
Humans Making History through Continuities and Discontinuities in Art

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Early representational art seems to tell a story all of its own, but in reality, it depended on the oral stories that accompanied its production. The art system has four parts: the producer, the subject of the story, the images of that subject, and the seer. Through the stories of the producer and the seers, this system implicated members of society in ways that were not limited to the images produced. By tying those stories to particular places, rock art influenced society more broadly through foraging choices and ritual. Because the persisting marks of rock art necessarily required storytelling, the stories penetrated the mental lives of people in the society. Interwoven with these considerations is the observation that for archaeologists, the producer, the stories and the original seers are gone and all that is left is the material of the rock art and the archaeologist. Writing archaeohistory from these materials requires interpretation in light of the archaeological evidence distributed across both space and time. One way of interpreting archaeohistory suggests that rock art played a significant role in cognitive evolution through its engagement in ritual.

Archaeohistory, rock art and the narratives that underlie oral history

Rock art has a special place among the sources used to write a narrative of the distant past. Rock art is material, can often be dated and is generally fixed in space, though it may be on more or less portable rocks and some rock-art sites include art on portable materials. It is often obviously ‘of’ or ‘about’ something (Davidson & Nowell 2021). With or without that ‘something’, it only acquired meaning by having narratives told or sung about it at the time of its making. Rock art appears to add a visual element to all such narratives, but it has other elements that are not part of other archaeohistories, nor oral or written histories.

Archaeohistories are not just any stories. An archaeohistory has narrative of a type that can be compared with oral history or with text-based history, but often refers to a time when there are no surviving oral histories nor text-based histories because

often there was no writing and there are no texts. Archaeology is tightly constrained by the incomplete evidence that derives directly from the past. The archaeological facts on which archaeohistories are constructed have to be won from incomplete and fragmentary data and scientific argument. Almost always those facts about the past discovered in the present were not previously known, even by the people who are responsible for them. Once won, they are written down. That makes archaeology like and yet unlike literary texts, because the facts must be won long after the event; and unlike oral histories, where the facts relate to what is known to those who narrate the history. Archaeology, on the other hand, may produce different facts as new data emerge or new archaeohistory as new methods are elaborated. By and large, oral histories cannot be created in ways that are similar to either of these (Burke *et al.* in press; Davidson *et al.* 2021). When the archaeohistory describes a period for which there are either oral histories or histories from written texts, a

comparison of approaches is needed. The three different genres of history may be describing the same thing, but the way they talk about it will be different.

The production of new archaeological data shows that the consensus position changes at different times through revelation of new data or theory. This is shown at Madjedbebe in Arnhem Land, currently the Australian site with evidence of the earliest date of human occupation of Sahul. It was first excavated in 1973 when it was known as Malakunanja II and found to date back 24,000 years using radiocarbon dating (Kamminga & Allen 1973). New excavations of the site used different dating methods, particularly thermoluminescence, and doubled its known age to older than 50,000 years (Roberts *et al.* 1990). These first publications placed little emphasis on art, and especially rock art. The site was re-excavated in 2012 and 2015 and named Madjedbebe at the request of the Mirarr Traditional Owners based on their orally shared knowledge of the place. The archaeologists found abundant ground ochre 'crayons' in the lowest layers, which have been taken to imply art, whatever the other functions of ochre. The dates for those lowest layers are said to be about 65,000 years (Clarkson *et al.* 2017). The rock art at Madjedbebe has now been documented (May *et al.* 2017). In this case, what changed was the site name, the methods, the dates and the emphasis. New facts and new methods may reveal new meanings, not because of willing misrepresentation of the past by *bona fide* archaeologists. New evidence is always a better option than guessing what is unknown. Madjedbebe demonstrates the archaeological truth that new evidence from the past can be incorporated as it is successively revealed—evidence that was never recorded in texts and has not survived in oral testimony. That is the case for all archaeology for periods without writing and, in this context, applies to almost all rock art, about which there is now neither text nor talk, just the material evidence of the art.

Some oral histories enable people to recognize places in their environments, often through the songs and stories they know about them. Those people also marked places as they moved in one way or another, sometimes by making rock art, or as places marked in other ways, such as stone arrangements, ceremonial places such as the Australian Aboriginal bora grounds (Hopkins 1901) or carved trees. The ritual and other importance of such places was a matter of culture (Davidson 2016) and ideology, that is to say, of the values of the society. Oral histories, passed from generation to generation, defined broad cultural values.

Whatever motivation people had for marking places (perhaps depicting animals they wanted to eat, or others that they did not), there were consequences for them of making a site a significant place that arise from the logic of foraging. For people foraging for plant or animal food (or other materials such as raw materials for tools or other artefacts) from any location, there are costs in the decisions they make (O'Connell & Hawkes 1981; 1984). If their movements are already predetermined by designating a particular place as important for symbolic or ritual reasons, choices about what to forage and the costs are both constrained by the significance of the place (two recent relevant studies are Mas *et al.* 2018; Pop *et al.* 2022). This logic determines that the ranks of resources differ depending on the location of the particular resources in relation to people. In this way, marked places—rock-art sites—determine where the people are and hence the returns from foraging for resources, food or other, available from there (Davidson 2012c). People made choices to mark a place that were determined by their culture: the persistence of that marking and ritual significance probably changed on a timescale that was not the same as variation in availability of subsistence resources. Availability of supply of other raw materials, such as ochre sources or tool-stone, would have varied on different timescales, though perhaps not at all. Such variations contribute to the interplay of ideology, subsistence, materiality and economy at any rock-art site (e.g. Fiore 2018).

