Altered states and the prehistoric ritualisation of the modern human mind

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Prehistoric art from all over the world is often characterised by similar kinds of abstract geometric patterns. There is an abundance of spirals, zigzag patterns, crosses, grids, and other visual forms. Many of these motifs are repeated across independent cultural contexts. Yet, why do they symbolise some of the essential visual features of altered states of consciousness, which can be induced by shamanic trance? Indeed, these altered states of consciousness, which do not appear to be unique to human brain function, can possibly be found across independent cultural contexts. Prehistoric art from all over the world is often characterised by similar motifs, which can be explained in terms of a common mechanism of altered states, for instance the workings of our species-specific brain. This proposal has gained support in the archaeological community with the extensive work of Lewis-Williams and his colleagues, who even extrapolate this idea to explain the art of the Upper Palaeolithic.

The hypothesis of the ritualised experience of altered states played a significant role in many prehistoric societies around the world. The similarities of the prehistoric patterns could thus be explained in terms of a common mechanism of altered states, for instance the workings of our species-specific brain. This proposal has gained support in the archaeological community with the extensive work of Lewis-Williams and his colleagues, who even extrapolate this idea to explain the art of the Upper Palaeolithic. However, it is still an open question of the extent to which non-ordinary states could also have played a role in the transition from tool-making to tool-marking. Lewis-Williams and his colleagues explicitly assume that the modern human mind was already in existence in the Upper Palaeolithic. Hence, the question arises whether the modern human mind was already in existence in the Upper Palaeolithic.
Upper Palaeolithic. We share the same neurobiological basis with those ‘anatomically modern humans’, and they were situated in a socio-cultural setting infused with symbolism, which marks them as being ‘mentally modern humans’ as well. But how did these ancestors arrive at this point in the first place? Lewis-Williams assumes that Darwinian biological evolution must have simply caused the right kind of neurological changes, but to what circumstances were they adapting? Could it be that evolution was tracking changes that were taking place in the socio-cultural milieu?

ON THE ORIGINS OF PREHISTORIC ART

Surprisingly, at least from our modern perspective, technological evolution had remained remarkably stereotyped for millions of years. The process started over 3 million years ago (MYA) in Africa when the first hominids, e.g. *Australopithecus afarensis*, began using stone tools to cut flesh from animal bones and to access bone marrow. Currently, the oldest unequivocal evidence for the manufacture of such stone tools (so-called ‘Oldowan’ technology) dates from about 2.5 MYA. This technology is associated with more recent species of *Australopithecus* and the first species of the genus *Homo* that also appear around this time. It then took until about 1.5 MYA until a new set of stone tools developed, including hand axes and cleavers (so-called ‘Acheulean’ technology). This technology coincided with new species of *Homo*, namely *H. ergaster* and *H. erectus*. The first sporadic use of fire may date from this period as well, but it took yet another million years, until about 500,000 years ago, before fire was habitually controlled for a variety of purposes. Alongside the mastery of fire there appeared species of archaic *Homo sapiens*, such as *H. neanderthalensis*. Technological change during this Lower Palaeolithic period was proceeding at a remarkably slow rate, roughly the pace of biological evolution itself. This makes sense if we consider these tools as extensions of the functionality of the biological body. They are products of early hominid niche construction, just like some animals construct burrows and nests.

