Bar-Yosef, 1997, Belfer-Cohen, 1988). It is true that cave art might eventually reveal itself in the Levant, as reality often goes beyond imagination. We have to consider the possibility that taphonomic agents have hidden existing depictions from view, and one of us (I.D.) is currently pursuing this line of investigation. Such that, if cave art does reveal itself in the UP Levant, we will have to reconsider the hypothesis presented in this paper. Our work does not pretend to provide an all-embracing answer to the questions regarding the meaning of UP cave depictions and mobile imagery. We will not touch upon the later Gravettian, Solutrean and Magdalenian UP cultures with their amazing parietal imagery and *art mobilier*, mostly because these cultures do not have a direct counterpart in the Levant. However, our insights regarding what motivated the Aurignacians to produce cave depictions and figurines might also be of some relevance for the later European cultural manifestations. These insights are clearly relevant for the post-Levantine Aurignacian, as creative manifestations from this part of the world continue to be rare until the advent of the Natufian culture at the end of the Pleistocene (Bar-Yosef, 1998; Edwards et al., 2019; Grosman et al., 2017; Grosman & Belfer-Cohen, 2023; Major, 2018; but see Yaroshevich et al., 2016 for earlier artistic manifestations than the Natufian), while in parts of western Europe the production of images and figurines flourished in post-Aurignacian times. Not surprisingly, evidence for ritual and shamanism strongly re-emerged in the Natufian of the southern Levant, alongside the new burst of imagery items (Grosman et al., 2008; Grosman & Munro, 2016).

We are also aware of the Sulawesi cave depictions (Brumm et al., 2021), which might even pre-date the western European decorated caves; however, we will not deal with these here for the reasons stated above.

Standing on the shoulders of giants, and inspired by Picasso and Mutu, we accept the perspective that the depictions on the walls of prehistoric caves were not at all decorative in nature. We suggest that these creative images were not just an outcome of an aesthetic burst but served as mediators between early humans and the world they lived in, a window into their fears and desires. This perspective holds true, in our mind, not only for decorated walls but also for mobile imagery items such as figurines, statutes and beads. These items, we argue, played a role in human relationships with the cosmos rather than being decorative or tokens of personal identity.

At first, we thought we would refrain from using the loaded term “art” or “cave art”. In many cases the term “art” is conceived in its modern meaning, which immediately connotes museum pieces, tormented artists, and exhibition halls. We do not think this hold relevance for Paleolithic creative expressions. However, we wholeheartedly adopt Picasso’s definition of “painting” presented above and apply it more generally to the term “art”. Hence, we see art not as a decorative or aesthetic expression alone, but as a mediator between humans and

the world they live in, as a way of expressing fears and desires by sending messages to the cosmos.

Following this line of thinking, and again standing on the shoulders of researchers before us (e.g. Jochim 1983; Mithen 1991), we work under the hypothesis that bursts of creative expression in the history of humankind do not necessarily reflect times of plenty and prosperity, as might be misconstrued by a modern thinker. On the contrary, these creative bursts may indicate times of trouble, loss of way and the search for answers for existential and spiritual misgivings. Desires and fears might be radicalized in times of stress; of transformation; of extreme changes in conditions, conceptions or economic and social regularities. Taçon (1983) provides an insightful analysis presenting Dorset art as a mechanism to alleviate both ecological and psychological stress, and this state of affairs might also be relevant for the Natufian culture in the Levant (Belfer-Cohen, 1991). Scalar stress is suggested to be an outcome of relatively large human aggregations (Johnson, 1982), and thus is hypothesized not to be a characteristic of early human groups. However, UP human groups might have been exposed to such stress, which is usually monitored by increased social organization and/or ritual. While the term "ritual" is at least as vague and multi-faceted as the term "art", the creative expression of the UP period could, in our view, be interpreted as reflecting ritualistic human behavior as it is rather clearly remote from any practical or utilitarian realm known to us (at least remote from the bare necessities of making a physical living in the world). These creative expressions might be better viewed as connected to some sort of a belief system. Likewise, ritual is generally accepted as a mechanism to relieve and accommodate stress as well as reduce existential anxiety and uncertainty (e.g., Karl & Fischer, 2018). Having said that, one cannot escape the debate regarding the relevance of shamanism to "cave art". While this debate is clearly beyond the scope of this paper, we see a clear resemblance between our line of thinking and the scenario put forward by Lewis-Williams and Clottes (1988, 2002, 2008), and thus we side in favor of a more shamanistic-oriented interpretation of UP creative manifestations. As argued extensively elsewhere (Kedar et al., 2021), we work under the assumption that prehistoric creative expressions might have been an outcome of desirable altered states of consciousness (ASCs) such as dreams and visions, which served as mechanisms to communicate with the cosmos, solve problems, and achieve harmony and well-being. This, we believe, was the indigenous way of getting along in the world, still practiced by many who follow primordial instincts and understandings. In many cases, these practices are manifested in shamanic behaviors. This line of thinking, with which we identify wholeheartedly, was beautifully put forward by artist and writer Barry Cottrel (2021, p. 35):

> *…the deep past may not have been like the present, dominated by the overtly utilitarian values that have always existed but have become dominant in modern Western civilization. I suggest that early humans possessed a sense of the sacred; that they were soulful people with hearts and minds who loved—and also presumably feared—the Earth on which their lives depended, and within which their lives were deeply embedded".*

THE INTRIGUING ABSENCE OF CAVE ART IN THE UPPER PALEOLITHIC LEVANT: TOWARDS AN UNDERSTANDING

We will now continue to explore this intriguing conundrum, examining it in the light of human-animal relationships, prey availability and extinctions, and human ontological and cosmological beliefs, tying these together in an attempt to explore the mystery. We propose a hypothesis that the emergence of visual expressions during the Aurignacian in Europe may have stemmed from a sense of anxiety or even dread accompanying the decline and eventual extinction of megaherbivores in the region. Conversely, the absence of imagery during the Aurignacian in the Levant could be attributed to the much earlier disappearance of megaherbivores in that area prior to the onset of the Aurignacian. We will begin with the story of Aurignacian culture in Europe and in the Levant.

The Aurignacians: Stories of migrations, connections and being *sapiens*

The story of anatomically modern humans (hereafter AMH, also known as *Homo sapiens*) during the UP is the story of our very direct ancestors. Maybe that is why their story is so loaded with meaning and connotations; because

it is our story. We see ourselves in them, and it seems that many of their capabilities and accomplishments are reflected in us. This is certainly true in the case of the ambiguous term "art". Since the very early days of the study of the human past in Europe, since Altamira Cave in Spain was discovered in 1868 (Breuil 1952), one of the hallmarks of AMH behavior was creativity, manifested in the magnificent cave depictions, sculptures, figurines, and the like. This was, and still is, regarded by many as one of the thresholds of human modernity: being "us" −AMH, as opposed to being "them"−the Neanderthals. The impact and relevance of the decorated caves could not be better phrased than in Pablo Picasso's legendary saying after visiting Altamira: "After Altamira, all is decadence."