Places may be important locations for foraging. They may be marked with images and thus acquire added significance. But the culturally determined significance will continue even if the abundance of resources for foraging changes. The site is not just a place with pictures, but central both to the culture and the society, to individual people and their belief systems, and to people's knowledge of their environments (see, for example, McDonald & Veth 2011). It may seem more difficult to argue for the same sort of implication for art deep in caves (wherever it occurs, but particularly in western Europe) because it would only have been seen by people making special purpose visits inside the cave, and for that they would already have needed to know the art was there. Access to the performance of the rituals and the art that went with them might have been restricted, but the people who led the rituals, and painted the paintings,¹ lived within society outside as well as inside the caves. Knowledge of the art and rituals was not restricted to caves and the knowledge would have had an impact on the whole culture.

From making marks to songlines between places: the importance of ritual

Behavioural data from archaeology with material markers indicate that since the last common ancestor of humans and African apes, there have been eight key new behaviours among humans and our ancestors, three of which are fundamental to the archaeo-history of art (Davidson 2020b, 37). These three were a) making marks by adding ochre or removing surfaces to create things that could become symbols (Davidson 2020a; Malafouris 2021); b) the beginning of symbolic communication (though much of this may be mental and not always material) (Noble & Davidson 1996; Tylén *et al.* 2020); c) the creation of pictures and art which would carry meaning more widely (Davidson 2013a; Davis 2017). The interplay between these three behaviours is always complex, particularly early in the evolution of art-making; mark-making is a purely physical process; communicating using symbols is principally mental; creating pictures and art requires the mental process, and for our purposes also needs the physical production of marks by addition or subtraction. Marks can be made without meaning, as non-humans demonstrate by leaving their prints as they walk on soft ground, or scratch walls (as the bears at Chauvet Cave did: Clottes & Le Guillou 2001); symbolic communication can happen every time we speak without any relationship with marks or art; pictures cannot be made without marks (whether by adding paint or removing surfaces); but art cannot be made without both marks (or their equivalent as in music or literature) and symbolic communication.

Conceptualization is fundamental to turning marks into pictures for which a story can be told (Davidson 2013a), such as when a producer (artist) makes marks (the object) resemble a third thing (the subject) so that they can be interpreted as pictures of that thing. Art involves all four of 1) the producer, 2) the subject, 3) the object, as well as 4) the 'seers', who would be an 'audience' when they also hear a story. The seers both see the marks and know the story. Davis (1986, 194) had it that 'image making originated in the discovery of the representational capacity of lines, marks, or blots of colour.' Conceptualizations of how marks might be thought of as objects that resemble a subject had to be achieved before people could move from marks to symbols to art.

Rock art has a further important feature because the marked rocks have a persisting place in the landscape. In Australia (see references in e.g.

Jones & Russell 2012), the memory of places (Gibson 2013; Hercus *et al.* 2009; Russell 2012) is absolutely central to the way people constructed their version of what is important in the landscape for the people who inhabit it (e.g. Hayward *et al.* 2018). Mythical accounts of the landscape begin with passing on oral accounts of something observed or imagined in the recent past. In Tonkinson's (1974) experience among the Martu people on the edge of the Little Sandy Desert in Western Australia,² one 'dream-spirit ritual' was composed by 10 men who combined the agreed elements after discussing shared dreams to decide on decorations, songs, and dances to become part of a single ritual.³ In general, such rituals were short-lived, but Tonkinson suggested that some came to characterize the revelation of a deeper 'Dreamtime' as: 'Over time, and with cultural transmission, the composers were quickly forgotten and Aborigines of later generations came to regard them as being Dreamtime creations.' The story lost the agency of the individual people as it acquired the agency of mythological Ancestors by being ritualized.

This is ritual with quite formal characteristics that can be recognized in ethnography and extended to the archaeological record, particularly of art, in Central Australia (Ross 2003) or eastern Spain (Davidson 2012a) and other regions such as Nine Mile Canyon in Utah (Spangler & Davidson 2021). Others have written about ritual (Arias 2009; Boyer & Liénard 2020), particularly in anthropology. Here, I adopt the anthropological criteria from the synthesis by Rappaport (1999) derived from a lifetime of studying it, principally in New Guinea. It involves '1) Invariance; 2) Repetition; 3) Specialised time; 4) Specialised place; 5) Stylised behaviour/stylised form; 6) Performance and participation; 7) Form which can hold and transfer a canonical message' and was adapted for archaeology, particularly in relation to rock art (Ross 2003; Ross & Davidson 2006). Not all the things that can be called art meet these criteria, but most cave and rock art does (e.g. Davidson 2012b) and can continue due to the persistence of the rocks. For cave and rock art the role of people in the performance of rituals was fundamental to the creation of importance of places in the landscape. Through the stories and canonical messages—essentially, oral traditions—people owned the landscapes of the past. In doing so, stories connected to art and ritual became part of the cultural context of people who heard the stories, sang the songs, saw the images, danced the dances, or took part in the rituals.