The speed of technological change started to increase in the Middle Palaeolithic, which is dated from about 300,000 to 40,000 years ago. This period is framed by the first appearance of anatomically modern humans, *H. sapiens sapiens*, and the extinction of all other hominid species, including *H. neanderthalensis*. During this much shorter timespan there was a diversification of functionality, design, and materials, including the manufacture of composite tools, such as spears. Most importantly, starting from around 100,000 years ago, there were symbolic practices. At that time there were sites and tools for pigment processing, perhaps for body decoration, and items with abstract geometric engravings. There is also evidence of bodily ornamentation, such as the use of shell beads. These symbolic practices increased in diversity during the Upper Palaeolithic, which is dated from about 40,000 to 10,000 years ago. The first representational images were made, such as the famous cave paintings in France and Spain. There was an increased variety of artistic practices, including more ornamentation, decoration of tools, as well as the first sculptures, such as the famous ‘Venus’ figurines. Note that the pace of technological innovation during the Upper Palaeolithic is no longer measured in millions of years, but rather in tens of thousands of years. This acceleration continued through the Neolithic period and the rest of history, right into our present era of information technology. Thus, technological change had started to outpace biological change, which operates at the longer timescales of adaptation and speciation. Of course, the first hominids were already adapting to a niche that was partially of their own creation, but this was no different from other animals. But from the Middle Palaeolithic onwards, a purely biological explanation of technological change is no longer adequate. The accelerated change of technological and symbolic practices must therefore be a reflection of other kinds of changes, most likely taking place in the socio-cultural context. Accordingly, anatomically modern humans arose in a transitional period, during which there was a relatively sudden switch from biologically to socially driven changes in behavioural practices.
In order to get a better idea of what these circumstances might have been like, it is useful to consider the oldest archaeological evidence for the presence of mentally modern humans; artistic creation. It is notable that red ochre is the only artifactual material frequently encountered alongside stone tools of the Middle Palaeolithic in Africa. Given that this roughly coincides with the origin of anatomically modern human beings, it is tempting to interpret the use of ochre in terms of symbolic practices, such as body painting, and therefore as evidence of the origin of mentally modern humans as well. Some of the earliest well-founded evidence for specifically symbolic practices has come from excavations of a coastal cliff in South Africa called Blombos Cave. Beginning about 100,000 years ago, there was a cultural tradition of decorating small pieces of red ochre with incised abstract patterns. The pattern of a particularly striking piece dating from about 73,000 years ago is shown in Figure 1.

It is highly implausible that the markings on this piece, i.e. a horizontal pattern of crosses marked by three horizontal lines (above, in the middle and below), were made accidentally. Accordingly, this finding strongly suggests that the symbolic capacities of mentally modern humans were already in place during the Middle Palaeolithic, perhaps even coinciding with the biological evolution of anatomically modern humans. Previous to this time the making of tools had only been related to satisfying basic biological necessities. However, such needs do not explain the marking of tools with precise geometrical patterns. The artistic intention and its abstract content indicate a capacity for detachment from immediate concerns, and a motivation to reflect and act upon this new space of possibilities.

ON THE ORIGINS OF ENCULTURATION

The facts that technological change had begun to outpace biological change and the practice of decorating pieces of ochre goes beyond satisfying basic biological necessities, suggest that a culture and an appropriate process of enculturation must have been operative by this time. Can we specify this cultural context more precisely? We know that zigzag patterns are a common feature of prehistoric art related to shamanic practices, as well as a typical visual form of altered states of consciousness. Moreover, it is well-documented that altered states constitute an essential part of many tribal rites of puberty, which are also an explicit practice of enculturation. This may therefore be a potential interpretation of the findings at Blombos Cave.

In order to get an idea of what such a prehistoric ritual might have looked like we can draw inspiration from ethnographic records. It was the anthropologist van Gennep who first observed that rites of passage feature a central transitional period, in which normal psychic behaviour is suspended. He also realised that this transitional period, which he called ‘liminal’, was not some aberrant psychosis, but a universal and essential element of human development and enculturation. Accordingly, the liminal period is a most carefully regulated event, which is preceded by pre-liminal rites (‘rites of separation’) and followed by post-liminal rites (‘rites of incorporation’). Rites of passage are performed for various occasions, but an especially important category are initiation rites.

FIGURE 1: Abstract geometric incisions made on one side of a red ochre piece around 73,000 years ago, found in Blombos Cave, South Africa. This and similar pieces from the same location are currently the oldest known examples of specifically symbolic practices. (Image adapted from with permission of author.)
including puberty rites. To further illustrate this idea, let us consider some examples of girls’ puberty rites in South Africa:

After the onset of the first menstruation a girl, either alone or together with other girls undergoing the same transformation, will be covered with a blanket and secluded in a special hut. Venda and Zulu girls stay for approximately one week; Tsonga girls stay up to one month and can only be visited in the evening by the girls of her neighborhood who come to dance and sing with her. Subjected to different forms of hardships, such as sitting for hours in icy water, eating unpalatable meals, being pinched and teased, she receives considerable sexual instructions, such as how to lengthen the labia and avoid being pregnant while indulging in playful familiarities with boys. The rite usually concludes with a bath at the river, the smearing of the body with red ochre, and the receiving of a special funnel-shaped object (thahu) which she would henceforth tuck into her girdle at the back. (emphasis added)

