

SYMBOLIC ARTS AND RITUALS IN THE AFRICAN MIDDLE STONE-AGE

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Abstract

Since the 1950s the huge amount of archaeological research done in Africa has shown that Homo sapiens originally came from Africa rather than Western Eurasia as was previously thought. Nevertheless, some Western scholars retain a Eurocentric bias by suggesting that humans only became fully intelligent after they migrated out of Africa and settled in Europe where, during the 'Upper Palaeolithic Transition' around 45,000 years ago, there was an abrupt advance in human neural wiring. Their evidence is the relatively sudden change from Middle Palaeolithic to more advanced Upper Palaeolithic² tools and the appearance of the spectacular figurative cave art of Europe. This mental revolution was initially believed to have occurred in 'Cro-Magnon Man' who lived in Europe and Western Eurasia 45,000-40,000 years ago and was considered to be the first human to have the cross-domain cognition and enhanced memory necessary for a sophisticated language and symbolic behaviour. In short, although after the 1950s archaeologists generally have acknowledged that prehistoric Africa was the cradle of mankind, some still insist that prehistoric Europe was the cradle of human intelligence. New research on the African Middle Stone Age (MSA), that itself goes back 300,000 years, is challenging this view. This paper provides some examples of symbolic, ritual and artistic behaviour, and indeed advanced tool making that took place during this period and up to around 60,000 years ago, long before the appearance of Cro-Magnon Man.

Europe's Upper Palaeolithic cave art

Before presenting the main topic of this paper something must first be said about the Upper Palaeolithic cave art of Europe and Asia, as this well researched area provides a base-line for the later discussion on the evidence of symbolic behaviour during Africa's MSA. The Upper Palaeolithic stretched from 42,000 year ago until the Neolithic era of farming and stock breeding that began around 12,000 year ago. It began with the ten thousand year Aurignacian phase, and it is then that we find the first evidence of representative cave art made by modern humans. Some of the very earliest are 40,000 year old painted hand stencils and the first of literally hundreds of figurines of fecund women carved from stone and bone that are thought to be mother deities linked to fertility religions. The oldest is the 'Venus of Hohle Fels' from southern Germany which was found in association with flutes, and as these were all made from bone they have been dated by radio carbon methods. Equally old

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² Eurasia's Middle Palaeolithic and Upper Palaeolithic are roughly equivalent to Africa's Middle Stone Age (MSA) and Late Stone Age (LSA).

are phalangeal whistles made by piercing one end of the phalange or toe-bone of a reindeer that, when blown across, creates a single high pitched sound, and was probably used for signalling, rituals, or imitating bird or other animal sounds as a hunting decoy (Rudgley 2000: 203).

Another bone artefact that has been radio carbon-dated to 35-32,000 BP is an engraved mammoth ivory slab unearthed at the German Geisenklösterle Cave, depicting a human figure with arms thrown upwards as if worshipping, and so named the 'adorant'. As this was associated with bone flutes and ivory beads, it is thought that elaborate ceremonial dances were held in this cave. On the back of the 'adorant' slab are eighty-eight notches that are possibly a counting system, or a calendar related to the number of days in three lunar months. During Aurignacian times personal ornaments were also being made of perforated shells, sometimes painted with red ochre, and as the raw materials for these often had to be bought from distant places, some sort of social exchange or trade must have been taking place.

It is the Aurignacian period that produced the earliest world-famous naturalistic cave paintings of wild bison, mammoths, bears and so on, the earliest being charcoal drawings from the Chauvet-Pont-d'Arc Cave in southern France which radio-carbon dating shows were done around 32,000-30,000 years ago (Quiles et al. 2016).³ It is believed by archaeologists such as Jean Clottes and David Lewis-William (1998) that these life-like portrayals of animals played a part in hunting rituals based on sympathetic magic officiated by shamans who dressed up as animals and went into trance states. Indeed, in some European caves there are depictions of such magicians, an early one being a charcoal drawing from the Chauvet-Pont-d'Arc Cave of a man with a bison's head.

The Aurignacian ended 32,000 years ago and was followed by a series of stone-age industries called the Gravettian, Solutrean and Magdalenian that lasted until 12,000 BP, during which time tools became more advanced, and the first hunting bows and spear throwers (or atlatls⁴) appeared in Europe. There is also evidence of intense symbolic activity, for instance a 25,000 year old Gravettian engraving from south-western France, of a corpulent woman known as the 'Venus of Laussel' who is holding a bison horn with thirteen scratches on it. According to Morley (2013), this may represent the thirteen months of the lunar year, or is a rasp type of musical instrument, or both.

Evidence of performing arts found in Solutrean sites include the 20,000 year old bull-roarers, bone musical rasps and a mammoth bone 'percussion orchestra' unearthed in the Ukraine. Then there is a 15,000 year old Magdalenian painting from the French Trois Freres Cave of a flute playing and dancing male shaman wearing bison skins and horns, and a stone slab from Germany engraved with young dancing females

³ Slightly older (35,400 BP) paintings of wild animals are found at Timpuseng Cave on the Indonesian Island of Sulawesi.

⁴ [An atlatl is a precursor of the bow and arrow. - Ed.]

portraying the rites-of-passage ceremonies of girls being initiated into womanhood (ibid).

