

THE ORIGINS OF HUMAN VISUAL CULTURE: A THREE-STAGE HYPOTHESIS FROM BABBLE TO CONCORDANCY TO INCLUSIVITY

Abstract

Palaeolithic 'art' is usually characterised as reflecting the overwhelming importance of depictions of prey animals. This is true for the period < 30,000 BP, but it is now clear that a very long period of non-figurative imagery preceded this, created by both Neanderthals and Upper Palaeolithic *Homo sapiens*. While much discussion of 'cave' and 'portable' art has focussed on the emergence of symbolism, this has largely restricted our understanding of the emergence of art to a 'you either have it or you don't' conclusion. Here, I forward a three-stage hypothesis for the long-term emergence of human visual culture. Arising through body gesture and ornamentation, the first phase saw the use of colourants and personal ornamentation directly on the body; the second arose out of this, with extension of parts of the body onto the physical landscape and small objects held close to it by Neanderthals and probably the earliest *Homo sapiens* groups in Europe. Finally, figurative art emerged in or by the 37th millennium BP in Europe, possibly earlier in Indonesia, and drew on visual psychology for several of its characteristics.

Keywords

Palaeolithic art, Neanderthals, Upper Palaeolithic, visual culture, Gravettian

THE ANIMAL INSIDE US ALL

Palaeolithic visual culture is usually caricatured as reflecting the total dominance of representations of gregarious prey animals, at least on the basis of European Upper Palaeolithic rock and portable art. It certainly was for the last 30,000 years of the Pleistocene, to which our record of figurative art is currently restricted. It is easy to see why. Even our modern, urban visual worlds – at least those of imagination, entertainment, aesthetics, and more dubiously advertising – are dominated by animals and human-like animals, which, used in advertising, can sell things far better than their human counterparts (McCutchen, 2005; Spears and Germain, 2007). As much of our evolutionary history was spent as hunter-gatherers dependent on the procurement of animal prey, we can justifiably assume that our psychology has been shaped by the wild animals which we ate, which ate us, with which we competed for resources critical to survival as our brains evolved, and in some cases with which we evolved sympatric relationships that resulted in their (and our) domestication. We cannot escape our co-evolved animal origins.

Archaeologically, the centrality of animals to our visual worlds is apparent as soon as figurative art appeared among Upper Palaeolithic *Homo sapiens* hunter-gatherer groups by 40,000 years before present (henceforth BP) in Sulawesi, Indonesia (Aubert et al., 2014, 2019), and somewhere between the 39th and 37th millennia BP in Europe (Conard, 2009; Conard and Bolus, 2008; Kind et al., 2014, Floss, 2018). In Palaeolithic terms the appearance of figurative art was, however, apparently recent. On current evidence it seems that it was preceded by a long period of non-figurative visual culture, which is well documented from

~ 100,000 BP, but evident in places up to 400,000 years beforehand, revealing a long use of material adjuncts to visual culture among various archaic human and early *Homo sapiens* groups in Africa and Eurasia. Hence while it is understandable that when human groups sought to represent things fairly accurately they chose animals as their subjects, when we want to understand the *emergence* of human visual culture we need to look at another set of material entirely. I will explore this issue here, asking how and why non-figurative art emerged first, and why figurative representations of animals emerged, and why this was relatively late. Animals are central to such a task.

THE PROBLEM WITH 'MAN AND HIS SYMBOLS'

Unlike the zooarchaeology that Elaine and Martin have made such a strong contribution to, with its precise terminology and methodology, the study of Palaeolithic visual culture is replete with ambiguity (I myself will toggle here between the terms 'visual culture' and 'art'). This is not simply a semantic issue. Palaeoanthropologists have often equated 'visual culture' with 'symbolism', a poorly-defined component of perceived 'modern human' cognition, itself ill-defined and overly-broad. The search for a fully 'symbolic capacity' has become an integral part of research into the emergence of *Homo sapiens*, in a paradigm in which material culture has been seen as having become increasingly important as a means of storing and communicating information about the world. Surprisingly, the specific form and content of Palaeolithic art has often been overlooked in this 'tick box' approach to palaeoanthropology; instead, its presence is simply noted, as an indicator that its producers had a symbolic capacity from a certain point in Pleistocene time within a fundamentally progressivist approach to the archaeology of human origins.

Symbols – or a vague notion of them – have become the icons of the secular cult of progressivism that palaeoanthropology is to many people, particularly the media. From this viewpoint we are bound to judge Palaeolithic visual culture as either having been 'successful' (in that it was 'symbolic', and hence, 'modern' in hindsight) or not (in that it displays no signs of 'symbolism' that are obvious to us, and is, therefore, 'archaic'). Research into the emergence of visual culture has, therefore, too often been reduced to an 'either/or' test – you either have it or you don't – and with such perspectives there is very limited scope for nuance, particularly as to how variable forms of visual culture are in the animal world and how a more distinctly human visual culture might have emerged from that. As one primatologist succinctly observed "the human tendency to consider ourselves the 'crown of the evolutionary chain' has regularly prevented us from looking at animals in an unbiased way and has favoured simplistic criteria to define our own superiority" (Boesch, 2012: 21).

There is nothing fundamentally wrong with the observation that symbolism was a central aspect of the cognitive ability of *Homo sapiens*, or that its appearance seems to have been gradual rather than abrupt. For example, "Several scholars view the accumulation of *markers for modern behaviour* as gradual during at least the Upper Pleistocene, if not since earlier times" (Bar-Yosef, 2002: 365, my emphasis). But implicit in such observations is the notion that if 'modern behaviour' can be reduced to anything, it must be equated with symbolism: "We agree that modern behaviour has symbol use at its core" (Nowell, 2011: 20) and "symbolic actions such as burial of the dead, production of personal ornaments and 'art', and the use of ochre for decoration are further often cited traits for identifying *modern behaviour*" (Henshilwood and Marean, 2003: 628, my emphasis). More specifically, "the earliest figurative art [...] is often seen as an important proxy for *advanced symbolic communication*" (Conard, 2009: 248, my emphasis). The problem lies in what is ignored in such treatments. At what point does visual gesture or material culture cease to

be ‘advanced symbolic communication’? Does chimpanzee vocal communication about direction of travel which affects the behaviour of individuals out of sight of the vocaliser, the recognition of the skulls of their dead kin by elephants, the waggle dance of a bee to indicate the availability and location of water and food, or air rings blown by dolphins as part of complex play routines qualify as ‘advanced symbolic communication’?