Table 1. *Semantic roles in picture-making and stone-tool making (after Davidson 2013a, table 1).*

Semantic role	Picture-making	Stone-tool making
Agent	Fred fetched the ochre	Kim fetched the stone
Counter-agent	Fred rubbed the ochre on a rock	Kim hit the stone with a rock
Object	The ochre marked the rock	The stone broke
Result	Fred made a mark	Kim made a flake
Instrument	The mark made me think of a whale	Kim used the flake to cut meat brought by Kelly
Dative	Sandy told a story about a whale to me	Kelly gave the meat to Kim
Experiencer	Sandy and I knew some things about whales	Kim felt well-fed
Locative	Sandy remembered this as the place of the story of the picture of the whale	Kim walked away from the flake scatter

The study of art—how archaeologists see the world

Aspects of the changing semantic roles of actions among humans and apes showed similarities in the ways both species expressed their relationships with other conspecifics and with things and places in their lives (Byrne *et al.* 2004). The roles are called semantic because while humans have a word for them, apes do not, but the roles are the same for both apes and humans (for a similar argument about apes and grammar, compare Zuberbühler 2022). In carrying out the actions people have a word for them, but apes just behave as if there is one. The same could be argued for stone-tool use by hominins and humans but with one important difference, of leaving persistent material traces (Davidson & McGrew 2005) (Table 1). In doing so, knapping established some of the important elements of niche construction by our ancestors which distinguished them from a more ape-like common ancestor. The semantic roles that left a persisting material product enabled hominins to reflect on their actions and, if they or others reflected in that way, to produce a word.

Finally, humans could show the same set of semantic relationships when an individual produced art (Davidson 2013a). In this instance, the material trace of the art (the art object in the previous characterization) shows that the producer's mind only established the semantic relationships through its internal processes—it required conceptualization of

things that only exist in the mind (Barnard *et al.* 2016). Art objects are a material sign of something immaterial, and most art criticism is about interpretation of that immateriality (Smith 1960). The object may represent the subject but is, really, a representation of the way the producer speaks about that subject. It may even be a representation of something imaginary in the producer's mind. That imagination is a product of the storytelling that the producer engages in and the way the seer remembers it. The second human agent in this relationship—the recipient of the producer's message—is a seer because they are not just a viewer, but enmeshed in the stories of the producer and the whole cultural context of the production of the art.

This original model of cognitive evolution showed that only the final stage of evolution of cognition enabled people to think about things without external stimulus (Barnard *et al.* 2007). This demonstrates that people who made and exchanged information about the meanings of art were cognitively different from those who came before. This cognitive difference was not necessarily a result of changes in the brain but in the relationships between brains, people and the materials they created for their relationship by telling stories about the materials (see Barnard 2010). The material evidence that art leaves can only ever be understood by anyone other than the producer if they share cultural knowledge with the producer, generated in turn by the relevant stories. That is to say, shared cultural knowledge arises when communication from producer and storyteller to the seer enables both to relate to the picture and to the place of the story: 'Sandy remembered this as the place of the story of the picture of the whale' defines the locative semantic role of the picture. The materiality of the marks persisting on the rock alters the perceptions that seers have when they see the marks and the rock in a particular place.

The simple device of identifying semantic roles allows us to see that humans share the roles with other higher primates, but that a difference was created when some of those roles involved agent-generated materials that persisted in the environment. That feature, in turn, led to a further differentiation of human behaviour when the materials of that persistence also required links to human mentality through the association with storytelling.

Art alters the relationships among people and most importantly, it makes particular places stick in the mind. One of the clichés about rock art is that all that holds it together is the rocks. It turns out that this is not a trivial observation. Using the rock as the context (which now includes both the medium

and its location) on which the elements of the story were transmitted means that when teller, story and seer are all gone, the material sign of them is still present on the rock, and the rock is still in the same place it was originally. The image still communicates, even if the producer and the initial seer(s) have gone. There is, in fact a third agent involved—in our case, the archaeologist who values rock art, but it could be any seer not involved in the original performance—and that agent's task is to work out the meanings that attach to the rock art now, without being privy to the meanings the producer communicated to the initial seer. That task is altered if the images were composed in scenes in which the individual components acted as agents interacting with others (see Davidson & Nowell 2021).