The Upper Palaeolithic Transition and sudden appearance of ‘advanced’ Cro-Magnon Man in Europe

The artistic and technological breakthroughs which began in Eurasia, during the Upper Palaeolithic Transition and Aurignacian era, were initially ascribed by archaeologists to a form of modern human they called ‘Cro-Magnon Man’, after the French site of the same name, where its skulls were found in 1868. Cro-Magnon Man was believed to have suddenly appeared or migrated into Europe about 45,000-40,000 years ago; and due to its mental and technical superiority, quickly replaced the more primitive form of human known as ‘*Homo neanderthalensis*’ or ‘Neanderthal Man’ that had been living in Europe and the Levant for around 400,000 years (Meyer et al. 2016).⁵ Like Cro-Magnon Man, the first Neanderthal fossils were also discovered in the mid-nineteenth century Europe (Neander Valley, Germany); and so it was assumed by archaeologists at the time that these hominins were forerunners of humans, and that they rapidly went extinct with the appearance of their more advanced Cro-Magnon Man descendants.

This supposition, that the prehistoric beginnings of cave art and sophisticated tool-kits were made by Cro-Magnons, was a natural result of their all being discovered at sites in Europe’s ‘back-yard’, so to speak; since the nineteenth century these sites were intensively explored by generations of Western archaeologists and art historians. However, this resulted in the notion that the emergence of advanced modern humans sprang from European soil. Indeed, quite recently the British archaeologist Steven Mithen (1996, 2005) suggested a reworked version of this old Eurocentric notion: that the appearance of enhanced memory and symbolic cognition suddenly occurred due to mutations in the human nervous system that took place during the Upper Palaeolithic Transition.

However, this paper examines evidence which supports views alternative to this notion of a sudden mental revolution occurring in Europe some 45,000-40,000 years or so ago; and it does so from two angles. Firstly, as discussed in the following section, archaeological evidence from Europe has demonstrated that the supposedly brutish Neanderthals were capable of symbolic behaviour. Secondly, and this is the main focus of this article: recent research has demonstrated that modern humans first appeared in Africa around 300,000 years ago; and that it is these Middle Stone Age (MSA) hunter-gatherers and their African descendants who provide the first evidence of modern type behaviour. As will become clearer from the lithic and symbolic evidence discussed, this began before humans had migrated out of Africa – let alone before their reaching Europe.

⁵ The Asian cousins of the Neanderthals are the ‘Denisovans’, whose fossil remains have been found in southern Siberia.

Cro-Magon Man, the question of Neanderthals, and the African MSA

There are a number of problems with the early linear argument that the sudden appearance of Cro-Magnon Man corresponded with the equally sudden extinction of Neanderthals. The first problem goes back to 130,000-90,000 year old fossils found at the Skhul and Qafzeh Caves in northern Israel. When unearthed back in the 1930s, these fossils were believed to be linked with either Neanderthals or transitional between Neanderthals and modern Cro-Magnons. However, despite the Neanderthal type Mousterian tools associated with these fossils, these were later recognised to be of an archaic form of modern human (Bar-Yosef Mayer et al. 2009). Moreover, recent evidence from Manot Cave in Northern Israel suggests that by 60,000-50,000 BP humans and Neanderthals not only lived in close proximity but may have been inter-breeding (Callaway 2015).

Consequently, as Neanderthals and humans must have co-existed for a long period of time, archaeologists realised that Neanderthals could not be the primitive ancestors of humans, but were in fact cousins of *Homo sapiens*, both having evolved from an earlier hominin known as *Homo heidelbergensis*. Moreover, the last Neanderthals (who lived in Spain) did not die out until 28,000 years ago (Finlayson et al. 2006). Consequently in the context of Western Europe, humans and Neanderthals existed together for some 15,000 years; and so, as in the Levant, they must have inter-bred. Indeed, geneticists have shown that the genetic make-up of modern Caucasians is between one and two per cent Neanderthal (Sankararaman et al. 2016).⁶

As noted above, the older generation of archaeologists considered Neanderthals to be rather dim-witted creatures only capable of making crude 'Mousterian' Middle Palaeolithic tools. However, there is now considerable evidence that Neanderthals were capable of symbolic behaviour. By 60,000 years ago Neanderthals, geographically separated as far apart as Iraq and France, were burying their dead with graves-goods like flowers, tools or red ochre. Red painted hand stencils and ladder-like shapes from Spanish caves have been recently re-dated to 65,000 BP (Greshko 2018). Pushing this symbolic timeline back even further, there are 115,000 year old perforated seashell beads from southern Spain (Greshko 2018). An eagle talon necklace was discovered in 2015 in northern Croatia that is 130,000 years old (Wong 2015); and red ochre found at a 250,000-200,000 year old Neanderthal site in the Netherlands (Roebroeks et al. 2012).

Despite Steven Mithen's contention (2005) that Neanderthals did not have the 'cognitive fluidity' to think symbolically, he did believe that they could sing, although due to the smaller space between their tongue and the throat, this would have been high pitched and nasal. So, not surprisingly, some musical instruments have been found at Neanderthal sites. One is a 50,000-40,000 year old pointed

⁶ This genetic mixing also occurred a little later in time and to a greater degree between humans living in Asia and an eastern type of Neanderthal known as the 'Denisovans'. Consequently present-day East Asians contain up to five per cent Denisovan genes (Sankararaman et al, 2016).

mammoth bone with twelve parallel lines on its side that Richard Rudgley (2000) believes may have been both a tool and a musical rasp. Another is a 43,000 year old two holed flute made of a bear femur, discovered in Slovenia in 1995. However, some archaeologists believe these holes were made by a hyena crunching the bone. More definite, according to Paul Mellars (1996), are phalangeal whistles made of deer bones found at Neanderthal sites dating to 45,000 BP.