In fact, when we examine the vast evidence for communication in the animal world, it is evident that our use of Palaeolithic visual culture to make inferences about the origins of visual worlds and ‘modern behaviour’ has been simplistic in the extreme. If we find an object in the archaeological record that we can see functioning as part of complex systems in the present – shell jewellery for example – we tend simply to assume through some uniformitarian principle that the same complexity was at work in the past; “it is tempting to assign complex meaning to ornaments because of their universal connection to visual communication among recent cultures. Interpretations of Palaeolithic ornaments are greatly limited, however, by the disorder in which archaeologists normally find them” (Stiner et al., 2013: 396). As a result, our conclusions are so generalised they have little meaning. Archaeology is by its very nature almost entirely visual; if we were to focus on *audial* culture, however, the shared intra-pod calls (linguistic dialects), community-specific greeting rituals, and click-greetings learned by imitation in socially stable cetacean groups – “cultures that closely parallel those found in chimpanzees and humans” (Rendell and Whitehead, 2001: 320) – would lead us to conclude that several taxa of whales and dolphins were ‘behaviourally modern’, a somewhat pointless conclusion.

A further question arises as to what functions this ‘symbolism’ evolved for. Among palaeoanthropologists it is implicitly assumed to have been a means of social communication, facilitating the maintenance of larger, more widespread and more integrated social groups than could be maintained with non-symbolic communication. For example, engraved eggshell containers from Diepkloof rockshelter in South Africa “provide unequivocal evidence for the existence of *symbolically mediated social behaviour* and the development of a *behaviourally modern system* by 60,000 years ago” (Texier et al., 2010: 184, my emphasis). The potential pitfall is that acts which are potentially simple both conceptually and physically are taken to be indicative of some great cognitive achievement, hence the mere presence of pigments and simple pendants of shell, bone and teeth on an archaeological site are taken at face value to be complex symbols. Here is an example: “evidence [...] suggests that some Neanderthals buried their dead with grave goods [...] and developed personal symbols (including manganese oxide pigments and pendants made from animal teeth). They apparently also used plants with medicinal properties” (Stringer, 2013: last accessed 25.05.2021). None of this may be incorrect, but neither does it necessarily indicate that all Neanderthals were artists and physicians with beliefs in an afterlife.

Three decades ago, a physical anthropologist suggested that “palaeoanthropology should aim at increasing its theoretical content by reducing the list of qualitative human uniquenesses [...] eliminating it altogether if possible” (Cartmill, 1990: 173). It is a shame that so few specialists have taken up this perceptive challenge. We do need to try to nuance our understanding of the earliest material examples of visual culture with such caveats in mind, and to take as broadly contextualised an approach as possible. After all, archaeological perspectives on visual culture should deal with the relationships between people, things and ideas, and not just images (Janik, 2020). I will now use data on the great apes to consider what aspects of visual culture might have been innate or at least unsurprising to early human groups, then proceed to explore the archaeological record for how early visual social worlds may have functioned. Beginning with the long phase of non-figurative art that preceded a relatively widespread and rapid adoption of figurative art by *Homo sapiens* during the Late Stone Age of Africa and Eurasian Upper Palaeolithic I finish with an examination of some of the characteristics of the earliest figurative art.



Fig. 1 La Pasiega cave, Spain. Non-figurative cave art of *Pre-Homo sapiens*, presumably Neanderthal manufacture: rectangular 'scalariform sign' created by linked finger dots. Images around this that are not dots were added much later, during the Upper Palaeolithic. U-Th dating indicated a minimum age of 65,000 BP obtained on flowstone sampled at the figured location. – (Photo: U-Th cave art dating team, Hoffmann et al., 2018).

PALAEOLITHIC VISUAL CULTURE

Humans evolved as visually-centric beings: 80-90% of information about our surroundings derives from our eyes (Griefahn, 1996, cited in: Pastoors and Weniger, 2011: 381). We experience the world as an abundance of colour (in reality differing wavelengths of light), and the colour of the objects around us conveys information about them that can be considered to have been evolutionarily advantageous to humans who were evolving as diurnal animals (Foley, 1987). Without colour, for example, it is difficult to discern ripe from unripe fruit, edible leaves from dead ones, or prey animals from their background landscape. Although differences in illumination will affect the hue, saturation and brightness of colours, it does not prevent the identification of basic colours, which remain constant (Jameson and Hurvich, 1989: 7).

Visual culture functions not as sets of static images but as a dynamic form of action (Gell, 1998). Indeed, as it seems to have emerged on the human body, which by its very nature is a moving thing, and was then extended to small, movable objects associated with the body, and finally, to fixed points in the landscape where the fluctuating light available often animated it, we should begin with the perspective that visual culture emerged not as static material culture but as a moving, changing thing. I will return to this char-

acteristic below, but for now I want to focus not on its form, but on how random marking of the body evolved into an understandable means of cultural transmission in the visual sphere. As a working (and, I hope, falsifiable) hypothesis I conclude that a long phase of individually unique body gestures and markings, which I term *babble* (for reasons I explain below) preceded the social 'gathering up' of such markings into coherent group traditions by both Neanderthals and *Homo sapiens* from at least ~100,000 BP. I follow a basic hypothesis that visual culture originated as body decoration, became extended to small, portable objects associated with routine tasks close to the body some time prior to 500,000 BP (a peripersonal phase), and finally to the fixed, external landscape (extrapersonal phase), over the period by or around 100,000 BP (Hodgson and Pettitt, 2018).