Parietal cave art is one of the hallmarks of the Aurignacian culture, the prominent culture of the European Early UP. Clear signs of the existence of this culture were also found in the southern Levant, among other places, in the cave sites of Manot, Hayonim, Sefunim, Raqefet, Kebara, and others. The bearers of the Aurignacian culture in Europe and the Levant are thought to have shared the same socio-economic system, with connections between the two regions that were reflected in similar cultural complexes and perhaps even in contacts between populations (Goring-Morris & Belfer-Cohen, 2006; Tejero et al., 2016, 2021). Despite the great similarity between the Aurignacian culture in Europe and in the Levant, as of 2024 no parietal cave art has been found in the latter.

The European Aurignacian is dated to 42–33 ka calBP (Wood et al., 2014) and was probably created by AMH (Benazzi et al., 2015; Hoffecker, 2009; Teyssandier, 2023). The appearance of this culture corresponds to the beginning of the colonization of Europe by AMH and the disappearance of the Neanderthals (Djakovic et al., 2022; Zilhao, 2006). However, recent discoveries have revealed possible earlier waves of migrations of AMH to western Europe prior to the establishment of the Aurignacian culture by later immigrants to Europe (Mylopotamitaki et al., 2024; Slimak et al., 2022; Smith et al., 2024), and these early migrations might represent unsuccessful colonization attempts (Teyssandier, 2023). These early migrations to Europe are important to the case at hand, since the evidence shows that AMH arrived during cold intervals and shared habitats with local megaherbivores, including woolly mammoths and rhino (Smith et al., 2024). The archaeological evidence also shows that AMH, who originated in Africa, reached Europe in several migration waves through the Levantine corridor (Benazzi et al., 2011, 2015; Hoffecker, 2009; Hublin, 2015; Hublin et al., 2020; Mellars, 2006; Moroni et al., 2018; Tejero et al., 2021). Another migration wave, in the opposite direction (back migration) from Europe to the Levant, might be reflected in the similarity between material assemblages of the European Aurignacian and the Levantine Aurignacian (Bar-Yosef & Belfer-Cohen, 2010; Gilead, 1991; Kozlowski, 1992; Marder et al., 2021). This may be reflected in C14 dates which indicate that the Levantine assemblages might be later/younger than the European ones, dating to 38–24 ka (Alex et al., 2017; Belfer-Cohen & Goring-Morris, 2012; Marder at al. 2021).

Unfortunately, we know very little about the cultural manifestations of the ancestral population of AMH that migrated from Africa, and even its alleged presence in the Levant on its way to Europe, at Manot Cave, is exemplified in a single human calvaria, but with no associated artifacts (Hershkovitz et al., 2015). So we know close to nothing about these ancestral populations of AMH before they became Aurignacians in Europe (Teyssandier, 2023). Some have suggested that the Aurignacian might have its roots in the earlier Emiran and/or Ahmarian traditions of the Levant (e.g., Bar-Yosef, 2006; Hublin, 2015; Zilhao, 2013); however, these hypotheses are still under debate and are beyond the scope of this paper. In any case, we can speculate that while in Africa, AMH shared habitats with elephants, rhinos and other large herbivores that still roam the African landscapes today. When AMH reached the Levant at ca. 60–55 ka BP, these taxa were already long gone from the region (Dembitzer et al., 2021), and this was most probably a rather unpleasant surprise for these new African immigrants (e.g., Halfon & Barkai, 2020). Most interestingly, when AMH reached western Europe for the first time, they encountered these megaherbivores once again, and their encounters with woolly mammoths and rhinos might have had a profound effect on these new arrivals. The Aurignacian in Europe took shape alongside the gradual disappearance of megaherbivores from the continent, as these majestic animals became extinct in western Europe starting at 40 ka BP, in the framework of the Late Quaternary Megafauna Extinction (LQME) (Koch & Barnosky, 2006; Lemoine et al., 2023; Stuart, 2015). Interestingly, some early Aurignacian groups in

western Europe were still dining on mammoths (e.g., Niven et al., 2007), while most Aurignacian groups in western Europe subsisted on smaller game, mostly horses and deer (e.g., Grayson & Delpech, 2002). When the AMH Aurignacians returned to the Levant in the post 40 ka BP back migration, they were not at all surprised at the absence of megaherbivores, just as their ancestors experienced on their way to Europe. The Levantine Aurignacians subsisted mostly on the smaller fallow deer and gazelle (Clark et al., 2024; Yeshurun et al., 2021). These interesting human-fauna interactions will accompany us throughout this paper.

As stated above, the Middle Paleolithic-Upper Paleolithic (MP-UP) transition and the AMH colonization of Europe coincide chronologically with global cooling in the second half of MIS 3 (Banks et al., 2013). Simultaneously with the climatic changes, faunal changes reflected in the archaeozoological findings (Mellars, 2004) include, among other things, a reduction in the number of big game (megafauna) such as mammoths and rhinoceros (Stuart, 2015). These changes probably also necessitated changes in human adaptation strategies and in hunting methods and tools (Ben-Dor & Barkai, 2023). The European-Aurignacian is also characterized by the extensive use, relative to previous periods, of bone and antler material for the production of tools and body ornaments (Liolios, 2006; Tejero et al., 2016, 2018, 2021; Vanhaeren & d'Errico, 2006; Zilhao, 2007). Another important feature of the Aurignacian is the prominence of items defined as *art mobilier* and parietal art (Figs. 1-3) (Moro Abadía & González-Morales, 2013). Figurative parietal cave art is considered the highlight of Aurignacian creative expression (Clottes, 2008; Gonzáles-Sainz et al., 2013; Petrognani, 2015). Chauvet Cave in France is the most well-known of the caves where parietal art attributed to the Aurignacian has been found (Figs. 4-5; Clottes, 2008). About ten additional decorated caves are associated with the Aurignacian in France and Spain but also in northern Italy (Broglio et al., 2009; Floss, 2015) and Romania (Bednarik, 2022; Floss, 2015; Ruiz-Redondo et al., 2019).

Two main cultures are identified in the Early UP period in the Levant: the Levantine-Aurignacian, defined by Garrod (Garrod & Bate, 1937) and Neuville (1934), and the Ahmarian culture, defined by Marks (1981) and Gilead (1981). There are indications that these cultures

Fig. 1. A female figurine from the Hohle Fels Cave in Germany, made of mammoth ivory and dated to the UP Aurignacian (Courtesy Nicolas Conard).

Fig. 2. A mammoth figurine from UP Vogelherd Cave in Germany, made of mammoth ivory (Courtesy Nicolas Conard).

Fig. 3. A horse figurine from UP Vogelherd Cave in Germany, made of mammoth ivory (Courtesy Nicolas Conard).

Fig. 4. Jean Clottes at Chauvet Cave (Courtesy Jean Clottes).

Fig. 5. Chauvet Cave (Courtesy Jean Clottes).

might have partly coexisted (Belfer-Cohen & Goring-Morris, 2003).