The production of cave art may have involved a performance that was witnessed by few, albeit in a structured way (Jouteau *et al.* 2019; Ochoa & García-Diez 2018) and was not intended for public display (Fig. 1). It may have enabled a performance in the open (Fig. 2) or in a rock-shelter (Fig. 3). It may have involved many people and always been visible to those who approached the site. On the other hand, it may be that custodians once existed to provide the ritual structure that used to limit access to sites (Domingo *et al.* 2020). Under such circumstances, restrictions on access were social rather than physical, but the circumstances of persistence on the rocks give the appearance of different contexts in the present day. People may have produced rock art in all these circumstances, but the contexts of its survival were very different.

The meaning of rock art can be got at through five considerations: 1) the art itself, 2) ethnographic analysis, or 3) the context of the art (numbers 1–3 from Clottes 2009); 4) the broad chronological scale of the art (Davidson 2012a) and 5) the broad geographic scale (emphasizing the great variation from place to place) (e.g. Davidson 2012b). Thus, for example, without the last two categories, it would be possible to lump all sorts of phenomena together as belonging to the same context, but by separating them, chronological and spatial aspects of context variations can be seen more clearly. As Villaverde Bonilla (1994) pointed out, it would not be possible to show continuity in techniques of representation in the art of Parpalló without the (fourth) broad chronological scale, and it would not be possible to see its place in the variation of roles for art at different times and in different regions in Europe and other parts of the world (Davidson 1997). Likewise, Nine Mile Canyon and adjacent areas in Utah predominantly include petroglyphs of the so-called

Fremont period (Fig. 4), but also include earlier images (the fourth part of the scheme) and remarkable pictures of a steam train and people riding horses. Those images of train and horse were made later by the Ute people of the region encountering invading non-Native Americans (the fifth part of the scheme, understood in the context of the invasion of the Americas by non-Ute peoples) (Spangler & Spangler 2007)—an interpretation that would be more difficult without considering the art of Nine Mile Canyon in the context of other parts of the region.

Understanding variation in the art of the Late Pleistocene in the Mediterranean region would not be possible without the (fifth) geographic scale—why was there almost no art in the Middle East at a time when it was abundant in the west Mediterranean (Davidson 2012b; Lefebvre *et al.* 2021)? The approach is informative in other contexts: there were scenes of music-making in one region of Jordan but not in another (Brusgaard & Akkermans 2021), different motifs have different distributions in the rock art of Utah (Castleton & Madsen 1981) and rock-art styles (and their archaeohistories) varied among five different regions of Australia (Ross 2013). By manipulating symbols in different ways through ritual storytelling, people determined the archaeohistory of the people, their region and their sequences of connections.

Often archaeologists write archaeohistory as if there was originally some sort of continuity between the different elements of archaeological evidence. This is why people use ethnographic evidence in the interpretation of art—it makes it plausible to fill in those gaps by talking about processes of the past in human terms, with human agents doing human things, as seen in the ethnography. The story is not just about the flakes, but people knapping, making fire, bringing home the game to eat, about individuals marking the walls, telling stories that made those marks into symbols, producers making art, and people colonizing new worlds and collecting and grinding plants. The impact is often to reduce past variation in time and space in order to fit that ethnography of the present. In Australian art, this can be seen in the way Cane (2013) gives the impression of 'the past in the present' by juxtaposing photographs of Gwion art of the Kimberley painted 15,000 years ago with those of modern men dancing at a time after photography had been invented. But archaeologists have to work hard to show significant chronological or regional variation using rock art, especially on its own. The cases in each of the regions considered by Ross (2013) had a different version of



Figure 1. Chauvet Cave, France. (Top) the cliff within which the entrance to Chauvet Cave is concealed (Photograph: Iain Davidson); (lower left) built entrance to cave with security devices (Photograph: Iain Davidson); (lower right) the author descending the ladder into the cave (Photograph: Jean Clottes).



Figure 2. *Pensacosa, in the Cõa Valley, Portugal. Large deer in context. The deer is on a panel in the middle of the photo, at the top of the walkway protected by a handrail. The top of the handrail and the image of the deer can be seen in the inset at the bottom left of the figure. (Photographs: Iain Davidson.)*

what led to the patterning of rock art there. One approach would be to seek an explanation which would make each region ('Nation' in Ross's title) like the others; another would be to suggest that the patterns of change varied between regions, just as they do now. It is too easy for archaeologists to imagine that it is better to smooth over differences and avoid different regional outcomes.

Leaving aside all the other documentation of the types of interaction between archaeology and ethnography (Domingo *et al.* 2017; Politis 2015), ethnography offers two basic approaches to any set of archaeological data—the first seeks better understanding of the past through more or less subtle use of the present, and the second seeks better understanding of the present through an archaeohistory that moves from the past to the present. The first uses modern evidence to understand what was

going on in the past, knowing that evidence from all the behaviour of the past exists in the present; the second sees the ethnography and its attendant oral history as the result of processes that operated in the past, which, ironically, can only be understood with some knowledge from the present.