Today, we have a broad understanding of how visual culture emerged and evolved during the Palaeolithic (e.g., Delluc and Delluc, 1991, 2009; Ripoll López et al., 1999: 73; Pettitt and Pike, 2007; Gárate, 2008; Pike et al., 2012). Earliest examples, dating to at least 64,000 BP and assumed to be the product of Neanderthals, consist of finger dots (Fig. 1), hand stencils (Fig. 2) and colour washes (Fig. 3) in deep caves, i.e., beyond the zone of natural light (Hoffmann et al., 2018). By at least 40,000 BP in Indonesia, and at least 37,000 BP in Europe, these markings of the body were first complemented and gradually replaced by figurative art. The earliest European Upper Palaeolithic (Evolved Aurignacian: ~37,000-31,000 BP) figurative art took the form of simple animal outlines possibly restricted to the walls of rockshelters rather than in deep caves, and of a small number of three-dimensional carvings of mammoth ivory and bone, particularly in southwest Germany (Floss, 2018). It is only with the Mid Upper Palaeolithic Gravettian: ~31,000-22,000 BP that one can see both a numerical increase in the amount of figurative art, and the earliest convincing evidence of the creation of figurative art in deep caves. Among the latter, regional clusters that can be distinguished on the basis of style can be identified, such as the caves of the Quercy in southwest France including Pech-Merle and Cougnac (Lorblanchet, 2010). With the possible (and in my opinion unconvincing) exception of paintings in Leang Bulu' Sipong 4 cave in Indonesia (Aubert et al., 2019) it is only from this time that true compositional scenes and a high degree of naturalism are common, in which animal figures have risen to prominence. By the Late Upper Palaeolithic (Solutrean, Badegoulian and Early, Middle and Late Magdalenian: ~22,000-13,000 BP) – to which the majority of surviving Upper Palaeolithic art dates – considerable complexity of production, compositional scenes displaying perspective and movement, high-relief sculpture, and the great polychrome paintings of Lascaux, Altamira and elsewhere are evident. Surprisingly, the development follows closely the chronological schemes proposed by Breuil (1952) and Leroi-Gourhan (1968) on the basis of style and a limited amount of relative data (e.g., superimpositioning) and in the absence of absolute chronology.

THE ORIGINS OF VISUAL CULTURE: PERSONAL HABITS TO CONCORDANT VISUAL CULTURE; BABBLE TO CONCORDANCY

Whatever the specific terminology one uses, the cognitive evolution of *Homo sapiens* probably involved the development of an 'autobiographical self', in which individuals conducted an internal dialogue with themselves, and by so-doing numerous potential behavioural scenarios could be evaluated and contribute to the construction of their social persona (Damasio, 2010). Presumably, the scale to which such hypothetical dialogues occurred at and the complexity of factors within them evolved as brains grew in absolute size. On a sensory level, an engagement with the visual and physical world was a central part of this, and the

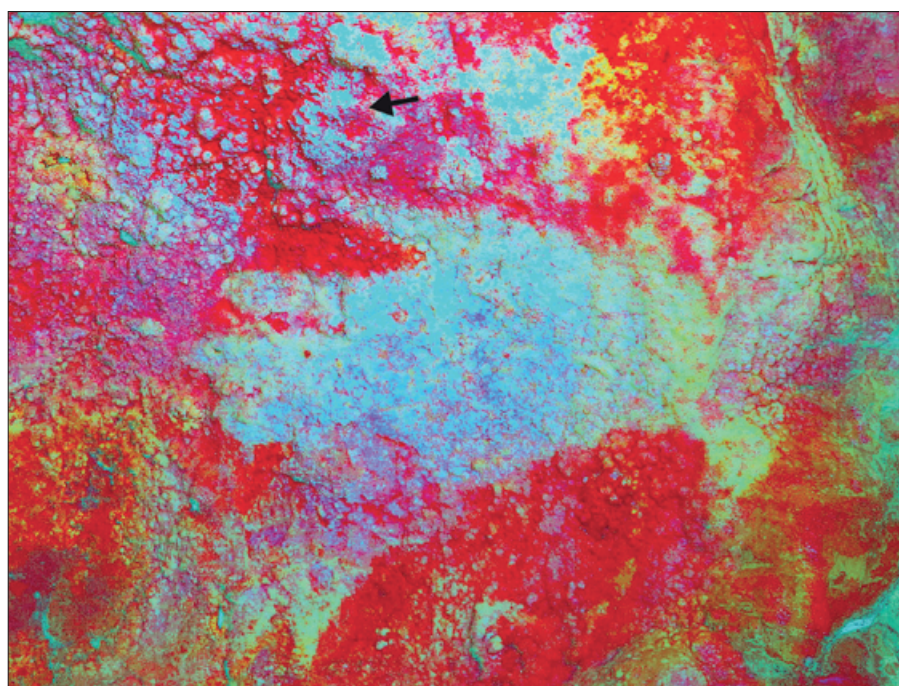
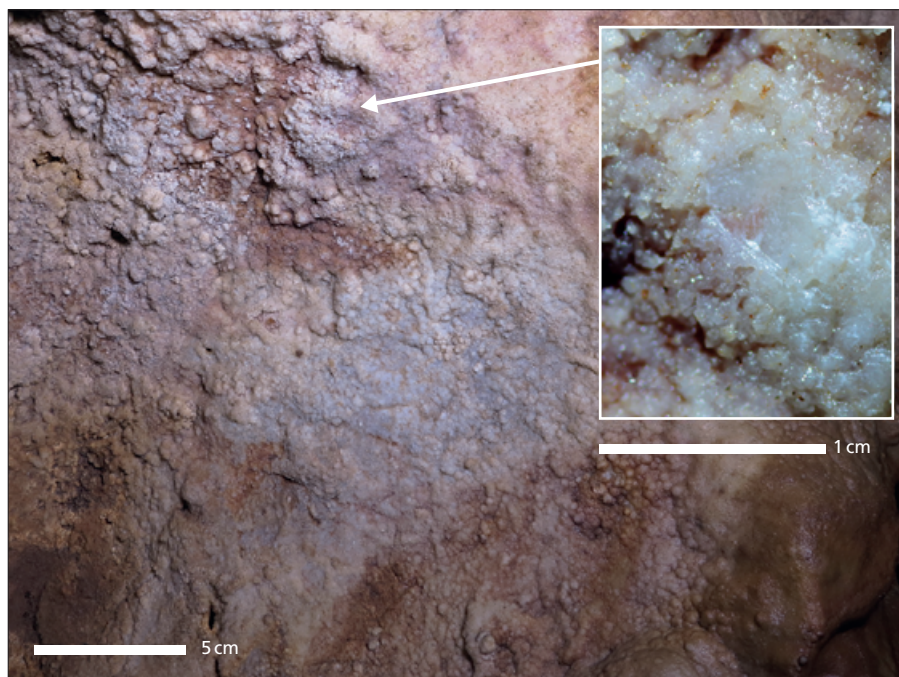