The Ahmarian probably evolved locally in the Levant out of the Emiran MP-UP transition culture (Bar-Yosef & Belfer-Cohen, 2010; Barzilai, 2022; Douka et al., 2013), while the Levantine-Aurignacian culture apparently originated in Europe. From there it penetrated the Levant and existed alongside the Ahmarian (Bar-Yosef & Belfer-Cohen, 2010; Gilead, 1991; Kozlowsky, 1992).

The material similarity between the early Ahmarian in the Levant and the Proto-Aurignacian in Europe is the basis for the assumption that the bearers of the Ahmarian culture in the Levant are the creators of the Proto-Aurignacian culture in the Balkans, southwestern Europe and eastern Europe (Bar-Yosef, 2003; Hublin, 2015; Mellars, 2006). This wave of migration was preceded by a previous wave of migration of the carriers of the Emiran culture from the Levant to southern Europe, which probably served as the source of the European MP-UP transitional cultures: the Bohunician culture in eastern Europe and the Uluzzian culture in southern Europe (Benazzi et al., 2011; Hoffecker, 2009; Moroni et al., 2013, 2018).

The similarities between the European and Levantine Aurignacian stone and bone assemblages are of note (Tejero et al., 2016). Among the very few exceptions is the typology of the antler points: while split-base antler points serve as a *fossile directeur* for the European Early Aurignacian, the number of such points is negligible in the Levant (Bar-Yosef & Belfer-Cohen, 2010). As indicated above, the similarity in body ornaments offers further indication of close ties between the two cultures (Fig. 6), at least in the symbolic field (Tejero et al., 2021).

Thus, aside from the glaring lack of cave art in the Levantine Aurignacian, the similarities between it and its European counterpart far outweigh the differences. The close ties between the two cultures are clearly evident in (1) the great similarity in the lithic and osseous finds; (2) the great difference between the Levantine-Aurignacian culture and the Levantine culture that preceded and coincided with it—the early Ahmarian; (3) the great difference between the Levantine-Aurignacian culture and the following Levantine cultures—the Atlitian and Masraqan; and (4) the chronological order of the appearance of these cultures (Belfer-Cohen & Goring-Morris, 2012; Goring-Morris & Belfer-Cohen, 2006; Tejero et al., 2016, 2021).

Goring-Morris and Belfer-Cohen, two of the leading experts in the study of the Levantine Aurignacian, nicely illustrate the state of the art as

> …the fascinating phenomenon of the appearance of a geographically (and chronologically?) limited cluster of assemblages of the classic Aurignacian variety. These are so similar to assemblages from southwest France at the other end of the Mediterranean that one is tempted to view them literally as well as figuratively having just disembarked from the boat! They appear, 'out-of-the-blue', in the midst of other, endemic, Upper Paleolithic lineages (e.g., the Ahmarian) with few, if any, obvious ties to the preceding and succeeding Levantine industries. (Goring-Morris and Belfer-Cohen, 2006, p. 308)

Art in the Upper Paleolithic period and in the southern Levant (and why it is so rare)

Naturally, questions about why UP art came into being arose with the discovery of the first decorated caves. However, they remain largely unanswered to this day. We will not delve deeply into this widely discussed (and loaded) subject here, and only provide a short overview. Some of the leading hypotheses about the origin of UP art in western Europe in general and the origin of parietal cave art in particular are: art for art's sake, totemism, sympathetic magic, an anthropological-structuralist approach

Fig. 6. A horse engraved on stone from the UP Aurignacian level of Hayonim Cave, Israel (Courtesy Anna Belfer-Cohen).

claiming that binary symbolic oppositions underlie the cave depictions, shamanism, vision quests, pareidolia, art as a way of information exchange/storage, and territorialism, to name-drop the most common explanations (Barton et al., 1994; Clottes, 2016; Kedar et al., 2021). These hypotheses deal with the broad meaning of Paleolithic art and its contexts, but none was found to be satisfactory or agreed upon. Moreover, most of these lines of thinking are anthropocentric and centered around Western lines of reasoning (e.g., Brady et al., 2024), while we will adopt a more cosmos-centric approach and advocate for a relational epistemology (e.g., Barkai, 2021; Lucero, 2018; Bird-David & Naveh, 2008). Many scholars believe that deciphering the motivation behind these depictions and images is beyond our modern capability of understanding and must be rooted in the belief systems of UP AMH, which are hidden from us. The question of why parietal and mobile imagery flourished in a certain region—the Franco-Canterbury region—and at a certain time (the UP) remains unanswered. In a recent paper, two of us (YK and RB, Kedar et al., 2021) suggested, following a simulation of smoke dispersal in decorated caves, that penetrating deep, dark caves in order to create depictions with the assistance of torches or lamps must have led to oxygen depletion and an intentional state of hypoxia. Caves might have been perceived as portals to the underground, the source of plenty in earth and nature's womb (e.g. Bahn 1978), and the cave's walls acted as membranes between the here-and-now world and the underworld. We argued that in order to communicate with certain entities inhabiting the underworld, the end of deep dark caves had to be reached, and messages were depicted on the cave walls. This might have taken place following desirable hallucinations induced by hypoxia and sensory deprivation (Kedar et al., 2021). We will pursue further this line of thinking in this paper and do our best to explain the probable nature of the messages delivered by these creative expressions in their physical, environmental and spiritual context.

Although the origin of the Levantine Aurignacian is very likely in the European Aurignacian, the artistic flourishing that characterizes Europe is almost completely absent from the Levant. Prominent and unique findings of figurative art were discovered in Hayonim Cave, in Levantine Aurignacian layer D: two engraved limestone plaques, one of which is engraved with a probable horse figure (Fig. 6; Belfer-Cohen & Bar-Yosef, 1981). Other artifacts that are not figurative but are attributed symbolic meaning were found in the Levantine Aurignacian layers in Manot Cave and Hayonim Cave: male red deer canines made into pendants (Fig. 7), shells, and processing of gazelle bones and antler (Tejero et al., 2018, 2021). Another interesting find to be mentioned here is an unusual stone block found at the bowels of Manot Cave. Manot is a fascinating and impressive cave site (Figs. 8-9), and at the back wall of the cave an engraved stone block was found, its' shape resembling a tortoise. Unfortunately, this rare find has not been published in detail and is only mentioned in passing in several publications and presentations in conferences, suggesting it "may indicate an unusual example of ritual activity in the deep parts of the cave" (Frumkin et al., 2021:20). Following first-hand observations of this stone, we share the impression that it resembles a turtle leading us to tentatively conclude, that a human-made, turtle-shaped stone sculpture may have been placed at the end of Manot Cave. Although at the moment it cannot be securely dated, it might be added in the future to the short list of UP Levantine imagery items. The scarce inventory of art items from the southern Levant UP did not escape the experienced eyes of Belfer-Cohen and Bar-Yosef, who are the only scholars until now who asked the question: why are they so few? (Belfer-Cohen 1988; Bar-Yosef, 1997).