Besides the evidence of Neanderthal symbolic behaviour, other research of the last few decades refutes the idea of a sudden replacement of their crude Middle Palaeolithic Mousterian tools by the sophisticated Aurignacian ones of the Cro-Magnons. The reason for this is that the Aurignacian technology itself was not a new innovation, but developed out of an earlier proto Upper Palaeolithic technology found in southwest France, called the 'Chatelperronian' that was used by both Neanderthals and modern humans. The Chatelperronian combined Middle Palaeolithic prepared core technology with some features of Upper Palaeolithic technology, such as ivory and bone tools and stone flake tools that were refined by secondary flaking or 'retouching' (Roebroeks 2008). Thus the supposedly primitive Neanderthals were using both old and new Stone Age technologies. Even if, as some suggest, these were simply imitations of the Cro-Magnon tools-kit, it strengthens the argument that Neanderthals and humans co-existed in Western Eurasia at the same time.

This evidence of symbolic behaviour (burials, art-works and music) and even some developed tools amongst the Middle Palaeolithic Neanderthals of Western Eurasia, all argue against the old notion that these advances were solely the product of modern Cro-Magnons. This leads us on to the main concern of this paper, which is to examine the view that in the case of Africa, these cognitive and symbolic developments began much earlier than conventionally assumed, and began with the emergence of modern humans around 300,000 years ago.

There are three lines of evidence from Africa that support the view that the first modern humans appeared long before Cro-Magnon Man. *Firstly, there are the fossils dating from between 300,000 and 160,000 years ago that have been recovered from Morocco, Ethiopia, Tanzania, South Africa and Kenya. Indeed, the American palaeo-anthropologist Alison Brooks' work at Olorgesailie Basin in Kenya has pushed the emergence of modern humans as far back as 320,000 BP (McBrearty and Brooks 2000). Secondly, recent DNA research suggests that humans originated in Africa 350,000-260,000 years ago (Bower, 2013). Thirdly, there is now an abundance of archaeological evidence of symbolic activity amongst even the earliest MSA Africans; this in turn implies the existence of spoken and sung languages, beliefs systems and socio-cultural activities.*

At this point we will discuss in some detail five types of symbolic behaviour that appear in the archaeological record of the African MSA. These include engravings, mortuary practices, ornaments and musical instruments. However, we begin with the very earliest hint of symbolic behaviour amongst the very first modern humans; this

is the presence of paint pigments such as red, yellow and brown ochre (haematite/iron oxide) and black manganese dioxide.

Evidence of symbolic behaviour during the African MSA:

1) **Ochre paints.** Coloured pigments in fact go back long before the appearance of modern humans and to the time of *Homo heidelbergensis* some 400,000 years ago. An example is the 'Venus of Tan-Tan', a naturally human-shaped stone found in Morocco in 1999 that was chipped and then painted with black and red pigments into the likeness of a woman.⁷ Equally old red ochre has also been found at Terra Amata in southern France and associated with the remains of *Homo heidelbergensis* (Marshack 1981) which was, as already noted, the antecedent of both Neanderthals and modern humans. Thus it is not surprising that both descendants had a proclivity for using pigments.

Pigments found with early modern humans (and indeed *Homo heidelbergensis* and Neanderthals) go back to a period long before the appearance of the first cave paintings; and so it is believed they had several other purposes. One is that they were used in a utilitarian way, to tan leather, as an insect repellent, as a sun screen, and for thickening up glues used for hafting tools. However, scratches on some of these lumps of coloured ores that are found with human remains suggest they were also ground into powder that, when mixed with water and fats, could be used as paint. As discussed below, this was to colour the body and various objects for rituals connected with hunting, menstruation and fertility.

At this juncture, an observation needs to be made about the antiquity of the coloured ochres that have been found with early modern humans in MSA Africa. Red ochre and ochre-stained grindstones have been found in the Kapthurin Formation in Kenya, dating to 284,000 BP or possibly even earlier (Tryon and Tyler 2013). Equally old are the remains of a sparkly form of red ochre known as 'specularite' unearthed at sites in the northern Cape Region of South Africa. From the same area are 300,000 year old pieces of specularite and red ochre found at sites such as Wonderwerk Cave in the South Africa's Northern Cape Province that are associated with a very early MSA technology known as the 'Fauresmith' (Tryon and Tyler 2013, Watts et al. 2016).

Hundreds of variously hued ochre pieces have also been unearthed at the Twin Rivers site in southern Zambia on the Lower Zambezi River that date to 140,000-350,000 years ago, and are associated with two other very early MSA tools kits: the 'Sangoan' and the slightly later 'Lupemban'. According to the British archaeologist Lawrence Barham who excavated the site in 1996, these coloured minerals were used for ritual body painting (Himelfarb 2000).

As noted above, research by Alison Brooks and others at Kenya's Olorgesailie Basin has pushed the appearance of modern humans back to 320,000BP, and their remains are accompanied by chiselled lumps of red and black ore that are thought to have been used symbolically as body paint. Moreover, they made tools from obsidian rock

⁷ This Venus could have even been made by a late *Homo erectus*.

that came from 25-50 kilometres away, suggesting exchange networks. The presence of symbolic behaviour and social networks suggests these early humans had a language, long before the first trickle of humans began to migrate out of Africa 190,000-180,000 years ago.

Later examples of pigments being used by early MSA humans are 180,000 year old yellow and red pigments and grinding stones found at Sai Island on the Middle Nile in Northern Sudan, and equally old red ochre at the Zambian site of Kalambo Falls that is associated with the Sangoan/Lupemban tool kits typical of forested areas. Another Zambian site is the 170,000 year old Mumbwa Cave that also contains red ochre as well as other advanced features, such as a permanent stone hearth and a semi-circular windbreak near the cave entrance (Barham 1995).