The first ethnographic approach is about the past—but only if the past was more-or-less like the present. This approach is closely related to Clottes' first archaeological method of examining the images themselves and their immediate context. It makes assumptions about the relationship between the present and the past that often do not bear scrutiny, and usually predetermine the nature of the past that can be conceived. Too often, ethnographic approaches do not aim to show us how to infer what 'we have not got' (Davidson 1988) in the evidence from the past, but suggest that the missing piece of the picture



Figure 3. *Cueva de la Vieja, Alpera, Iberia. (Top) view towards the cave which is a little to the right above the white farm building (Photograph: Iain Davidson); (bottom) view from the cave showing the extensive plain in front of it (Photograph: Iain Davidson).*



Figure 4. *Nine Mile Canyon showing animals on the same panel as a human image that seems to represent a ‘special’ person. Note that in addition to the obvious pale-coloured images there are some (on the right) which have weathered significantly, showing that there was discontinuity in the production of images at Nine Mile Canyon. (Photograph: Iain Davidson.)*

can be supplied by ethnography without the need to infer anything that derives from principles that apply to both. This is a theoretical assumption that enables us to embroider a narrative around the few known facts, but it carries with it unstated assumptions about the nature of change in the past. Once upon a time, some archaeologists hoped that cave and rock art would give us an image of behaviour in the past, but the realization that there was a strong component of ritual and ideology in what was depicted made that hope forlorn (e.g. Davidson 1995). Ultimately, the approach is rather uninteresting as it only claims to tell us about the past, however fascinating, but always by creating a narrative derived from the present. The assumptions—theoretical approaches—are all that is worth examining for they tell us about our attitudes to the past, the process of change or continuity, and to people of the present.

The second approach to ethnography is difficult but more interesting and offers a justification for all

investigations of the past. The essential elements of all cultural systems—symbols, which stand for other things (Davidson 2016)—are subject to change as time passes. Errors in learning and cultural variation exist in all cultural systems because of the combination of arbitrariness and convention in symbols. As a result of such variation, selection can operate on systems to produce change. If archaeological entities do not change over long periods—for the sake of argument, here, I would say over tens of thousands of years—a justification should be provided before considering the lack of variation cultural rather than a product of some other mechanism. The archaeological record is never a complete set of facts, but abridged (selected) by the vagaries of time, and archaeohistory is likewise pruned first by the demands of politics from the time of writing it, then by the expectations from the history of archaeohistorical interpretations. The approach yields particularities of moments in the past or the imaginative description of processes

that account for the existence of gaps and non-gaps. Often that account has served the purposes of the dominant political ideologies of the societies doing the archaeology (one of its most explicit expressions can be found in Childe [1942] 1964). That political purpose, of course, is another theoretical assumption, with good precedents in the structural expectations of narrative construction. More recently, an attempt has been made to be similarly political, but with the conclusion that there is not a dominant direction for the narrative of the past (similar in intent to Conkey & Fisher 2020), but that archaeology reveals the variety of different social formations that people have supported at different times in the past (Graeber & Wengrow 2021).

More precisely, as the time between present and past lengthens, ethnography seems less relevant and oral information—supposing access to what was said, say, a thousand years ago—would appear less unchanging. The case that makes the point, here, is where genealogies have been recorded, in West Africa, by people who wrote them down (often anthropologists) who revisited a generation or more later. It turned out that the genealogy still recorded the same number of generations but the oldest had simply been dropped (Goody & Watt [1963] 1968). In another example, from Enga in Papua New Guinea, genealogies of about the same length seem to have established fictional clan history as well as known history of political relations (Wiessner & Tumu 1998, 28–31). One of the points is the importance of the limits on memory and the other is the material record that documented the change.

Limits on memory account for the lack of specifics of the stories from the moment of production of all rock art, just as they did for the old men in Tonkinson's story. These are changes in the functions of memories of that past and in consideration of factors that impact on memories that are carried down to the present. In all likelihood, the loss of the names of the people involved at the beginning of a memorable story is part of the way it has remained memorable.

The materiality of art, oral history and gaps and endings

The question of the materiality of art has been addressed by others (Fiore 2020; Gell 1992) with only slightly different emphases. They emphasized the complex processes by which people make art and the equally complex interactions between those who see it later. The object itself seems almost unimportant, although neither producer nor seer has

relevant agency without it. Archaeologists have to construct the relationship between the different classes of agent by other means than those available to an anthropologist.

Art was made deep in caves primarily of Iberia and France, over a period of 25,000⁴ or more years. The surprise about its discovery can be attributed to the fact that oral history about it did not survive to be written down (David 2017) (and the end was long before the invention of writing). As a result, everything must be worked out from studying the archaeology. People who produced art in caves could only maintain the practice by word of mouth and shared culture. Even if there were no explicit traditions, the commonalities in the *bricolage* (Conkey & Fisher 2020) derived from shared cultural values (which are a type of tradition), or from the simplicity of the rules of representation involved (Dobrez & Dobrez 2013). There was no written record or history of this art, and the oral tradition seems to have been conservative. The art was material—now its own evidence—but it was not writing, and much of the scholarship of people who study such art is devoted to ways of understanding how to recover what would once have been conveyed in oral song and storytelling (e.g. Conkey & Fisher 2020; Díaz-Andreu & García Benito 2012; Fritz *et al.* 2016; Needham *et al.* 2022; Nowell 2015). Visual conventions arose from early art, and they were essential, later, to writing, but the mere presence of material evidence did not constitute a record independent of oral tradition. Yet sometimes the practice stopped. There seems to have been no continuing tradition, for example, associated with the stone arrangement made by Neanderthals 175,000 years ago at Bruniquel (Jaubert *et al.* 2016) and the site is unique. The oral tradition that kept it alive ceased. The same was true of all art of the Pleistocene—even if cave art was seen, its significance was not commented on (Bahn 2010).