Fig. 2 Maltravieso cave, Spain. Non-figurative cave art of Pre-*Homo sapiens*, presumably Neanderthal manufacture: Hand stencil GS3b (top) and manipulated image using D-Stretch programme (below). U-Th dating indicated a minimum age of 65,000 BP obtained on flowstone sampled at the figured location. – (Photo: U-Th cave art dating team, Hoffmann et al., 2018).

way in which the 'self' blends into the external world in a complex set of relationships has been explored as 'technoetic awareness' and material engagement (e.g., Malafouris, 2007, 2008, 2014, 2015). Out of this, non-figurative, and later, figurative visual culture emerged first as an index of the human body and an extra-personal representation of the self; and by so-doing, material engagement became critical to visual evolution.

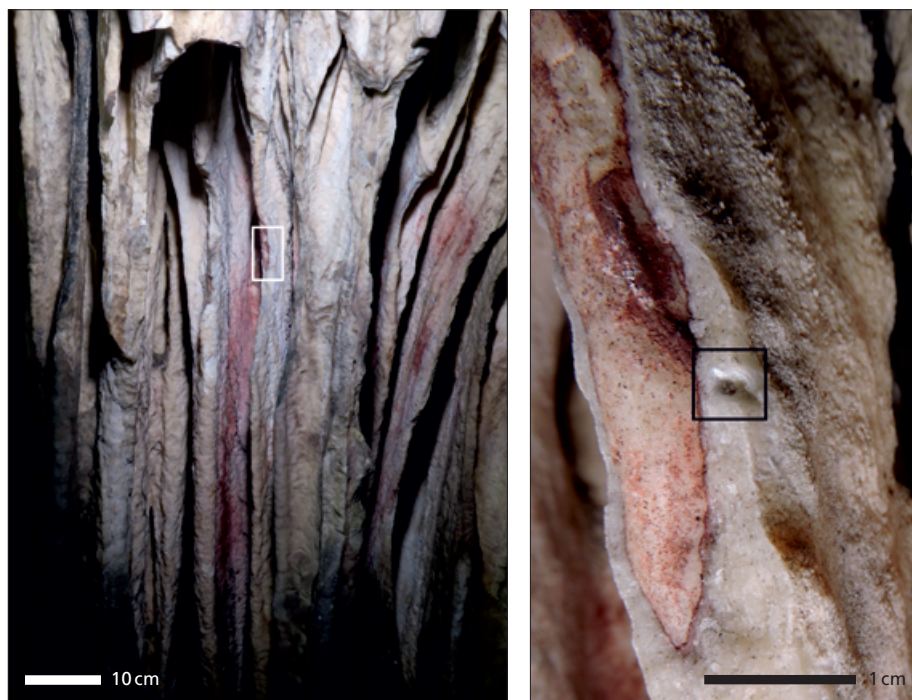


Fig. 3 Ardales cave, Spain. Non-figurative cave art of Pre-*Homo sapiens*, presumably Neanderthal manufacture: Red wash within the folds of a flowstone drapery (left) and detail of it (right). U-Th dating indicated a minimum age of 65,000 BP obtained on flowstone sampled at the figured location. – (Photo: U-Th cave art dating team, Hoffmann et al., 2018).

The question is how natural (or even inevitable) such an evolution might be. Humans do exhibit a propensity for visual communication. Even in the absence of spoken language, isolated groups of profoundly deaf children can create gestural systems which, if limited by the absence of language, can nevertheless efficiently communicate needs and feelings about people, objects and actions (Sachs, 1990). An idea of what we might expect of early hominin visual worlds as a *minimum* can be grasped through what is known about great apes. The use of signs is in itself nothing special: gorillas can memorise and deploy a vocabulary of ~650 signs in American Sign Language (Byrne, 1995). Modern children, chimpanzees and bonobos all develop a capacity for symbol use during ontogeny, during which gestural and facial interaction between infants and adults provides a social scaffolding that turns individual noises, gestures and expressions (babble) into contextually meaningful (concordant) shared communication (Gillespie-Lynch et al., 2011). Chimpanzees and bonobos, in fact, inhabit visual worlds that are fundamentally similar to humans in terms of colour and pattern perception (Matsuzawa, 1996). They are capable of self-recognition, and possess at least a rudimentary concept of the self (Gallup, 1970). They make use of visual symbols to communicate their perceptions of the world and to express desires and make requests (Savage-Rumbaugh and Lewin, 1994); they make statements about things (Lyn et al., 2011), express moral concepts (good and bad) in appropriate social contexts (Lyn et al., 2008), and also concepts of possession (Itakura, 1994). Their visual symbols can be combined into two (occasionally three) elements (e.g., numbers, colours, objects: Savage-Rumbaugh et al., 1986; Lyn et al., 2008, 2011; Itakura, 1994); they can express basic numeracy (including, cardinals, ordinals and the meaning of zero: Biro and Matsuzawa, 2001), and use arbitrary visual signs to indicate goal objects at locations currently observed up to 650 m distant (the vocal directional signs noted above: Menzel et al., 2002). They display delayed imitation (memory) in their use of signs (Allen