Several aspects of this rite are suggestive of the circumstances found at Blombos Cave. Most straightforwardly, there is the requirement of extended physical and social seclusion at a special place, which is naturally provided by Blombos Cave itself, especially since it is situated on a coastal cliff. There is the idea of a purifying bath in water, which could be provided by the nearby sea. And there is the notion of colouring the girl’s body with red ochre. Interestingly, in a Blombos Cave sediment layer dating to about 100,000 years ago, two examples of red ochre-processing ‘toolkits’ were discovered. The shell receptacles still contained a red mixture. This mixture did not contain any glue-like components, so it is reasonable to suppose that the toolkits were used to process paint. Due to the paucity of other archaeological remains in that particular layer of sediment, the archaeologists argued that the cave was only temporarily used specifically for a paint-related activity, which fits with the idea of social seclusion.

Interestingly, the puberty rite concludes with the reception of a special symbolic item. Could the decorated pieces of red ochre found at Blombos Cave have played a similar role? The red colour would be appropriate, since among recent non-literate cultures red is closely associated with reproduction, blood, mothers, and with rituals related to life and death. This symbolism is especially relevant in the context of female puberty, which involves the onset of menstruation. It is also possible that the activity at Blombos Cave included a liminal period of extended social isolation, alternating with dancing and singing, as well as the endurance of imposed hardships. According to Turner, such non-ordinary circumstances have a profound effect on the initiate’s mind, especially given that their altered state is physically, socially and symbolically enacted.

To further support and generalise these ideas, let us consider another example; the girls’ puberty rite of the Khoekhoe, a tribe that has lived in the south of Africa for at least two millennia. Following a girl’s first menstruation, she is secluded up to several weeks in a special hut. During this liminal period, she and the people around her must adhere to complex social taboos. Eventually, after participating in elaborate purification and social reintegration rites, the girl is finally ready to receive visitors as a young marriageable woman:

All her relatives and friends pour in, each with some present of beads, or earrings, or other finery. […] The girl shines with clean, well-greased skin, she is scented all over with the buchu she and her friends have ground [Agathosma spp., a fragrant and medicinal herb], her face is painted in various curious patterns with red and white mineral powder mixed with fat, and her body is loaded with the presents.

Again, there are several informative correlations between this rite and the archaeological findings at Blombos Cave. In addition to what we discussed before, there is the notion of body ornamentation with jewellery and with paint. Similarly, excavations have uncovered a large number of shell beads, which were habitually made starting from about 75,000 years ago. Moreover, the mixture in the ochre-processing toolkits is comparable to this account; it had been made by grinding…
red ochre using large white quartz crystals, and it included animal bone marrow fat. Additionally, since the engravings were found on some of the same pieces that were used to produce red powder, the archaeologists hypothesised that these patterns may reflect designs that were ultimately intended for other media, including skin. It is therefore tempting to speculate that they were intended for a symbolic practice comparable to the “various curious patterns” that are painted on a Khoekhoe girl’s face during the conclusion of her puberty rites.

It seems plausible that humans were already performing such rites of passage over 100,000 years ago. But why? Van Gennep conceives the main function of these rites as smoothing over the social instabilities caused by changes in an individual’s social condition. However, as Turner notes, the liminal period often involved a considerable amount of socially subversive activity by the participants as well. Incorporation into ordinary social reality was often achieved by a temporary, socially sanctioned detour through non-ordinary individual reality. The communal enaction of non-ordinary states of affairs may thus have played an important positive role in itself. Turner emphasised that the liminal period leads to the temporary formation of a spontaneous ‘communitas’; during this time all participants share in an existentially profound experience on equal terms, no matter their normal social status. He therefore saw a valuable pedagogical role in the rites of passage. The rites not only strengthen a sense of group identity, they also play a formative role in the participants’ own personal development. Additionally, Turner elaborated the idea that puberty rites are a process of enculturation. He illustrates this idea by giving an example of female puberty rites practiced by the Bemba of Zambia:

The wisdom (mana) that is imparted in sacred liminality is not just an aggregation of words and sentences; it has ontological value, it refashions the very being of the neophyte. […] the secluded girl is said to be “grown into a woman” by the female elders – and she is so grown by the verbal and nonverbal instruction she receives in precept.