It is worth considering the analysis of representation in southwestern Europe in those 25,000 years, because it is not all about art in caves, nor indeed about representation. The region is famous for its cave art, but there was more. There was, in addition, art in rock-shelters and in the open air. The first art to be discovered was found engraved on bone and antler. Sometimes that was sculpted in the round, sometimes on obviously utilitarian objects, often on objects that seem less useful. Art was engraved and painted on stone plaquettes, apparently in a such a way that, although plaquettes are widespread, some sites have a few that include art, while a small and widely distributed number of places

have many (Davidson 1989; 2005). Finally, scenes that show interactions between the agents represented in the art are more common on portable objects than they are in caves (Culley 2021), suggesting that contexts were important. In all likelihood, an oral account was a fundamental part of the way people saw cave art, while that may not have been so necessary when viewing portable art because of the scenes. Even if it were a normal accompaniment, a narrative could be constructed from a scene without any oral history associated with it.

At Chauvet Cave, the original guess about a single age of the paintings of ~22,000–18,000 years ago (Clottes 1995) was based on the then widely accepted stylistic chronology, which had a very weak empirical basis in the first place (von Petzinger & Nowell 2011; 2014). The consequence was to allow generalizations about the art which ignored the discontinuities. Importantly, insofar as there was any reason for basing dates on empirical generalizations about styles shared between many sites themselves of unknown chronology, that dating produced age estimates with very wide boundaries. The tendency, therefore, was to smooth over the discontinuities at and between sites.

In response to initial scepticism about its radiocarbon dates, Chauvet Cave now boasts the largest corpus of radiocarbon and other dates for any European Upper Palaeolithic rock-art site (Quiles *et al.* 2016). Together with comparisons between laboratories, the dating shows that the walls of the cave were painted in two episodes, between 37,000–33,500 years and between 31,000–28,000 years, separated by a period of no painting. The narrowest probable interval in which there was no painting on the walls of Chauvet Cave was between 2700 years and 4200 years. Two conclusions follow from this: first, the original estimate was out by a matter of 10,000 years, as Clottes himself admits; second, the representational art at the site could be hailed as one of the earliest examples of cave art in France. The representational art of Indonesia is unrelated, and is nearly 7000 years earlier in Sulawesi and probably 3000 in Borneo (Aubert *et al.* 2018; 2019; Brumm, Oktaviana, Burhan *et al.* 2021a, b). There has been very little discussion of the assumptions that would make comparison between Indonesia and Europe relevant to human evolution, though that is a crucial question.

Less attention has been paid to the possibility of differences between the two periods of use of Chauvet cave, and the question of how there might have been similarities between the two despite a gap of at least two millennia between the episodes.

In addition, there was no continuity from Chauvet to art elsewhere after 28,000 years ago.

Arguably, it is the logic of not asking questions about gaps and endings that made it more acceptable for ethnography to supply details of the ‘things we have not got’ to archaeological studies. On that basis, it was possible to argue for shamanistic beliefs and practices with surprisingly little nuance and variation, when the beliefs and practices invoked are from the other end of another continent, and at least 15,000 years later.

The objects attributed to Palaeolithic cave art occurred over a period twice as long as that since they ceased to be objects of memory. What sort of ‘tradition’ lasts 25,000 years, and what mechanisms are there that allow it to be passed on as a ‘tradition’? The paint marks said to have been made by Neanderthals inside caves in Iberia were earlier by another 20,000 years (Hoffmann *et al.* 2018), although some have doubted that claim altogether (White *et al.* 2020). After the marks were made there seems to have been a gap of 20,000 years. There was a tradition of painting in caves with some continuity of tradition from, say, 37,000–12,000 years ago, so what is the significance if there was any paint marking of caves much earlier? Archaeologists ask—did Neanderthals produce art and what was it? They have been much less concerned about the reasons for endings. Was Neanderthal art productive, did it come to an end, or did it lead to Upper Palaeolithic cave art? Likewise does a single interpretation apply to all Upper Palaeolithic art, or were there several different types of art with different functions (spoiler: there were) (e.g. Davidson 1997)?