Bar-Yosef (1997) argued for social stress in the European UP, caused by climatic instability and resource depletion, while the Levant was much less constrained by these factors. While we agree with stress as an incentive, we will suggest another mechanism that is not solely based on human social relations. It is important to bear in mind that Bar-Yosef, as well as others, see art in a human-centered perspective, as a medium oriented towards enhancing group cohesion, marking group or personal identity, and/or resolving intra- and inter-group conflicts. We see art as a medium for communicating with the cosmos, and this will be elaborated upon later on.

Following Bar-Yosef (1997), Jochim (1987), and Mithen (1991), the Aurignacian in Europe was suggested to be associated with a cold, dry climate and the reduction of available resources. One way of dealing with such constraints was migration to areas of refuge where, for various geographical reasons, a relatively favorable climate was maintained that allowed continued human

and animal existence (Achilli et al., 2004; Bertran et al., 2013; Collins, 2012; French & Collins, 2015; Gamble et al., 2004; Jochim, 1983, 1987; Mithen, 1991). The area of southwestern France-northern Spain might have been the most likely refuge area for northern and central Europe during the UP (Jochim, 1983). The alleged migration to the Franco-Cantabrian refugium might have caused an increase in population density, which is expressed in various indicators: an increase in the number of settlements, the depth of the strata, and the density and variety of the lithic finds (Collins, 2012; Mellars, 1985). The resulting alleged demographic pressure (Bocquet-Appel & Demars, 2000; Collins, 2012; French & Collins, 2015; Jochim, 1983) might have brought about changes in subsistence economy (Jochim, 1983; Mellars, 1985), increased intra- and inter-group competitiveness (Collins, 2012), intensified social complexity (Mellars, 1985), and probably an increased anxiety level among individuals in the group via scalar stress (Conkey, 1985) and increased internal conflicts. In this kind of social situation, ritual-shamanic activity takes on added importance as a way to alleviate the newly created pressures, to resolve conflicts and to strengthen intra-group social cohesion (Dissanayake, 2001; Lang et al., 2020; Mellars, 1985; Nilsson Stutz & Stutz, 2022; Stein et al., 2021). Parietal and mobile art might have played an important role as part of this ritual activity (Barton et al., 1994; Conkey, 1985; Jochim, 1983; Lewis-Williams et al., 1988; Mellars, 1985; Mithen, 1991; Ross & Davidson, 2006).

Fig. 7. Perforated Red deer canines and bovid incisor from the UP Aurignacian level of Hayonim Cave (Courtesy Anna Belfer-Cohen).

The hypothesis linking the phenomenon of refugia with cave paintings and mobile art in western Europe during the UP cannot be applied to the corresponding period in the southern Levant. The UP climatic changes in the southern Levant were milder than in Europe. The reconstruction of the climate in Manot Cave during the Early UP indicates favorable conditions similar to the current climate, in contrast to the extreme climate fluctuations in Europe (Marder et al., 2017). Hence, the Levant lacks the primary climatic factor—prime mover—to drive the proposed social process that might have engendered parietal cave art in the European UP.

So, case closed? Not so fast. Indeed, climate matters, but resource depletion is not well- demonstrated for the European UP, apart from the extinction of large mammals, which will be discussed later on. Moreover, improved subsistence potential in the Levant in comparison with western Europe at the time was never indicated. Nor are climatic fluctuations new in the European Pleistocene landscape, as climatic cycles have prevailed for the last million years or so. So why art did not come about during earlier glacial cycles? And why did it begin specifically at around 40 ka? And why was it created so frequently in deep, dark caves? And why were specific images selected to be depicted? It seems that some pieces of the puzzle are still missing here.

Why do some hunter-gatherers not depict animals?

This intriguing question was dealt with by Bird-David in her seminal 2006 paper, and it touches upon some of the fundamental questions we deal with here. Indeed, among some contemporary as well as prehistoric hunter-gatherers (henceforth HG), we find no evidence of artistic expression at all, and for some in particular no depictions of animals. Why is that? For example, while contemporary HG groups in Australia and the subarctic express rich visual imagery, other HG groups in Africa and Asia produce very little, if any, elaborate visual art. This cautionary note is in order here, as the creation of animal images is neither a given nor a default in HG societies, and there should be a good reason for producing this kind of rich expression. However, we should also keep in mind that Bird-David's study, as well as the relevant studies by Ingold (2000) and Murphy (1999),

Fig. 8. Manot cave, Israel. A view towards the deepest parts of the cave (Courtesy Ofer Marder).

Fig. 9. Manot cave, Israel, during excavation (Courtesy Ofer Marder).

are centered around contemporary—not prehistoric—HG. We will try to apply some of the insights gained by these eminent anthropologists in order to shed some light on the depiction and lack of depiction of animals by Paleolithic HG. It is interesting to note that Bird-David focused her attention on 'immediate-return HG' (following Woodburn, 1980). This might be also relevant to Paleolithic HG. Nevertheless, researchers agree that the dichotomy between immediate and delayed return HG is not as sharp as originally suggested by Woodburn, and it is better viewed as a complex continuum between two ideal types (Bird-David, 2006). For example, it was demonstrated that delayed return was practiced as early as the Middle Pleistocene at Qesem Cave, Israel (Blasco et al., 2019), so Paleolithic HG were already demonstrating, in some cases, a departure from the strict immediate return scenario. In any case, Bird-David's (2006) and Murphy's (1999) observation that immediate return HG invested little in visual imagery holds true for most Paleolithic HG groups and highlights the particular and unusual case of the European UP. So, if you wish, the question shouldn't be why art was lacking in the Levant, but what made it appear and flourish in Franco-Cantabrian Europe.

The Nayaka, the HG group studied by Bird-David, conceived the cosmos as very local and intimate. Every Nayaka is engaged directly with the ancestors, and many adults in the community practice trance: they are not necessarily represented in this by a few powerful shamans (Bird-David, 2006). The Nayaka are guided by an animistic and relational epistemology that imparts significance to the meaning, nature and immediacy of their relationships. So trees, for example, may be animated, not animated, or treated as objects, depending on what actually happens between them and the Nayaka (Bird-David, 2006). Clearly, the lack of depictions has nothing to do with lack of technical skill. Might it be explained by changes that affected their traditional lifestyle, as they were forced to settle down and engage in wage gathering? Restrictions on hunting also meant that animals are no longer a primary caloric source for the Nayaka. Might this have contributed to their avoidance of depicting them? But in addition to not even depicting animals that still roam the landscape, such as elephants, they also do not depict trees or mountains, or even the unique practice of honey-hunting (Bird-David, 2006). Bird-David suggests that the Nayaka avoidance of imagery is ontological, rooted in how they perceive the world and their place within it. They see all beings as related members of a single community of sharing who should therefore never be depicted or objectified. (Bird-David, 2006). While Bird-David does suggest that HG who do depict animals perceive them differently than the Nayaka, she reminds us of Ingold's important remark that the purpose of the Australian and the circumpolar depictions is "not to represent but to reveal, to penetrate beneath the surface of things so as to reach deeper levels of knowledge and understanding" (Ingold, 2000, p. 130). So the case is not closed here as well. We concur with Ingold that animal depictions are neither representations nor objects to be observed. We do agree that ontology guides the decision whether to depict, and that the depictions themselves can only be deciphered in light of the creator's relationships with the depicted entities. Be that as it may, the available symbolic evidence hints towards a joint ontology of Aurignacian groups in Europe and the Levant, such that different ontologies cannot explain the absence of cave art in the Levant.