Further south, red and yellow ochres have been found in South Africa associated with the Fauresmith MSA toolkit that was associated with the savannah areas. One such site is Border Cave in the Lebombo Mountains of South Africa's Kwazulu-Natal Province, where 220,000-150,000 year old ochres have been unearthed. There are also two coastal cave sites in South Africa with red ochre, one being in the 164,000 BP deposits at Pinnacle Point in the Western Cape Province. The other is at Klasies River in the Eastern Cape Province, where Singer and Wymer (1982) discovered wedge shaped 'crayons' of red pigment that date back to around 125,000 BP. Of the same age are yellow, red and brown ochre 'crayons' found at Bambata Cave in Zimbabwe (Hansen 2011).

In 2011 the South African archaeologist Christopher Henshilwood discovered the very first human 'paint workshop', which is 100,000 years old and was unearthed at Blombos Cave on the South African coast. It consists of grinding stones, animal bone paint-brushes and sea-snail shell containers used to mix the ochres with bone-marrow fat. (Henshilwood et al. 2011). Still in the context of southern Africa, red ochre has also been found at the Apollo 11 cave in Namibia that goes back to 126,000BP; long before its famous lion-man painting done 27,000 years ago during the African Late Stone Age (LSA). (Singer and Wymer 1982).

As no paintings on rocks, stones or cave walls have been found in Africa prior to 27,000 BP, I will discuss some of the possible symbolic MSA uses of natural pigments. One that has been noted already is their application for painting the body, whilst the South African archaeologist Ian Watts (2009) and Sarah Wurz (2014) believes that ochre was also used to decorate animal skins. -Whether painted on the body or on animal hides, the different ornamental colourings and markings might have been used to identify different hunter-gatherer family groups, or to denote the differing age, gender and status of people within a particular hunter-gatherer band. Because of its colour, a particular use of red pigment may have been to symbolise life-blood, which would explain why it was sometimes associated with early human burials, as discussed later in this article.

Red body paints may have also been ritually used as a symbol of animal blood by pre-historic hunters, and even today some hunter-gatherer men treat the killing of game as a blood sacrifice to their deities. For instance, when South Africa San

Bushmen go on hunting expeditions, they paint themselves in red ochre (Campbell 1815/1816), whilst young Australian Aboriginal boys are ceremonially inducted into manhood and hunting by being smeared in a mixture of red ochre and blood. Moreover, Aboriginals often customarily paint their boomerangs, spear-throwers and spears with red ochre to magically enhance their killing effectiveness.⁸ So another use of the red ochre in MSA Africa may have been for painting the body of hunters and their weapons such as spear shafts. Indeed Anne Gibbons (2018) has suggested this as one of the purposes of the 320,000 year old lumps of red ochre found at Olorgesailie.

Yet another symbolic use of red paint comes from its colour being that of menstrual and birthing blood; this, amongst many living forager societies, is considered particularly sacred, and indeed dangerous for men to touch. Many surviving hunter-gatherer societies make a strong connection between red ochre and menstruation (Knight 1988). In Australian Aboriginal 'dream-time' myths, red ochre is thought to have been the menstrual blood that the primordial Wawilak Sisters dropped as they walked about shaping the landscape. Moreover, Aboriginal, as well as African Hadzabe and Khoisan women, often use red ochre body paint for the puberty initiation rites that follows a girl's first menses, and thus signals female ovulation and fertility (Lewis-Williams 1994, Knight, Power and Watts 1995, Marshall, 1976).

Because of red ochre's use in the female puberty rites of some living hunter-gatherer societies, the evolutionary anthropologists Chris Knight, Ian Watts and Camilla Power (1995) propose another early use of this paint pigment, which was for the menarcheal rites of 'female cosmetic coalitions'. Camilla Power (2004) for instance suggests that it was used for what she calls 'sham menstruation'. Her theory is that men, who are under the biological imperative to widely sow their seed, might have been particularly attracted to women whom they knew were ovulating. However, for humans (unlike other primates) the signs of ovulation are hidden, and so the only clue that a woman is fertile is that she menstruates. Prehistoric hunter-gatherer males could therefore use this information to favour women who are regularly menstruating, and conversely disregard or desert those who are not, as this would be a sign that they were not fertile at the time. Power (ibid) suggests that as a result of this male discrimination between menstruating and non-menstruating females, women of reproductive age collectively mimicked menstrual signs, by painting themselves with red ochre and ceremonially exhibiting this through public menarcheal dances. This 'sham menstruation' confused the men about women's reproductive status because the ochre camouflage prevented them from knowing which of the women were menstruating. These rituals would enhance female solidarity, hinder male philandering, and stabilise the long-term family relations necessary for the prolonged period of child rearing found in humans.

All this is highly speculative, but nevertheless there has to be an explanation for the widespread use of paint pigments by humans a quarter of a million years before the

⁸ See for instance www.aboriginalartstore.com.au/artists/lyndsay-bird-mpetyane/red-ochre & www.webexhibits.org/pigments/intro/reds2.html.

appearance of cave painting. As mentioned, one answer is that paint ochres had practical uses like tanning animal hides and so on, whilst another draws on the symbolic aspect of paint. As noted, the latter range from expressing individual and group identity and status, to male hunting and female menstrual rituals, and also, as discussed later, a belief in an afterlife.