Upper Palaeolithic cave art ceased 12,000 years ago (Davidson 2012b; González Morales 1997) and, in general, was not seen nor its importance commented on until less than 150 years ago (Cartailhac 1902). After the end of the oral tradition that took people deep into caves in France and Iberia to paint images, the rock-shelters of eastern Iberia were painted with Levantine art. In general, Levantine art consisted of scenes of people hunting animals, dancing, engaged in ceremony, and fighting, with ‘unquestionable graphic evidence of the lack of continuity’ in Cataluña (Fullola *et al.* 2015, 167). Despite the occurrence of scenes of hunting, the images were painted by people who probably practised agriculture and pastoralism (Domingo Sanz 2021; López-Montalvo 2018; Villaverde Bonilla 2021) and whether or not there were restrictions on access at the time (Domingo *et al.* 2020), the paintings are now visible. It also seems to be the case that where scenes in Palaeolithic art were representations of static

interactions, those of Levantine art had a dynamic element rarely seen earlier in cave and rock art (Villaverde Bonilla 2021).

The oral traditions that maintained the production of those images require a consideration of the nature of cultural continuities and breaks that many archaeologists are uncomfortable with in these contexts. This rupture was, at least, a breakdown of the communication of oral information about art way back in the past. It is also a reflection of the assumptions we archaeologists bring to the study, for example, about the species of animals that were available at the time the art was made. Bahn (2010, 7) suggested that the extinct bison painted in Niaux were seen in the 1860s but assumed to be cattle. Some sites, such as Altamira, seem to have had art added over a period of 20,000 years in the Pleistocene (García-Diez *et al.* 2013), while others, like Chauvet Cave, seem to have had art made on a small number of short-lived episodes up to 5000 years apart (Quiles *et al.* 2016). Much later, in eastern Iberia, the cattle at the Levantine sites of La Vieja (Alonso Tejada & Grimal 1990) and Cantos de la Visera (Jordá Cerdá 1975) were altered by adding antlers as if they were deer. Archaeologists have tended to gloss over these indications of multiple chronologies for art sites because an assumption of stylistic groupings was needed in order to place them in any systematic order. Now dating techniques are freeing up art studies to new interpretations.

To some extent, the clustering of categories of art in European cave art was paralleled by similar practices in Australia's Kimberley (Walsh 2000) as a result of the assumptions about classification necessary to practise archaeology. The discontinuities inherent in the method allowed interpretations that would be rejected nowadays—but these interpretations were the product of the method and the interpreter, not of the art. Closer examination of the art in the Kimberley has shown that there were clines from one category of art to another (Travers & Ross 2016), meaning that the initial relative chronology was a result of simplistic classification of a selection of motifs.

One of the early assumptions⁵ about cave art of Europe is that it was the beginning of a sequence, so that it might be the anchor of a history of art beginning in the distant past and leading ultimately to a western European art using some of the same techniques. Such a claim would need to be documented. It was not the beginning, as Gombrich (1995) anticipated on no good evidence, but it was nearly the earliest art. It is thought that it did not influence Levantine rock-art paintings or incisions on pottery,

or Picasso (Bahn 2005). Indonesian art was mostly tens of thousands of years earlier (Brumm *et al.* 2021b) and French and Spanish art had no influence at all on Chinese, Indian, Australian or African art. Most of cave art was over before the first peopling of the Americas, where there does not seem to have been an abundant tradition of art among the first occupants in North America, though there was some symbolic structuring (Davidson 2013b, 17). Art was not at any time a unitary phenomenon: there were different social phenomena involved at different times and different places (Davidson 1997); even when there was stylistic continuity from one period to another, the contexts of production were probably different, and portable art was different from wall art in respect to the representation of scenes (Culley 2021). One question therefore would be how the independent concept of producing representational art appeared shortly afterwards as Levantine art in the east of Iberia, or, in any other style anywhere else in the world.

Yet art seems to have been part of the apparent dominance of our species over all others. Let us leave aside the difficulties of definition (Davidson 2020a), or of classifying the red marks on cave walls thought to be made by Neanderthals, the so-far-unique arrangements of stalagmites at 176,000 years ago in Bruniquel (Jaubert *et al.* 2016), or the growing number of sites with modified bird bones (Finlayson *et al.* 2012). The earliest non-Neanderthals entered Europe without having 'art' as part of their behaviour (Slimak *et al.* 2022) but it seems to have emerged there quite independent of its earlier appearance in Sulawesi and Borneo (Aubert *et al.* 2018; 2019; Brumm 2021a; Langley *et al.* 2020). There were 'precursors' to 'art' or even art itself rather earlier in South Africa (see Culley & Davidson 2021): ochre processing to make paint by 100,000 years ago at Blombos (Henshilwood *et al.* 2011); scratching of ochre between 100,000 and 75,000 years ago (Henshilwood *et al.* 2009), leading to making patterned marks on ochre at around 73,000 years ago (Henshilwood *et al.* 2002) with a tiny example from Klein Kliphuis rather later (Mackay & Welz 2008); engraved and shaped bone objects from the later period at Blombos and Klasies River (d'Errico *et al.* 2001; d'Errico & Henshilwood 2007); shell beads at Blombos back to 76,000 years ago (d'Errico *et al.* 2005; Henshilwood *et al.* 2004); and production of patterns on ostrich-egg shells probably used as water containers before 60,000 years ago (Texier *et al.* 2010). Several of these instances seem to be isolated occurrences, yet in writing archaeohistory, archaeologists tend to fill in the gaps and smooth