Human dependency on animal fat and meat

If climate changes or ontological differences don't explain the intriguing absence of cave art in the Levant, what about fluctuations in the animal populations themselves? Might the differences in prey size decline and extinction patterns in Europe and the Levant offer a clue? Paleolithic nutrition was based mainly on animal meat and fat (Ben-Dor et al., 2021), and archaeological sites bear evidence of wild herbivore exploitation for dietary purposes throughout the Pleistocene and until the advent of agriculture (Ben-Dor & Barkai, 2021,2024). This was true mostly the during Lower and Middle Paleolithic, when megaherbivores roamed the landscape, presenting the highest biomass density (Barkai, 2021; Ben-Dor & Barkai, 2020). We have suggested that plant consumption must have been minimal prior to the habitual use of fire (Barkai et al., 2017), and it rose only with the Late Quaternary extinction of megafauna some 40,000 years ago, and ever since (e.g., Kabukcu et al., 2023; Power & Williams, 2018). Fat and meat fueled human biological and cultural evolution, and the well-documented indigenous craving for fat and meat (e.g., Biesele, 1993; Tanner, 2014) is attested to at prehistoric sites worldwide by the ubiquitous presence of consumed prey and the emphasis on

fat extraction (e.g., Ben-Dor et al., 2011, 2016; Blasco et al., 2019; Boschian et al., 2019; Morin, 2020; Solodenko, et al., 2015; Speth, 2020). Fat and protein have been recognized as essential elements in the human diet during the Pleistocene (e.g., Bunn, 2006; Domínguez-Rodrigo & Pickering, 2017), with complementary calories obtained from vegetal sources (Hardy et al., 2015). Fat and protein from animal carcasses are a source of essential amino acids, minerals, vitamins and fatty acids (Friedman, 1996; Givens et al., 2006) that could sustain human groups for long periods (e.g., Guil-Guerrero et al., 2018; Gaudzinski-Windheuser, Kindler, MacDonald et al., 2023; Gaudzinski-Windheuser, Kindler, & Roebroeks, 2023). Fat is also the densest form of energy available in nature (Outram, 2002). Its taste, too, has been documented to be favored by humans (Reshef & Barkai, 2015). Among contemporary indigenous societies as well, fat is associated with extremely positive meanings like 'fertility,' 'sacredness,' 'wealth,' 'health,' a source of creation and life itself (Ben-Dor, 2015). Fat as a critical determinant in hunting practices is further acknowledged by Kelly (2013, p. 74), who concluded that "It may therefore be fat rather than protein that drives the desire for meat in many foraging societies."

Unlike vegetal food, fat was available year-round, with relatively little physiological limitations on its consumption, whereas protein consumption is limited by the ability of the liver and renal system to dispose of its by-products (Ben-Dor et al., 2011, 2016). Thus, humans can obtain only about one-third of their daily calories from meat (Speth, 2020). But accumulating evidence suggests biased population declines and extinctions of the large prey species that provided this fat before the well-studied Late Quaternary Megafauna Extinction (LQME). In East Africa, for example, large grazer species declined substantially one million years ago despite an increase in C4 biomass (Faith et al., 2019), and by the beginning of the Late Pleistocene, 125 thousand years ago, the mean body mass of terrestrial mammals in Africa was half that found on other large continents, with a long human presence on the continent posited as a possible cause (Smith et al., 2018). In the southern Levant as well, a dataset of 133 Paleolithic archaeological layers reveals a pattern of prey size decline from the Lower Paleolithic to the Neolithic, unassociated with climatic patterns (Dembitzer et al., 2021). The average weight of hunted animals was 2774 kilos in the Lower Paleolithic, 270 kilos in the Middle Paleolithic, 95 kilos in the Upper Paleolithic and only 45 kilos in the Epipaleolithic.

In the Levant, the disappearance of elephants at the end of the Lower Paleolithic triggered significant transformations in human biology and culture (Barkai, 2017; Ben-Dor et al., 2011), whereas the major decline in large megaherbivores occurred in Europe only at the end of the Middle Paleolithic and the UP, as part of the LQME (Barnosky et al., 2004). In archaeological sites from the UP Cantabrian Spain and southern France, for example, fluctuations in animal size between 45 and 35 ka BP can be identified, with a noticeable decline trend in prey size beginning at about 36 ka and continuing for a millennium (Fig. 10).

In southern France, fluctuations in the availability of large prey such as elephants, rhinos, and *Bos/Bison* (Fig. 11) are evident between the transitional Middle-Upper Paleolithic Chatelperronian and the UP Aurignacian. As the abundance of large prey decreased, smaller prey (such as different deer species) took their place, and humans slowly shifted their attention to what was now the largest prey available.

In the Levant, on the other hand, large prey such as elephants had already declined significantly or completely disappeared by the end of the Lower Paleolithic, with a similar decline in large bovids (*Bos/Bison*) at the end of the MP (Dembitzer et al., 2021). Thus, during the UP Aurignacian in the Levant there was already little room for major fluctuations in prey size as only small-medium herbivores persisted, in contrast to the situation in western Europe (Fig. 12), and humans were forced to adapt their hunting and processing strategies to obtain the fat they needed from smaller prey (see Ben-Dor & Barkai, 2023; Finkel & Barkai, 2021; Litov & Barkai, 2024 for a more comprehensive perspective on this subject).

Were past hunter-gatherers ecologically aware of the risk of prey population declines? Although we cannot know for sure, we do know that animal disappearance had profound spiritual and practical effects on past and present indigenous groups (Halfon & Barkai, 2020). Since these large animals were significantly depicted in parietal art and mobile imagery, we suggest that the different time and pace at which large, fat-bearing prey declined in Europe and the Levant might hold the clue to the differences in creative expression between these two

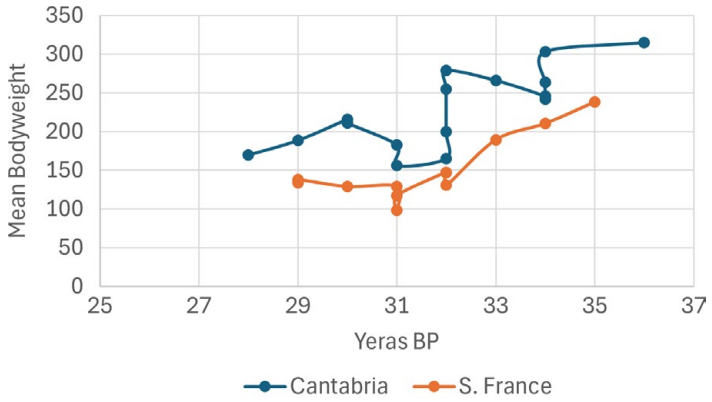

Fig. 10. Mean body weight of faunal assemblages (moving average of 4 sites). Data from Álvarez-Lao & Méndez (2016). Raw data of all three tables is stored in the Mendeley Digital Commons Data repository and can be accessed via https://data.mendeley.com/datasets/95wtktddt7/1.