Evidence of symbolic behaviour during the African MSA

2) *Engravings and cupules*. Besides red ochre, another very early type of evidence of symbolic behaviour in MSA Africa is rock engraving. These are of two types: one being the scratching of abstract and geometrical designs onto stones, whilst the other is the pounding and grinding of circular hollows or ‘cupules’ into rocks or cave walls. In fact, both these types of ‘art’ work go way back to Early Stone Age pre-humans, like *Homo erectus* who were engraving zigzag and parallel lines on shells and bones between 500,000 and 300,000 years ago as found in Germany and Java, and who were hammering cupules into rocks in southern India (Thompson 2014, Bednarik 2003). Around the same time *Homo erectus*, or its descendent *Homo heidelbergensis*, was chipping and engraving naturally humanoid shaped pieces of stone into fecund female shapes, such as the North African ‘Venus of Tan-Tan’ mentioned earlier.

The oldest engraved ‘art works’ made by humans are two slabs of reddish ironstone and black specularite found at Wonderwerk Cave in South Africa; both have seven parallel lines scratched into them. These date back 187,000 years, are associated with Fauresmith MSA tools, and were probably made by an archaic form of modern man called ‘*Homo helmei*’ (d’Errico et al. 2012b). Of about the same age are cupules hollowed into a limestone slab found on Sai Island in Northern Sudan (Bednarik 2008: 77).

Much later examples of MSA engravings come from the Klasies River site where a number of red ochre stones etched with lines have been found that are 100,000-85,000 years old (d’Errico et al. 2012b). Some of these scratches may have been made to extract the paint dust; but one piece is thought to have been deliberately engraved with parallel lines (ibid). At Blombos Cave in Western Cape Province, a 77,000 year old slab of red ochre was found in 2002 with crosses and grids engraved on it (ibid).

It is difficult to determine what these lines, grids, circles and other geometrical patterns represented to the associated populations, but it is of interest to note that this type of art long predates the representative and figurative art that emerged in Eurasia’s Upper Palaeolithic shortly after 40,000 BP, and in LSA Africa (Apollo Cave, Namibia) around 27,000 years ago. As a result a number of archaeologists have tried to obtain clues to their meaning by examining the rock and other designs of living hunter-gatherers societies who still have a folk memory as to what they mean.

One example of such an approach is that of the South African rock art *archaeologist* David Lewis-Williams (1994) who suggests that pre-historic geometrical rock-art

designs depict the vague patterns and ‘entoptic images’ that naturally appear at the back of the eye when one is in a trance, resulting from sensory deprivation (as in a dark cave), or triggered by psychotropic herbs and/or vigorous dance. This conclusion was drawn from the recollections of living San hunter-gatherers who, until recently, had an ‘art’ tradition of both geometrical shapes and representational figures that were painted or etched onto rock surfaces by their shaman artists. The San believe that abstract lines, curves, zigzags, criss-crosses and circles represent magical ‘n/um’ energy that in their animist religion permeates all the world’s creatures and objects, and which their shamans and medicine people access through trance dance. Lewis-Williams (1994) further suggests that the geometrical patterns found in Eurasian Upper Palaeolithic cave art were likewise a depiction of the spiritual energy that prehistoric artists-cum-shamans tapped through trance and spirit possession dances.

Another comparison of prehistoric abstract symbols to those of living hunter-gatherers comes from studies of the finger-painted rock designs of Central Africa that go back 14,000 years ago. This LSA ‘art’ was done by ancestral pygmies and is composed of parallel lines, circles, concentric and radiating circles, dots, u-shapes, crescents, oblongs and dumb-bells (Namono 2012). Some suggest these to be depictions of the sun, the moon, the rain and rainbows, and so are related to rituals centring around the seasons and the weather (Smith 2005). Others suggest they resemble vulvae and phalluses, such as posited by the British archaeologist Merrick Posnansky (1961) who worked on prehistoric Ugandan paintings during the 1960s.

Another who sees these as gendered symbols is Catherine Namono (2012) who attempted to decode prehistoric Ugandan pygmy rock art by drawing on information of the ceremonial designs, motifs and practices of living pygmy groups: such as the Twa of Zambia and the Mbuti and the eastern Democratic Republic of Congo. For instance, she notes that pygmy women still paint concentric circles on their bodies to represent the fertility of the womb. She hypothesises that the prehistoric circles represent the womb and vulva, whilst the sausage like oblongs are phallic, and parallel lines and dots are watery male semen. Her argument is strengthened in that some of these phallic and circular images are attached to or penetrate each other, as with the dumb-bell shapes. She therefore concludes that these rock faces were adorned with gendered images and were locations for fertility rituals that involved a ceremonial harmonising of the complimentary roles of the two sexes: such as still found, although without the pictorial element, in the male ‘molimo’ and female ‘elima’ rituals of the Mbuti pygmies studied by Colin Turnbull (1961).

As painting is a symbolic act that involves cross-domain cognition, these abstract designs may of course combine or condense together multiple beliefs, related for instance to both rain making and procreation. So for Namono, dots and parallel lines may mean both semen and the rains, circles the womb and moon, whilst rayed circles are both the sun and the hearth-fire that pygmies consider to be feminine.

These various interpretations of abstract rock art by Lewis-Williams, Namono and others who draw on information from living foraging peoples are useful when

looking at prehistoric art, whether Africa's LSA or Europe's Upper Palaeolithic. However, these are conjectural, and even more so when pushing this comparative method back to the geometric rock art of MSA times. Indeed, abstract symbols may have had a whole host of other meanings that we can never know, as they are unique to the particular MSA, LSA or Upper Palaeolithic society that made them.

This difficulty in trying to ascertain the meaning of MSA geometrical designs also applies to cupules hollowed into rock. But again turning to living hunter-gatherers may at least provide some clues; and one such is that these may have been linked to the fertility 'increase rites' found in animistic religions. For instance and according to the Australian archaeologist Robert Bednarik (2008: 72), up until recently the Aboriginals of Central Australia pounded and ground cupules into rock faces, believing that the dust they produced magically enhanced the production of bird eggs that the Aboriginals ate.