Table 2. *Ritual, from Rappaport (1999), and other factors in rock art. It is worth noting that the Trinil shell is a single instance 500,000 years old and isolated from other finds in time and space; Blombos is known for 100,000-year-old paint mixing, scratched ochre and ochre with patterned engravings, while Diepkloof has some similar patterns in scratches on many pieces of ostrich eggshell; Neanderthal includes a stone arrangement, several uses of bird bones, small numbers of marks on cave walls over more than 150,000 years; Sulawesi has several sites dating from more than 40,000 years ago; Cave art includes (mostly) paintings in more than 150 caves in France, Spain and elsewhere, but there are also examples of engraved or carved bone too; there are over 700 sites with examples of the art called Levantine art; Other includes sites all over the world but here is represented by Nine Mile Canyon. For the scratched shell from Trinil, see Joordens et al. (2015). For all other columns, see references in this paper. For cave art, see Davidson (2012c); for Other, see Ross for Central Australia (Ross & Davidson 2006) and Spangler and Davidson (2021) for Nine Mile Canyon. For the distinction between scenes of states and scenes of action, particularly with reference to eastern Iberia, see Villaverde (2021).*

	Trinil shell	Blombos & Diepkloof	Neanderthal	Sulawesi	Cave art	Levantine art	Other (NMC)
Invariance	N	?	N	Y	Y	Y	Y
Repetition	N	Y	N	Y	Y	Y	Y
Specialized time	N	N	N	?	Y	?	Y
Specialized place	N	Y	Y	Y	Y	Y	Y
Stylized behaviour/ stylized form	Y	Y	Y	Y	Y	Y	Y
Performance and participation	N	N	?	?	Y	Y	Y
Form which can hold and transfer a canonical message	N	N	?	Y	Y	Y	Y
Scenes of states	N	N	N	Y	Y	Y	Y
Scenes of actions	N	N	N	Y	N	Y	Y
Other symbolic	N	Y	Y	N	Y	Y	Y
Visible afterwards	N	N	N	Y	?	Y	Y
Images of special people	N	N	N	Y	Y	Y	Y

them over, hoping that there is an undiscovered sequence of similar events. There seems to be a link between the early art of Blombos and Diepkloof, at least in the production of cross-hatched designs, but no link to later art. Among later art, a small number of painted plaquettes was produced at Apollo XI cave in Namibia at about 30,000 years ago (Rifkin *et al.* 2015), a little earlier than the unconnected but similar paintings on plaquettes at 26,500 years ago at Parpalló about 9000 km to the north. But there was no continuing tradition of painting on stone or other plaquettes in southern Africa. Some of the markings said to begin the sequence in South Africa can be compared to marks elsewhere in the world, but they did not seem to lead to the novelties identified at Blombos and Diepkloof (Villaverde 2020, figs. 10–13). The real archaeohistory of art probably needs to admit that: 1) there were often convergences; 2) it was important, from time to time, in many places for many reasons; but 3) that importance did not always translate into an ongoing oral tradition such that the practice continued. Yet it might all be part of the ongoing, related, behaviour of producing art.

Across the world there are many candidates for early art (see Table 2) which can be tabulated in

relation to the criteria for identifying ritual that Rappaport (1999) worked out, as well as some other features. This seems to show that perhaps the associations of marked things at Trinil and at Blombos, and places or things among Neanderthals in Iberia and southern Europe, might not have combined ritual with marking in such a way as to leave unambiguous the cognitive status of the hominins concerned (Barnard *et al.* 2016). All the other examples in Table 2 said to be early art included scenes as well. Arguably storytelling was essential for the association of images with purely mental roles, and scenes were necessary for people to see mental roles in images independent of the oral tradition. The fact that ritual seems to have been part of the context of such mental roles emphasizes the importance of the linkage between art and cognitive evolution, and perhaps some of the process.

Conclusion

How did human ancestors move from the sorts of marks that were not art to the appearance of art well-known in European cave art and in the archaeological art of Australia? The situation is complicated by the different natures of historical narratives, on

the one hand, and the tendency to gloss over discontinuities in the record, on the other. Instead, we need a theoretical position which will allow us to situate various 'art' discoveries and consider what they tell us about the relationships between people and such objects. Although human ancestors involved in early marking contributed to the archaeohistory of the emergence of art, that relationship was probably about the way people see the world and talk about it rather than the objects themselves.

Notes

1. The same argument would apply for engravings, particularly as the process of their production might have been more time-consuming, and the sound of their production more obvious to those involved as observers of the ritual.
2. About 125 km east of Newman, or 500 km southeast of Port Hedland in Western Australia.
3. I am extremely grateful to Bob's wife Dr Myrna Tonkinson for her guidance in discussion of this instance. (Pers. comm., email 15 November 2022).
4. The numbers used here are deliberately approximate.
5. Actually quite difficult to document.

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