Gardner and Gardner, 1969), populational (cultural) variation in their gestural signals (Tomasello et al., 1989), and, like humans, can generate novel symbol combinations in conversational contexts. Looking at this list I wonder why palaeoanthropologists ever restricted themselves to a simple search for a presence of the vaguely defined concept of 'symbolism'. In simplistic terms this has in the past led to the assumption that 'art and symbolism' appeared only with *Homo sapiens*, part of a 'cognitive revolution' that endowed our own species with our evolutionarily competitive edge predicated upon an ability to think 'symbolically' and to express symbols biologically (through language) and in visual culture (art). Although in recent years new discoveries pertaining to Neanderthal behaviour have considerably narrowed the erroneous perceptual gap between 'them' and 'us' in many aspects of their cultural and survivorship capabilities. Defined in such simple terms we would now have to admit that Neanderthals had a symbolic capacity; job done. But, like the 'cognitively modern cetaceans' this is hardly a useful conclusion for behavioural evolution. In fact, considerable degrees of behavioural sophistication are possible without a symbolic capacity. For example, chimpanzee behaviour around newly dead individuals, and the carrying of the corpses of dead infants by their mothers "highlight the interest of a comparative evolutionary perspective on death and dying in species *without symbolic representations* of death or death-related individuals" (Anderson et al., 2010: R350-1, my emphasis).

It is easy to envisage how symbolic thought could emerge relatively easily and require no great cognitive leap. "The capacity of chimpanzees for symbolic thought probably emerged as a result of the need for concept formation, for perceiving the relations between things. We can trace a pathway along which representations of, for example, a fig become progressively more distant from the fig itself. The value of a fig to a chimpanzee lies in eating it. It is important that he quickly learns to recognise, as fig, the fruit above his head in a tree (which he has already learned to know through taste). He also needs to learn that a certain characteristic odour is representative of fig, even though the fig itself is out of sight. Food calls made by other chimpanzees in the place where he remembers the fig tree to be located may also conjure up the concept of fig. Given the chimpanzees' proven learning ability, *there does not seem to be any great cognitive leap from these achievements to understanding that some quite new and different stimulus (a symbol) can also be representative of a fig.* Although chimpanzee calls are, for the most part, dictated by emotions, cognitive abilities are sometimes required to interpret them. And the interpretations themselves may be *precursors of symbolic thought*" (Goodall, 1986: 588-589, my emphases). The important question, therefore, is not *how* symbolic visual culture arose, but under what circumstances it came to be adaptively advantageous, i. e., *why* material culture served a useful mechanism for turning babble into concordant communication.

In the absence of any evidence to the contrary, most palaeoanthropologists assume that visual culture originated on the body as decoration (e. g., Morris-Kay, 2010: 160). As the body is the focus of social negotiation this seems the most parsimonious interpretation of the evidence that exists. There is no reason to assume that Neanderthals and early *Homo sapiens* didn't intuitively think of the self as occupying a physical location within the body, close to the eyes, as modern children and adults do (Starmans and Bloom, 2012), and we may, therefore, perhaps assume that the face was under particular selection for visual elaboration. Whatever the case, the earliest preserved visual culture relates to the actions of the body on small objects, among both Neanderthal and *Homo sapiens* groups (or some of them). If we assume that personal gestures and habits (babble) formed the raw materials for the early development of visual culture, these may be identified archaeologically by the presence of items which are unique (i. e., only a single example exists) or are present in very low numbers on one archaeological site. Imagine the possible archaeological record for the activities of the chimpanzee Viki, who "*scribbles*, cuts with shears, builds with blocks and tinker-toys, throws and catches balls, operates light switches and door latches, with about the same skill and enthusiasm as most



Fig. 4 Painting made by the chimpanzee Congo in 1957. Examples of Congo's artistic babble were bought by Pablo Picasso and Joan Miró among other artists. Note the similarity to the lines engraved on ochre from Blombos Cave. – (Courtesy of the Mayor Gallery, London).

three-year-old humans" (Hayes and Hayes, 1951: 106). Viki's scribbles, and the 'art' produced by several chimpanzees can be seen as examples of individual babble (Fig. 4).

I therefore interpret as material remains of babble those objects that appear unique to their Palaeolithic contexts; i.e., the evidence of individuals communicating to themselves (internally) via the media of the objects they have in hand (or to the objects themselves). These objects are found only sporadically from ~500,000 BP onwards, and are in some cases were strongly identified with the mechanical actions linked to quotidian tasks such as opening shells with stone tools, and in all cases represent minimal, even ephemeral, modifications, such as the markings possibly engraved on a mollusc shell ~500,000 BP at Trinil, Java assuming these are anthropogenic (Joordens et al., 2015). Examples of engraved lines on the cortex of stone flakes and tools are known across Europe and Western Eurasia between ~380,000 and ~35,000 BP (Majkić et al., 2018), produced by *Homo heidelbergensis* and *Homo neanderthalensis*. At the younger end of this range several sub-parallel marks were engraved in the centre of a patch of cortex of a flint flake of Neanderthal manufacture from Kiik-Koba (Crimea). While such examples often exhibit careful engraving, they are still rare and ephemeral objects which stand out among the many unmodified examples of these materials on each site.

Pierres figures – natural objects whose resemblance to the human body has been emphasised by minimal (if careful) engraving – are perhaps best interpreted as examples of individual babble. A small pebble from the Lower Palaeolithic of Berekhat Ram (Israel), probably ~250-280,000 BP in age, bears modifications made by a flint point (d'Errico and Nowell, 2000), and a similarly small example from Tan Tan (Morocco), probably



Fig. 5 The emergence of concordant visual culture: retouched, ground and scraped ochre slab with two sets of engraved, superimposed lines crossed and framed by three horizontal lines from Blombos Cave, South Africa. – (Courtesy of Christopher Henshilwood & Francesco d’Errico).