The idea that scraping rock helps release its magical animist energy might not have only applied to MSA cupules, but also to the various geometrical patterns engraved on stone found in South Africa that were mentioned above. As noted, the South African San call the inner animating spirit 'n/um', whilst a more well-known word for this supernatural energy is 'mana', popularized back in the nineteenth century by Western ethnologists and missionaries studying the Polynesian and Melanesian animist religions of the Pacific (Codrington 1891).

Thus prehistoric people may have scraped and etched stone to create a powder that captured its magical 'n/um' or 'mana' potency, that when made into a paint could then be transferred to peoples skin for various rituals related to hunting, fertility or death. To strengthen the symbolic transfer of the stone's 'mana', the geometrical design scratched into it, like the criss-crosses on the 77,000 year old Blombos Stone, may have been the very patterns that were painted on the body.

Although it is difficult to determine the meaning of cupules and engravings, there is one southern African MSA example where the meaning is quite clear. This is the 70,000 year old Python-Head Rock at a cave in the Tsodilo Hills of northern Botswana that was excavated in 2006 by Sheila Coulson. She notes that to make this naturally snake-like rock more serpentine, hundreds of scale-like notches and cupules had been engraved into its twenty foot length, and that this was done over many years as she found thousands of the tools used in cutting and grinding the scales. She also believes this cave was a ritual site as some objects found were not for everyday use, such as spear-tips made of red stone that had been brought from several hundred kilometres away, and then broken and burnt as offerings.

A final example of evidence of a symbolic engravings is the 'Lebombo Bone' that dates to 43,000-42,000 BP and thus is at the transition period between the MSA and LSA. This baboon bone was found at South Africa's Border Cave and has twenty-nine irregularly spaced notches cut into it. This demonstrates that by this time humans were able to represent numbers and time, as it seems to be a tally stick for counting off the days of the lunar month. Indeed up until recently the San hunter-gatherers of the Kalahari area used a similar calendar stick (d'Errico et al. 2012a).

Incidentally, The Lebombo Bone is around 10,000 years older than the engraved bones and stone lunar calendars found in European caves that were mentioned earlier.

Evidence of symbolic behaviour during the African MSA:

3) *Early mortuary rites.* A third type of evidence of early symbolic thought are mortuary rites that imply the ability to imagine an afterlife. A hint of this practice goes back to the 430,000 year old Spanish ‘pit of bones’ where as noted thirty *Homo heidelbergensis* (or possibly proto Neanderthal) bodies may have been purposely buried (Waghorn and Halkon 2016). The first human mortuary practice appears to have been carried out 160,000 years ago by so-called ‘Idaltu Man’, which was found by archaeologists in 1997 in *Ethiopia’s Rift Valley* (Wurz 2014). Three of its fossil skulls were scraped and de-fleshed, but also polished; suggesting that this was not a case of cannibalism but rather a ritual for the dead (ibid). Another early example comes from the northern Israeli cave site at Skhul where archaic humans were buried around 130,000 years ago accompanied by perforated seashells and red ochre which, as noted earlier, can symbolise life blood and by extension life after death

There is also an MSA human burial at Border Cave in South Africa, where the remains of a 74,000 year old infant have been unearthed that was painted in red ochre, again presumably to help immortalise the deceased. Even modern hunter-gatherers, such as the Australian Aboriginals, sometimes paint the bones of their dead with red ochre and carry some of them around as mementos.⁹ The Border Cave infant was also accompanied by perforated *Conus* sea-shells (d’Errico 2016). This mention of ornaments leads us on to the fourth type of evidence of African MSA symbolic behaviour.

Evidence of symbolic behaviour during the African MSA:

4) *Shell ornaments.* Ornamental shells, collected during the African MSA, reflect various areas of symbolic cognition, such as an aesthetic sense, individual identity, and social status. An early example comes from Pinnacle Point Cave on South Africa’s southern coast, where both sea-shells and red ochre dating to 164,000 BP have been found (Marean 2010). These shells are not the remains of the usual shellfish cracked open and eaten by the people living there and then discarded in rubbish middens outside their cave living-quarters. Rather, these are two particular types of shells (*Helmet* and *Dog Cockles*) that had died naturally and were collected from the shoreline and taken as valuable or as striking objects to the cave. According to Curtis Marean (2012) these ‘beauty shells’ also had another socio-symbolic significance as gift articles that were exchanged by the people who collected and stored them.

⁹ This painting is done in the final stage of a secondary form of burial. See for instance Information on Aboriginal funeral traditions and etiquette. 29th November 2016. <https://www.funeralzone.com.au/help-resources/arranging-a-funeral/religious-funerals/aboriginal-funerals>. Accessed 16th September 2018.

Later on, sea-shells were pierced so as to string them into necklaces, bracelets and pendants. Some of the oldest are perforated and red coated *Nassarius* sea-shells found at the Skhul burials in Israel that, as mentioned above, may be as old as 130,000 BP, and similar ones from the Taforalt Grotte des Pigeons in Morocco that in 2007 were firmly dated to 82,000 BP. In both the Israeli and North African examples, marine shells were brought from hundreds of kilometres away, suggesting some form of exchange networks (Hansen 2011, Ravilious 2007, Van Haeren et al. 2006).