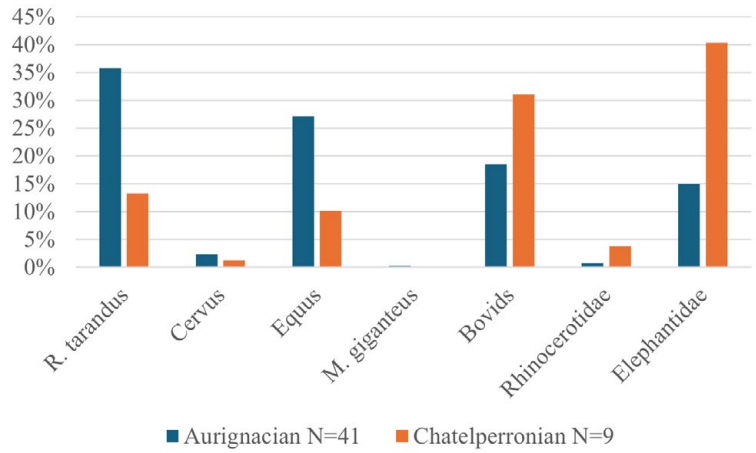

Fig. 11. Relative biomass contribution of prey species in the Middle Paleolithic Chatelperronian assemblages compared to the Aurignacian assemblages in southern France. Data from Grayson and Delpech (2006), adjusted for body weight.

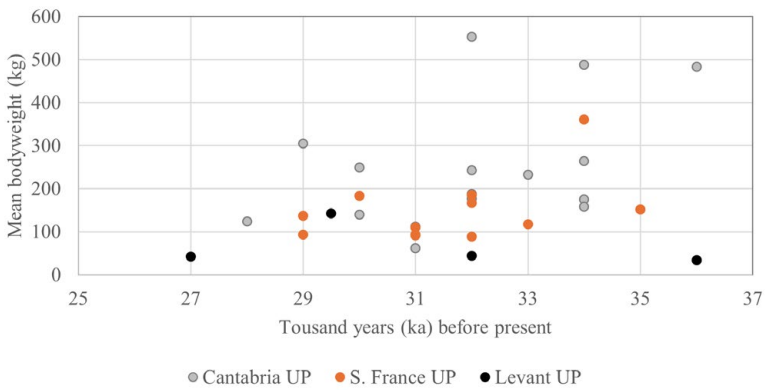

Fig. 12. Mean bodyweight of faunal assemblages in Cantabria, southern France, and the Levant during the UP. Data from Álvarez-Lao and Méndez (2016) and Dembitzer et al. (2021). The average mean body weight of the assemblages in Cantabria is 273 kg, in southern France 249 kg, and in the Levant only42 kg.

UP Aurignacian sister-populations. If we understand cave depictions in light of human-animal relationships, we can follow this clue to the ontological and cosmological realm, as will be discussed next. Several elements viewed together lead us to this realm: our belief that the depictions of animals were neither straightforward representations nor directed towards any practical goal (e.g., sympathetic magic/hunting or the transfer of knowledge), the fact that many of them were accompanied by a plethora of geometric signs and in some cases handprints, and the fact they were often executed in the darkest depths of the cave.

Ontology and cosmology of human-animal relationships

> *What is a man without the beasts? If all the beasts were gone, men would die from great loneliness of spirit, for whatever happens to the beasts also happens to man. All things are connected. This we know. Whatever befalls the Earth befalls the sons of the Earth. Man did not weave the web of life; he is merely a strand in it. Whatever he does to the web, he does to himself.*
>
> —Chief Seattle, 1855

Creation myths characterize every human group living on the planet. All people are curious about the creation of the cosmos, the way it operates and their role within it. This is nothing new, and we work under the assumption that these primordial beliefs regarding the creation and operation of the world were also shared by our Paleolithic ancestors. Early humans were not motivated by practical constraints alone. They were guided by some kind of belief that directed them towards phenomena that they could not explain. These beliefs are characterized by archaeologists as "symbolic", "ritualistic" or "ceremonial." Although evidence of such beliefs in early Paleolithic times is rare, we can cite examples such as the production of Lower Paleolithic handaxe replicas made from elephant bones (Barkai, 2019, 2021); shell engravings by *Homo erectus* (Joordens et al., 2015); the Berekhat Ram figurine (Goren-Inbar, 1986; d'Errico & Nowell, 2000); the removal of feathers and collection of colorful pebbles at late Lower Paleolithic Qesem Cave (Assaf, 2018; Blasco et al., 2019); and the unusual actions of Neanderthals, such as creating the round speleothem structures in the bowels of Bruniquel Cave (Jaubert, 2016); collecting bovid skulls at Cueva Des-Cubierta (Baquedano et al., 2023); retrieving fresh shells by diving into deep water (Villa et al., 2020), the use of lion pelts (Russo et al., 2023) and feathers and talons of birds of prey (e.g., Finlayson et al., 2019; Romandini et al., 2014); climbing a volcano soon after it erupted (Panarello et al., 2020) (and see a recent summary of spiritual and symbolic activities by Neanderthals in Jaubert et al. ,2022). We suggest seeing all these extraordinary activities as liminal, as representing early human belief systems and ways of communicating with the cosmos (see more detailed accounts in Barkai, 2021 and Kedar et al., 2021).

We prefer to describe the belief system of animistic HG groups as ontology and cosmology. Cosmology refers to the set of beliefs and worldviews of a certain culture regarding the structure of the cosmos, the connections between its parts, and creation stories that describe its origins (Reichel, 1999; Ingold, 2000). Ontology refers to a theory about the world, the way the group sees the world and the place of humans within it, including the relationships that exist between all the entities that make up the world (Kohn, 2015). According to Descola (2014), there are four types of ontologies in human society. In the animistic ontology, which describes many indigenous societies, humans endow various elements in their surrounding world (animals, plants, stones, spirits, rivers, etc.) with subjectivity. Humans and these entities are inwardly similar and differ from each other only externally (Descola, 2014). Different types of relationships can exist between humans and these entities, and communication between them ensures the proper functioning of the world. Such a view departs drastically from the Western view, which posits a clear dichotomy between the human and non-human, and between culture and nature, and is characterized by strong anthropocentric thinking (Boyd, 2017). We see indigenous animistic ontological and cosmological worldviews, past and present, as being deeply rooted in traditional lifeways, dictating mundane as well as sacred aspects of life. The idea that humans share the world with other-than-human persons, i.e., potentially capable of thinking, feeling, and decision-making, can be found among many cultures in various times and places. Humans in animistic

HG groups are thus expected to live side by side with these other entities, maintain good relations with them, and pay them respect in order to nurture the world and ensure world order, well-being, and balance (again, see an elaboration of this line of thinking and detailed references in Barkai, 2021 and Kedar et al., 2021). Might parietal art also be seen in light of these ontological and cosmological beliefs that led humans to depict animals in the depths of caves?