It is interesting to note the prominence played by sacred symbols during these rites, which provides us with another possible interpretation of the decorated ochre pieces of Blombos Cave. Certainly, puberty rites and symbolic culture are closely intertwined. The meaning of the symbols is conventionally determined and must therefore be socially transmitted in some effective manner. At the same time the initiation into a tribe’s sacred symbolism has existential significance; it ‘refashions the very being’ of the initiate. This mental restructuring is an explicit goal of many puberty rites, for instance the Bemba’s idea of ‘growing’ a child into an adult person.

Perhaps the most striking feature that sets the modern human mind apart from non-human minds is a highly developed form of consciousness, including self-awareness. Although we normally take this consciousness for granted, it actually takes many years to become fully formed. This developmental process appears to proceed largely spontaneously, and at least in our culture there is no explicit facilitation in this regard. Nevertheless, normal mental development depends on an appropriate socio-cultural context, and even then success is not guaranteed, as evidenced by the fact that many psychiatric disorders of consciousness are linked to adolescence. Accordingly, it is likely that these circumstances were even more problematic when the biological, social and cultural conditions of the first human beings were only beginning to appear. Could it be that in those times the social practice of puberty rites was used as a means to explicitly bring about the development of an adult form of consciousness?

Let us start with another piece of ethnographic inspiration. It is well known that one of the main traditional uses of shamanic rites all over the world is to retrieve the ‘soul’ of patients who are severely
ill. In some cases this may amount to a ritualised restoration of self-awareness to an unresponsive patient. This practice illustrates how a rite of passage, in this case related to a passage through illness, can be related to the ritualised invocation of consciousness. Furthermore, there are widespread myths about the shaman’s role in providing ‘souls’ for children:

*The Goldi, the Dolgan, and the Tungus say that, before birth, the souls of children perch like little birds on the branches of the Cosmic Tree and the shamans go there to find them. This mythical motif, which we have already encountered in the initiatory dreams of future shamans, is not confined to Central and North Asia; it is attested, for example, in Africa and Indonesia.*

The idea that the shaman is responsible for procuring a child’s soul from the branches of the Cosmic Tree may be a hint of ancient times in which human consciousness was something that had to be ritually fashioned. The prevalence of tribal puberty rites further underlines this idea because, as the Bemba would say, the child is like a seed that has to be ‘grown’ into an adult. What could have made such rituals effective in developing consciousness?

One potent restructuring force is music. Drumming and chanting are universal features of shamanic rituals, and they often accompany rites of passage (like the dancing and singing during South African puberty rites). Furthermore, during altered states there can be powerful synergies between song and the quality of the unfolding experience. Intriguingly, the origin of human language may not have arisen, primarily, from bodily gestures or predator alarm calls, but rather from extended vocalisations similar to animal song. And human language is, of course, closely associated with human consciousness and in particular self-awareness.

A ritualised crisis could also facilitate the origin of consciousness. Heidegger’s analysis of a crisis during tool-use helps to illustrate this point. While you are absorbed in an activity of tool-use, there is no well-defined distinction between subject and object. Self and tool are transparent in the flow of activity. But if the tool breaks, you undergo a spontaneous transformation of experience. The tool is now an explicit object of your perception. Simultaneously, your absorption is interrupted; you become a conscious observer faced by a broken tool. It seems plausible that the awkward taboos, physical exclusion, and hardships that are enforced during puberty rites have a similar kind of effect on the minds of the participants. The socially enacted crisis provokes a form of self-awareness, which is then retained by post-liminal rites of social reintegration and symbolic incorporation.

This ethnographically informed interpretation of the archaeological discoveries at Blombos Cave suggests an intriguing hypothesis; a practice of socially enacting a liminal experience in the form of puberty rites may have been closely related to the first emergence of enculturated and conscious, of mentally modern, humans. It is likely that altered states of consciousness not only played an essential role in shaping the content of the first works of art; they also helped to bring about the first symbolic intentions as such.

18. van Gennep A. The Rites of Passage. Chicago, IL: The University of Chicago Press; [1908] 1960.