Later MSA examples of pierced marine shells have been found at South African Stillbay sites; that is a stone technology that lasted from 77,000 to 66,000 BP, such as at Blombos Cave and also Sibudu Cave in Kwazulu-Natal (d'Errico et al. 2008). On the other hand, pierced land snails as well as red ochre have been found in Ethiopia's Porc Epic Cave; these have been recently re-dated to 70,000-60,000 BP (Assefa et al. 2008: 746-747).

In South Africa around 65,000 BP and during the MSA stage that followed the Stillbay known as 'Howiesons Poort' (66,000-58,000 BP), people began to ornament ostrich eggshell water containers. These were first recovered by the French archaeologist Pierre-Jean Texier in 2010 at Diepkloof Rockshelter on the Cape Province Coast. By putting together hundreds of shards, he noted various types of geometric designs, such as grids, parallel lines, curves, parallel curves and rectangles. Of roughly the same age and with similar engraved designs as Diepkloof are engraved ostrich eggshells from the Howiesons Poort layer of the Apollo 11 Cave in Namibia (Porraz et al. 2013), and the coastal Klipdrift shelter in the De Hoop Nature Reserve in South Africa's Western Cape (Henshilwood et al. 2014). This suggests not only the creation of a tradition of standardised designs, but it also reveals that these were spread out geographically, as these three locations span a distance of around 700 kilometres.

Although more typical of LSA times, polished annular ostrich eggshell beads were also beginning to be made during the MSA. The earliest examples date back to 52,000 BP that come from two rock shelters in Tanzania, one being Mumba in the northern part of the country and the second at Mungubite in the south (Miller and Willoughby 2014: table p.121, Gliganic et al. 2012).

Both ostrich shell beads and decorated water containers continued to be made in LSA times, for instance by the San hunter-gatherers of South Africa, who still make them today. Indeed the beads are customarily the favourite item traded in their kin-based intragroup gift exchange system known as the '!hxaro'. The San also sometimes use shards from these shells in various types of leg rattle. One might therefore speculate that even back in MSA historic times, ostrich eggshell pieces may have also been used for a similar musical purpose. This mention of musical instruments leads on to the last evidence of early symbolic behaviour in MSA Africa.

Evidence of symbolic behaviour during the African MSA:

5) Possible musical rasps. Before turning to the MSA it should be noted that there is considerable evidence of music from South Africa's LSA that, like Europe's Upper Palaeolithic, began around 40,000 BP. Instruments and performances are for instance depicted in southern African LSA rock paintings that go back as far as 12,000 years old. The oldest are musical pipes and ceremonial dances painted by ancestral click-speaking peoples on rocks in the Matobo Hills of south-west Zimbabwe (Walker 2012). Then, from at least 5,000 years ago the San began making rock paintings (Daley 2017), some of which depicted pipes, dancers, rattles, masked shamans and clapping women (Kumbani 2017, George, 2013). Furthermore, Joshua Kumbani (2017) mentions that 10,500 year old musical pipes have been unearthed at the Matjes River Rock shelter.

Even older are notched bones that may have been musical rasps; three have been found at two sites that are transitional between the MSA and LSA. One is at Border Cave where the previously mentioned Lebombo calendar bone was found, together with other irregularly notched bones that might also have been used for tallying (d'Erico et al. 2012). However, two 43,000-44,000 year old bones found at this South African site have regularly spaced notches cut into their edges, with one also showing traces of red pigment. The red ochre suggests they could have been used to mark parallel lines when scraped over human skins or animal hides coated in wet paint. However, the evenly spaced notches also indicates that they might be musical rasps, as it is only this sort, when scraped with a piece of wood or bone, which produces a regular and steady rhythm. The second transitional MSA-LSA site is the Panga ya Saidi cave on the Kenyan coast, where eight worked and notched bones have been found that date back to 48,000 BP, with at least one bone tube having regularly spaced grooves engraved into it (Shipton et al. 2018: Fig.2d).

Of course, these notched bones from the Border and Panga ya Saidi caves could have been used for various purposes, such as counting, painting, and rhythm making. Indeed some of the LSA artefacts that are still used by extant hunter-gatherers are multi-purpose. For instance a hunting bow can be used as a simple form of musical bow, whilst boomerang throwing sticks can be used as clap-sticks (Killin 2018: 7). This multi-purpose has also been noted by Iain Morley (2013: 39) in connection with European Upper Palaeolithic art; and a case in point is the previously mentioned 25,000 year old French 'Venus of Laussel' engraving of a woman holding an animal horn with thirteen marks on it. As these marks are evenly spaced, Morley suggests this may have been both a lunar-year calendar and a musical rasp.

Going back even earlier than either the European Upper Palaeolithic or the African MSA-LSA transition is evidence from South Africa that suggests the musical bone rasps were being made during fully MSA times. According to Sarah Wurz (2014) of the University of the Witwatersrand, the oldest example is a flattish piece of bone 2.5 centimetres wide by 5 centimetres long that has seven notches, roughly evenly

spaced, on one of its long sides.¹⁰ Wurz dates it to 100,000-80,000 BP.¹¹ Although she initially said it had a ‘non-functional purpose’ (Wurz 2014: 6906), she later hypothesised that it might be a musical instrument, as it closely resembles European Upper Palaeolithic notched bones rasps that were being made from around 22,000 BP.

Joshua Kumbani (2017: 11) suggests that two later notched bones from Klasies River, both 68,000-65,000 years old, may also be musical instruments, as the two of them (a buffalo leg bone and an eland antelope rib) have regularly spaced notches and spots of red pigment. As in the LSA ones from Border Cave discussed above, these MSA notched bones may have been used for several purposes besides making music: to apply pigments, as a counting device or, for that matter, to cut soft surfaces.