Animals, naturally, are the closest ontological counterparts of humans in such societies. However, we emphasize that in animistic ontologies, the idea holds true for any entity with whom humans share the world, be it stone, water, trees, and so on: all have equal potential of becoming a counterpart to humans, dependent, of course, on the nature of relationships between the two. A wonderful demonstration of this worldview can be found in Arthur's work amongst animistic groups in Ethiopia, where stone is regarded as alive, shares the same life cycle as humans, and is treated with respect (Arthur 2018, 2024).

Regarding human relationships with animals, we are very fond of the way these are presented by Porr (2010), and will end this section with two citations from his work, as we feel it to be the best possible reflection of our perspective:

> The relationship between animals and humans is usually described within a 'confrontational' and competitive framework in which the hunter is said to act against the animal. The animal plays the role of an opponent that constantly aims at escaping and evading the hunter. Consequently, relations between animals and humans are presented as 'problems-to-be-solved' and sometimes the development of human intellectual capacities are modelled to make this problem-solving process ever more effective. In this contribution, I assume that this view is most likely wrong….. Briefly, for hunter-gatherers the natural environment is seen to be peopled by human-like relatives who share food with its inhabitants. It is a giving environment which provides for their needs. They conceive themselves to be part of a cosmic system of sharing. They relate in this way to the natural environment as and because they hunt and gather within it, and vice versa. (p. 148)
>
> The world in which the hunter lives and with which s/he interacts is not a 'passive container of resources'. The environment is seen as saturated with individual powers and subjects. 'It is alive'. Humans have to maintain good relationships with these powers in different ways: In many societies, this is expressed by the idea that people have to look after or care for the country in which they live, by ensuring that proper relationships are maintained. (p. 149)

DISCUSSION AND CONCLUSIONS: *CHERCHEZ LA MAMMOTH* (LOOK FOR THE MAMMOTH)

> *As the infant is linked to its mother in a profound participation mystique, even to such a degree that it will absorb, and thus inherit, her tensions and anxieties, so has mankind been linked to the moods and weathers of its mother Earth.*
>
> —Joseph Campbell, *The Way of Animal Powers*

Werner Herzog, the famous German filmmaker, named his movie about Chauvet Cave "Cave of Forgotten Dreams". Indeed, a perfect name. Dreams are alternative states of consciousness, other than the ordinary, daytime consciousness. Dreams can be pleasant or horrific, and everything in between. Dreams can reveal desires, fears, anxieties, and hidden realms of reality. Dreaming is universal among humans, and accumulated evidence shows that even animals dream. Were our ancestors dreaming? Probably yes. Are the depictions on cave walls related to altered states of consciousness? Why not? Reality affects consciousness, and the subconscious might uncover hidden concerns, struggles and conflicts. Early humans were intimate with the world they lived in: with every stone, every animal and every tree in their habitat. They must have been sensitive to changes in the landscape, in animal and plant communities, in the stars above. They were

dependent on what the earth supplied, and trusted the cosmos to provide them with their needs. And indeed this system worked beautifully for hundreds of thousands of years, if not more. Beautifully, but not without worrisome signs, especially with regard to the element humans were mostly dependent upon – animals. Large animals disappeared and/or declined from every place on earth where people set foot. Be it America, New Zealand, Australia, Asia and even Africa, everywhere humans interacted with large animals the scenario ended with a reduction in the number of species or complete extinction of the large prey. And early humans must have noticed that. They might even have realized they had something to do with it. This is a good reason for having nightmares. A recent paper describes an engraving of a headless woolly rhino from a late UP hunting camp in Germany (Richter et al., in press), documenting the last sighting of a woolly rhino by humans before rhinos became completely extinct in Europe. This engraving is no coincidence. We suggest that the disappearance of rhinos had a profound effect on humans, and this they depicted in stone. When the ancestors of the Aurignacians left Africa some 70–60 ka years ago, they still witnessed elephants and rhinos roaming around. When they reached the Levant, some 60–55 ka years ago, they encountered a much different animal community, as these megaherbivores were long gone from the region and only smaller herbivores persisted. They were plentiful enough to make a good living, but the absence of the very large prey was surely noticed. As they continued their journey to Europe, the ancestors of the Aurignacians met again the giants of the earth in the form of woolly mammoths and rhinos. This must have been a wonderful surprise. As they finally settled in Europe and transformed over time into what we call Aurignacians, they began to witness the decline and disappearance of megaherbivores in the framework of the LQME. Again, it possibly had an impact on their consciousness, and this might have compelled them to penetrate deep, dark caves in order to depict these animals and geometric signs. As portals to the underworld, the place of plenty and the origin of all goods on earth (for details and references see Kedar et al., 2021), caves are the ultimate location for the expansion of consciousness, as they provide a very different environment from that of the world outside and an extraordinary sensory experience (Lewis-Williams, 2002). Hypoxia, one of the many altered states of consciousness, might have been induced by the oxygen depletion caused by using fire in deep, dark caves to light the way. We previously suggested that early humans deliberately penetrated deep, dark caves for this very reason (Kedar et al., 2021). We believe they did so in order to get in touch with the entities beyond the wall of the cave, beyond the membrane that separated the here-and-now world from the netherworld. Animal depictions were made on the membrane in order to convey a message, to spell out the anxiety, to express the stress caused by the disappearance of their favorite prey and counterpart: a message to the cosmos that shows that humans care, that they have taken notice of the imbalance in the world, the lack of harmony for which they are partially responsible. These insights might have appeared in their dreams, and they choose to depict them on the cave's walls as a message to the other entities inhabiting the cosmos. The geometric signs, as suggested by Lewis-Williams and Dowson (1988), might be considered as entoptic images, images seen in a vision during consciousness expansion, before familiar images start to appear. To put it all together as a package: the cave as a context, the wall as a membrane, the geometric motifs and the prevalent animal depictions, were all part of a consciousness-expanding experience intended to communicate with the cosmos in times of need, trouble and dispare. And this is, as we see it, the UP European story. But what about the Levant? After the Aurignacians established themselves in Europe, they migrated back to the Levant some 40 ka years ago. As they had been there previously, they were not surprised to encounter only medium and small game. The shocking disappearance of megaherbivores had already taken place in the Levant hundreds of thousands of years earlier, at the end of the Lower Paleolithic Acheulian, and human witness of this event might be reflected in significant consciousness-based as well as practical manifestations evident at Qesem Cave, for example (e.g., Barkai, 2017, Ben-Dor et al., 2011, Blasco, Rosell, & Arilla et al., 2019; Blasco, Rosell, & Sanchez-Marco et al., 2019). But by the UP all this drama was long gone from the Levant. So why did the Aurignacians not create cave paintings in the Levant? Simply because they had no one to communicate with or were not experiencing the distress and upheaval that would have given rise to art.