~400,000 BP in age, was grooved and coloured with red pigment. The babble these represent could either have been internal (‘this looks to me like a human body’) or interactive (‘I think you look like the human body’). It is noticeable that they clearly represent natural materials that inspired their recognition as representations of the body, and they are of interest in terms of the social scaffolding (shared interaction) that bridges the development of language in human and higher primate infants. Are they the earliest examples of a material scaffold in the origins of concordancy in visual culture? Whether or not this is correct, there is no reason to see them as examples of a fully-formed and shared visual culture. Later examples of babble might include use of ochre by Neanderthals from at least 250,000 BP (Soressi and d’Errico, 2007; Zilhão et al., 2010; Roebroeks et al., 2012), occasionally in association with shell personal ornamentation (Peresani

et al., 2013), and possibly even an attempt to depict a human face on a natural object with minimal modifications (Marquet and Lorblanchet, 2003).

African *Homo sapiens* were processing ochre at least as early as 100,000 BP, and a tradition of shared motifs engraved onto ochre blocks had emerged by at least 75,000 BP (Fig. 5; Henshilwood et al., 2009, 2011). I use the term concordancy to reflect this point at which individual babble became shared and hence, socially meaningful. This need not imply any cognitively sophisticated symbolism: pigment and engraving can be used as simple decoration, primarily for visual effect, whether or not it carries any symbolic meaning. Marking can function to convey simple messages by way of enhancing existing natural clues (signs); it can function as relatively simple symbolism by nuancing natural messages, or can function as fully symbolic, i. e., to communicate an explicit statement (Pettitt, 2011). The problem for palaeoanthropology is how we distinguish between these different levels of function, at least before figurative images were commonly used. If we cannot do this, at least we can understand why material examples of visual culture became commonplace, presumably as it facilitated the maintenance of increasingly large and complex social groups: “what changed during the Palaeolithic was the character and extent of the social scale [...] the materials needed to support extended networks within a social landscape led to the elaboration of culture to carry the novel social representations in symbolic form” (Gamble, 1998: 442). In such circumstances it makes sense for vision to be harnessed around concordant material culture: hominins have evolved technologies of separation and social extension would be impossible without harnessing the environment as a part of our cognitive architecture (Gamble, 2010). Hence it is the concordance that was important, irrespective of any perceived content.

FIGURATIVE ART: WHY ANIMALS, AND WHY SO LATE?

On the basis of current evidence, at least 25,000 years separate the emergence of non-figurative art > 65,000 BP and the earliest evidence of figurative art ~40,000 BP; although as the earliest dates are minimum ages the actual difference could be considerably more. Given this, one might justifiably conclude that non-figurative concordant visual culture adequately served the communicative purposes to which it was put for Neanderthals and early *Homo sapiens*: until at least 40,000 BP representing things seems to have been adaptively unimportant. Now that we know that a long period of non-figurative art preceded figurative art, our focus should no longer be simply on explaining an ‘artistic explosion’ of figurative images. If figurative art was so central to the emergence of visual culture in humans, *Homo sapiens* or otherwise, why did it emerge so late? This cannot be a biased picture caused by sampling issues; in Europe, there are no convincingly dated examples of figurative art predating ~37,000 BP and in Indonesia none earlier than ~42,000 BP, despite a wealth of archaeological sites on which other organic materials including shell and ivory jewellery survive in abundance. This suggests that as late as the Initial Upper Palaeolithic, most visual culture was still focussed on the body or, where it was extended onto other materials was used to *represent* the human body or parts of it by fragmentary signs (hand stencils and finger marks) in the wider landscape. If this is correct, representing other things would have been unnecessary, at least if visual culture served to make statements about oneself to others and little more. In this light the absence of depictions of humans in the earliest phases of figurative art is notable: marks involve solely the *connection* between an individual’s body and the external landscape, or the use of the landscape as an intermediary to communicate from one individual to (an)other(s). These are not the depictions of *imaginary* individuals. In terms of my three-stage evolution of visual culture this represents the use of the landscape as an adjunct to concordant expression.

It is possible that hand stencils survived down to the Mid Upper Palaeolithic (or were re-invented then) although a critical examination of the available chronology suggests that most or all dated examples in Europe are earlier (Pettitt et al., 2015).

On present evidence the earliest creation of figurative art on fixed locations in the landscape occurred not only late relative to non-figurative art, but also significantly later than the arrival of *Homo sapiens* in Europe. While figurative carvings on objects presumably closely associated with the body appeared from ~37,000 BP in some (but not all) regions, examples of rock art in open-air situations, such as Portugal's Foz Côa and Spain's neighbouring Domingo García (Aubry et al., 2014; Baptista and Fernandes, 2007; Ripoll López and Municio González, 1999; Alcolea-González and de Balbín Behrmann, 2007) suggest that figurative art was widespread in the landscape from at least the Mid Upper Palaeolithic (early Gravettian ~30,000 BP) onwards. Once again, however, we should not think that art was everywhere from this time; some regions have little or no evidence of it (Ochoa et al., 2019). After all, when writing (another form of visual culture) emerged, it was restricted in two senses; first, to certain urbanising cultures such as early Dynastic Sumer, and secondly, to very restricted sets of literate people within these societies (Finkel and Taylor, 2015). There is no reason to believe why Palaeolithic 'art' was practised everywhere, by everyone, or to refer to everything; in fact, the regionality that characterises its early expression presumably is a reflection of the fact that concordant visual culture was only turning into figurative expression among *some* groups before ~30,000 BP, and perhaps that its meaning was limited.