Besides these three Klasies River notched bones, three other evenly spaced ones have been found in other Southern African MSA sites that might have been used as musical rasps. According to Sarah Wurz (2014: 6095), one is a notched rib that comes from the Stillbay layer of the Apollo 11 Cave in Namibia; whilst the two others were recovered from Sibudu Cave and are dated to around 58,000 BP, which is at the very end of the ‘Howiesons Poort’ stone technology period. If indeed these six southern African MSA bones were used as musical rasps or scrapers, then these are not only the first musical instruments discovered in Africa, but the oldest discovered in the world.

Technological as well as symbolic advances during the African MSA

As noted at the beginning of this article, it was generally believed by archaeologists that humans (i.e. Cro-Magnon Man) suddenly ‘woke-up’ intellectually and symbolically in Europe some 45,000-40,000 years ago. However, the evidence presented here suggests that this awakening began much earlier during the African MSA. Indeed by 60,000 years ago there were many types of symbolic activity, such as burial practices, religious rituals, the fashioning of ornaments, body painting, engraved ‘art-works’, standardized designs, long distance gift exchange and maybe even the use of musical instruments.

This early human ‘awakening’ is also evidenced by MSA Africans engaging in some advanced technological practices, formerly thought by archaeologists to have been invented in LSA/Upper Palaeolithic times. Hafting was once thought to be a product of LSA technology, but *320,000 year old* stone points for wooden spears have been found with the human fossils found at Kenya’s Olorgesailie Basin (McBrearty and Brooks 2000).¹² Moreover, 170,000 years ago MSA humans were making permanent hearths at Zambia’s Mumbwa Cave. Then came bone tools, with the oldest being 100,000 year old notched bones found at South Africa’s Klasies River (Wurz 2014)

¹⁰ It is broken at both ends and so may have originally been longer.

¹¹ She also confirmed the bone’s age in a personal communication with me on 27th November 2017.

¹² Evidence from Kathu Pan in South Africa’s Northern Cape suggests hafted tools may have even been used by *Homo heidelbergensis* as far back as half a million ago (Wilkins et al. 2012).

and 90,000 year old harpoons unearthed at Katanda in eastern Democratic Republic of Congo's Semliki Valley. 77,000 year old bone spear points and awls have also been found at Southern African sites that are associated with the MSA 'Stillbay' technology (McBrearty and Brooks 2000).

During the African 'Stillbay' itself (77,000-66,000 BP), another proto LSA/Upper Palaeolithic technique was used; this was the pressure flaking of previously preheated stone blades and spear points. These tools were first roughly fashioned through the usual MSA practice of striking them off a prepared stone core with a hammer stone; but then they were heated, so that through pressure from a bone or wood punch, they could be further re-flaked, refined and 'retouched'. Evidence from Pinnacle Point indicates that this technique of preheating of stones to make working on them easier may go as far back as 164,000 years (Brown et al. 2009).

Another early African technological advance is the appearance of tiny 'microlithic' tools that were once thought to have first appeared 40,000 years ago during Europe's Upper Palaeolithic and Africa's LSA. These are now known to have been first made in Africa during a transitional MSA to LSA period. Some of the sites that contain a mixture of MSA and LSA tools are: Kenya's Panga ya Saidi Cave where after 67,000 BP there is gradual reduction in stone tool size (Shipton et al. 2018), Tanzania's Mumba Cave where microliths start to appear from 57,000 BP (Gliganic 2012), and South Africa's Border Cave where they appear from 49,000 BP (Villa et al. 2012).

A final technical advance that must be mentioned is that it was during the African MSA in South Africa that projectiles were first made, and fired by either bows or spear-throwers. Some examples are 70,000-60,000 year old stone arrow/dart heads from Port Epic in Ethiopia (Sisk and Shea 2011), 71,000 year old ones from Pinnacle Point in South Africa (Brown et al. 2012), whilst 62,000 year old bone arrow-heads have been discovered at Sibudu Cave in South Africa (Backwell et al. 2018). This use of hunting bows and spear-throwers by MSA Africans long predates their use in Upper Palaeolithic Europe. Moreover, as Mathew Sisk and John Shea (2011) point out, these efficient methods of bringing down prey were a factor – besides modern symbolic behaviour and advanced lithic technology – that resulted in the accelerated spread of African hunter-gatherer populations out of the continent after 60,000 BP.

Conclusion

Recent archaeological evidence suggests that it was during the African MSA that the intangible aspects of human symbolic intelligence first appeared, such as language, creative imagination, aesthetics, culture, art, social identity, gift exchange, social networks, ritual customs and performance. Consequently, modern type cognitive and symbolic behaviour did not suddenly appear around 45,000-40,000 years ago in Eurasia and Africa, but was rather a cumulative process that began when the first humans appeared in Africa, 300,000 years or so ago. In fact the transition from MSA/Middle Palaeolithic to LSA/Upper Palaeolithic cultures occurred in multiple rather than a single location, with that occurring in Europe and associated with Cro-Magnon Man being just one such place. At the same time, the change from lithic

technologies of the MSA/Middle Palaeolithic to those of the LSA/Upper Palaeolithic period was not a sudden one, as suggested by the expression the ‘Upper Palaeolithic Transition’. East and southern African evidence of a more gradual change include the Stillbay and ‘Howiesons Poort’ technologies that span 77,000-58,000 BP, and the ‘Mumba’ along with other transitional MSA/LSA industries which began appearing between 67,000 and 49,000 years ago. A final point is that the symbolic and technical advances discussed in this paper had already begun before the time of the mass MSA migrations out of Africa, which took place between 60,000 and 35,000 year ago; and so these advances undoubtedly helped early humans to successfully spread around the globe.

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