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PONDERING PREHISTORY
Respondents: Comment on Barkai et al.

Intention, Choice and Agency

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I begin my commentary by acknowledging that I am not an expert in the archaeology of the southern Levant and cannot comment on the data regarding antiquity of migration patterns. Instead, my interest in the article is conceptual, and what the ideas raised by Barkai et al bring to considerations of absence in archaeological contexts.

Absence, as an interpretive framework, is steadily increasing in its usage to try and understand rock art in a wide range of settings. Typically, absence-based studies in rock art contexts occur at a small-scale, on specific motifs or stylistically similar groups of motifs. For example, my introduction to contemplating the meaningfulness of absence came during my PhD studies where I researched the rock art from the Torres Strait islands in far northeastern Australia in the context of interregional interaction. Here I recorded the absence of European watercraft, a curious omission given that Torres Strait islanders first encountered European ships nearly 400 years ago and archaeological and ethnographic data show that rock art was being made during this time. Furthermore, the region was a 'highway' to and from the rapidly expanding British colony on Australia's east coast so there would undoubtedly have been increased interaction with European vessels. Reflecting upon this absence was my *expectation* to find this class of rock art but failing to do so. This situation was frustrating but, much like Barkai et al have done, created an avenue for deeper contemplation. In my case, the clue lay with ethnographic data that revealed an apparent epistemological and ontological congruence between Islander and European watercraft. Painted canoes were identified as spirit canoes ferrying the spirits of the dead to the land of the dead, while European watercraft were metaphysically and conceptually different to Islander canoes and therefore fell outside of the representational genre of watercraft depictions (Brady and McNiven 2022; see also e.g., Brady et al 2024; May et al 2021). The Barkai et al article is much different from this type of study, it is macroscale in nature, spanning a massive area of land – the southern Levant and much of continental Europe. To attempt such a study at a such a time depth is impressive and bold yet steeped in challenges.

Overall, I believe the argument has merit, using a relational approach that brings together various lines of evidence (ritual and altered states of consciousness, other-than-human entities, human-animal relationships, megaherbivores, climate, fear, migration, diet etc.) to provide a compelling story about why such a large swathe of a landscape is devoid of Upper Palaeolithic rock art. It is a story of epic migrations and encounter, from anatomically modern humans leaving Africa where megaherbivores existed, to the southern Levant where these animals were no longer present, to Europe where they were still present but in declining numbers and thereby becoming the focus of intimate human-animal relationships that resulted in their depictions on cave walls and reflecting the artists' needs and fears to other-than-human entities to help prey-driven anxiety. The back-migration through the southern Levant around 40ka years ago led to a re-encounter with a landscape already devoid of megaherbivores and therefore no longer a need by humans to communicate with the cosmos through to rock art, and hence the absence of Upper Palaeolithic rock art here.

The most visible issue is taphonomy, it inevitably creeps into any consideration of absence with processes

such as granular disintegration and microerosion, and the influence of geological substrate in terms of preservation. Taphonomy can also be related to cultural understandings. I recall a moment when my western scientific understanding of taphonomy was challenged. In this instance, my colleagues and I were directed by a senior Yanyuwa Aboriginal woman to record a painting of a donkey she remembered seeing on an offshore island in the 1950s. Donkeys are an introduced animal in Australia so could only be around 200 years old. Yet our surveys failed to find it. I suggested its absence was related to its deterioration through the harsh coastal environment including regular exposure to cyclonic activity, but she said it was because Yanyuwa people rarely visited the island anymore so the spirits who inhabited the island were sad at this state of affairs and "took it away" (Brady 2020). While such an other-than-human scenario is nearly impossible to substantiate for the time depth Barkai et al are working at this example shows that nothing, including taphonomy, is as it seems.

Barkai et al's reference to emotions such as fear, anxiety and distress as prompts to communicate with the cosmos are equally interesting to consider as evidence of past human behaviour. These concepts, in the context of creative bursts designed to reference times of trouble, fear etc., do not feature heavily in archaeological discourse yet are pivotal to their argument. As mentioned, the narrative Barkai et al have constructed places a significant emphasis on encounters with animals (or lack thereof), other-than-human entities etc. Each of these encounters can be understood as having a corresponding affect. Anthropologists Kathleen Stewart and Elizabeth Lewis (2015, p. 239) describe affect as "a lens for approaching social worlds and lived experiences as ongoing processes, highlighting partiality, flux and contingency". In the case of European Upper Palaeolithic Aurignacians, their social world was becoming anxiety-ridden, the declining prey species was a significant threat to their existence and therefore had to be solved, in this instance through traveling to a cave and the membrane between the living and the cosmos. Such scenarios are not unheard of. For example, in Australia, fear of, and anxieties around Europeans and Aboriginal Native Police (a government initiative for Aboriginal men to act as "policemen") resulted in Aboriginal artists creating sorcery paintings designed to kill them (Trezise, 1971). This ritual response is heavily embedded in fear of the "other" yet also in the solvability of a crisis.

So, how else can we take this case of absence further? Could it be framed as an archaeology of choice? Is the absence of rock art an example of intention or agency or something else? In 2004, a special issue of the *Cambridge Archaeological Journal* asked, "Can archaeology recover past intentions?" In this issue, Bruno David (2004:68) noted that "[i]ntentionality concerns a person's conscious awareness – they *mean* to do something. The intention towards an outcome concerns the active and conscious reflection of the work of something, prior to its eventuality." He further noted that, "[w]hat we need to get to intention, as an act of conscious choice – and in doing so, approach an archaeology of agency – is evidence of 1) choices made from a range of possible alternatives; or 2) how people's actions transcend the social normative… for such actions signal decisions made beyond the established alternatives." (2004:68).

In Barkai et al's article, by suggesting that people made a choice not to bother with attempting to try and a communicate with the cosmos to express concerns about prey vulnerability by producing rock art – is this simply a defeatist stance? Did the artists choose not to exert their agency, not to impact the world through intended actions simply because of prior experience with failure to communicate with the cosmos to recover prey species? Or, was this a conscious intention? The question that comes to mind then, is what other choices would artists have had in terms of their graphic system? It seems unlikely that an entire parietal and portable graphic system would cease simply because of a lack of megaherbivore prey. Perhaps then, where else could artists channel their efforts now in terms of communicating with the cosmos and in what contexts? If reciprocity is a goal of communicating with the cosmos, one wonders if people could channel their efforts to other forms of symbolic communication.

These are all difficult questions to answer but what is apparent here is that absence is more than just an observation, it is something that requires deeper contemplation to make them more meaningful in our interpretations of the deep and recent past.

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