Rockshelters with engraved, sculpted and/or painted friezes only became relatively common in the Late Upper Palaeolithic of Western Europe (Solutrean and Magdalenian, from ~20,000 BP: Leroi-Gourhan, 1968: 163; Lorblanchet, 1995: 25-28). From this time, the importance of light and shadow in the definition of volume on high-relief sculpture (Barrière, 1993) suggests that visual culture now involved not only a dialogue between the individual and the external landscape, but also a holistic integration of fixed (topography) and dynamic (light) elements, e.g., the Solutrean sculpted frieze of Roc de Sers (Charente, France: Tymula, 2002) or the Magdalenian frieze of the Roc aux Sorciers, L'Angles sur L'Anglin (Vienne, France: Iakovleva and Pinçon, 1997). In open-air locations one might assume that art became visible or invisible depending on the position of the sun, and in this sense its animated 'life' was connected with the diurnal cycle. In caves, however, the contrast between light and dark, particularly gradations from daylight to twilight to darkness, is the most profound of a number of sensory experiences that were exploited from around the same time (Arias and Ontañón, 2012). In terms of 'decorated' caves, artistic effort was occasionally focused in outer chambers where daylight penetrated, and as such these may be considered to be transitional in a luminary sense, and include the painted bison, horses and deer of the famous Middle Magdalenian 'polychrome ceiling' of Altamira, which was intended to be viewed from the chamber's entrance. The artist would have worked with their back to natural light (Pérez-Seoane, 1999) which would nevertheless have required some artificial light, probably provided by the marrowfat bone lamps that were recovered from beneath the painted panels (Pérez-Seoane, 1999: 68). Similarly, it has been suggested that Lascaux's Great Hall of the Bulls would have been bathed in a crepuscular light at dawn and dusk but deeper chambers required artificial light (Geneste et al., 2004).

Clearly, the lack of natural light did not preclude activities in deep caves from a similar point in time¹. These perpetually dark areas can only be explored with the use of mobile artificial light, which took the form either of simple torches or brands – bundles of branches for which indirect evidence occurs in the form of torch

¹ If the figurative drawings of Chauvet Cave are genuinely >30,000 cal BP in age (e.g., Quiles et al., 2006) evidence of cave art would clearly pre-date portable art, but this is con-

testable (cf. Jouve et al., 2020) and in my opinion there is no convincing evidence of any cave art in Europe prior to the early Gravettian.



Fig. 6 Painting as shadow.

a the author with hands positioned over a pair of hand stencils on the Panel of Hands in El Castillo Cave, Cantabria, Spain. Note the association of the stencils with natural cracks in the cave ceiling, and the extension of arms in the form of shadows. – **b** positive prints of left and right hands/arm in Ardales Cave (Malaga, Spain). – (a photo: Becky Harrison, and courtesy of Gobierno de Cantabria; b photo: P. Pettitt, and courtesy Pedro Cantalejo & Ardales Cave).

wipes (*mouchage du torche* – charcoal stubbings on cave walls) from the early Mid Upper Palaeolithic – and simple stone ‘bowl’ lamps for which there is some evidence from the Early Upper Palaeolithic, although most examples derive from Mid and Late Upper Palaeolithic contexts (de Beaune, 1987a, 1987b). In Ardales cave (Málaga, Spain) lamps were made from concavities in small, broken blocks of stalactite and stone as well as atop stalagmite columns (Cantalejo et al., 2014). In each case these small light sources give off about 10 watts/1850 kelvin of light, the equivalent of a small candle or sunset/sunrise, or even lower (Delluc and Delluc, 2009).

The nature of lighting available to Palaeolithic ‘artists’ is instructive in understanding why humans should go to the dangerous extent of creating art in dangerous areas beyond the zone of natural light. In the nineteenth century, with the introduction of gas and subsequently electric lighting, shadows for the first time stopped flickering in the streets and houses of the world. The introduction of a static component – a chip heated to incandescence by gas flame or a filament by electricity – introduced light that was stable for the first time (Casati, 2003: 14). We should remember that “until just a few generations ago, shadows were always moving” (Casati, 2003: 14), and in some respects, “painting is the shadow of sculpture” (Casati, 2003: 179). It is well known that animal images in cave art are often associated with features of the natural topography of cave walls that ‘suggest’ or stand for anatomical features of the animals (e.g., Clottes, 1993; Groenen, 2000; Lejeune, 2004; Pigeaud, 2004; Vialou, 2004; Bahn, 2016). The enhancement of the cave surface through lighting will turn a two dimensional depiction into a three dimensional one – effectively an art conceptually between sculpture and painting. Shadow forms the critical component of this optical illusion, combining with surfaces to provide a moving, natural line which along with concavities and convexities of the surface of the wall will change the morphology of images according to variations in the viewer’s position. It seems reasonable to conclude that this was installation art (Sakamoto et al., 2020), but it seems that not only was the artist/viewer installed in the dynamic scene, but his/her shadow was too. The suggestive environments of deep caves therefore offer an example of concordancy *par excellence*: the individual is installed in a dynamic and moving scene; his/her shadow forms an intermediary between their physical body and the moving walls of the cave; the interplay of topography and shadow suggests animal shapes to the participant; and the participant finally brings these out by engraving, drawing or painting (Fig. 6). At this stage, the individual (babble) and group (concordant) visual culture has extended to include animals and the landscape. In social terms, not only human individuals and groups but also animals and things have become part of a meaningful whole. Only when humans began thinking of animals and things in similar ways to themselves did the notion of representing one on the other come about. In this sense Upper Palaeolithic figurative art represents a third stage in the development of visual culture, when the wider world, including animals, became integrated into a conceptual whole.

If this is correct, it might explain why the observable themes of humanity’s earliest figurative art do not correspond to what one might predict based on modern cross-cultural surveys of humans’ ‘ideal’ concepts of what figurative art should be. Such surveys reveal a preference for irregular (broken) landscapes containing water and hills, and a predominance of the colour blue (i.e., sky and water), which some have suggested reflect a cognitive memory of our evolution on the African savannah (Orians and Heerwagen, 1992; Dutton, 2009)². Upper Palaeolithic figurative art could hardly be more different. Its subjects are almost entirely animals, of which large gregarious herbivorous prey are overwhelmingly dominant. The animal depictions are often singular, and where they are integrated into wider ‘scenes’ in which several interact, these do not occur against a natural background but float on the canvas of the cave wall in the case of parietal art or in

² Although if that were the case we presumably forgot it for tens of thousands of years!

the viewer's hand in the case of portable art. They form restricted theatrical tableaux without scenery. Aside from a very few questionable claims that curvilinear lines represent rivers, or that a few clusters of dots represent star constellations (or, more believably, that one engraved stone object represents a map of the environs of a camp site: Utrilla et al., 2009), the depiction of landscape features is entirely absent from Palaeolithic art. The animals float, 'un-anchored' in normal space, and thus while some Palaeolithic art does constitute 'scenes', these are not 'landscapes' in the sense that art historians generally mean by the term.

In terms of interpretation, prehistorians have recently arrived at the opposite extreme to the generalising umbrella theories that characterised the twentieth century. Dutton (2009: 64-84) noted how the anthropology of the 1960s-1980s over-exaggerated the regional uniqueness of the art of small-scale societies, as part of a wider 'postmodern' trend that emphasised the regionally unique and culturally contingent nature of human behaviour. At the same time, the notion that however culturally contingent art was, it should still comply with universal functions over large geographical areas, became as unfashionable as Darwinian explanations for culture and cultural change. It has become fashionable to believe that Palaeolithic art is so distant from us chronologically, and was produced by societies so alien to us, that we can never recapture *any* of its meaning or function. Hence we no longer place any reliance on unsupported theories that its 'function' was, to quote the most pervasive interpretations, aesthetics ('art for art's sake'), sympathetic (hunting or fertility) magic, pedagogy, or the reproduction of visions experienced in altered states of consciousness. Its chronological and contextual distance from us cannot be denied, and while we will never (or very rarely) be able to recapture *specific* meanings about the images and their associations, prehistorians are skilled enough to identify patterning in theme, technique and context and to make *some* generalisations from this. To suggest that we cannot understand any of it is therefore unfair and unproductive; unlike cave art we are not completely in the dark. The important point is that considerable investment of time could be made into depicting prey animals in deep caves where there was otherwise no quotidian reason to be. The act often drew inspiration from the cave walls themselves, in a way in which the dynamics of light and viewpoint played an active role in what was perceived and depicted, which was itself created according to relatively tight thematic and stylistic convention. This is a clear link between the individual, group, landscape and prey animal worlds.

CONCLUSIONS

I have suggested that human visual culture emerged out of personal babble, which crystallised into concordant symbolism among Neanderthal and *Homo sapiens* by or shortly after 100,000 BP. If it is justifiable to reduce the origins of visual culture to three distinct phases, I suggest these progressed through two phases that seem to focus exclusively on the human body (which I have focussed on here), towards a third which incorporated the bodies of prey animals. The earliest phase, dating to at least 40,000 BP in Indonesia and at least 65,000 BP in Europe, which I have termed peripersonal, drew inspiration from parts of the human body itself. Where it is preserved in the landscape it already refers to the natural shape of materials (e.g., *pierres figures* and placing of hand stencils in association with topographic features on rock surfaces). It was a visual culture used by individuals to elaborate and place marks (signs) of their own bodies. In the second phase, dating to at least 75,000 BP in Africa, concordancy developed among signs that originated in or drew inspiration from bodily gestures (Blombos and other South African engravings) or from the body parts of other animals used peripersonally (Neanderthal personal ornamentation). Only with the third phase (~40,000 or younger), did figurative depictions (of animal bodies) emerge, which clearly drew inspiration

from the morphology of the external landscape on which they were created (notably the shape of lithic and organic objects on which the art was formed, or that of the rock surfaces that came to be engraved and marked by pigments). This latter phase represents a major restructuring of the earliest human visual culture, which took form, I suggest, only when previously-anthropocentric culture came to incorporate cultural meaning about the wider, non-human world. At which of these stages one places the marker of 'cognitive modernity' so beloved of palaeoanthropologists is irrelevant.

Thus I suggest a three-stage development of Palaeolithic visual culture:

1. Individuals babble to themselves; reassuring and otherwise habitual vocalisations and gestural actions become meaningful to individuals and are not – or are rarely shared. Doodling – by which I mean any tangible interaction between babble and the material world – arises from time to time, out of gestural actions or perhaps pareidolia.
2. Through a process of social scaffolding – perhaps originally between mothers and infants – individual babble becomes repeated between individuals and takes meaning as concordant traditions, probably to communicate about human individuals to other human individuals. At some point the landscape comes to be used as a medium for carrying this communication.
3. The wider landscape – particularly the animals within it – becomes acculturated, i.e., the conceptual world now refers not only to human individuals and group norms but to the wider animate and inanimate world. Animals are depicted on meaningful parts of the physical landscape in an interactive and dynamic whole that incorporates (installs) the human within the whole.

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It is a pleasure to contribute to this *Festschrift* in honour of Elaine Turner and Martin Street. I first met them as an undergraduate student in 1989. I was reading Ancient History and Archaeology at Birmingham University; they had read the same degree and had taken their PhDs at Birmingham too. I participated in my tutor, Lawrence Barfield's excavations in northern Italy that summer, and as Elaine and Martin had kept in touch with him we all broke our journey at Monrepos overnight.

I was immediately impressed with the Palaeolithic research being conducted there, and slowly came to specialise in the Palaeolithic myself. I kept in touch, and over the years I've made numerous visits to Monrepos, always enjoying the support and friendship of Elaine, Martin, Sabine, Olaf, Lutz and their colleagues. Our collaborations continue to this day, and really, Elaine and Martin are at the very heart of that. Long may we all continue!

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