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## PROTO-ART: THE ORIGINS OF NON-UTILITARIAN SYMBOLIC THINKING AND ARTISTIC CREATIVITY

*ABSTRACT: The subject of this study is the genesis of proto-art, art and artistic creativity in prehistory. I tried to answer the questions of what art is, how it can be defined and when it originated, and how it developed. Therefore, special attention is paid to non-utilitarian demonstrations of human creativity during the Middle Paleolithic. There are several archaeological finds suggesting that members of the Australopithecus were actually able to recognize aesthetic features in the structure of rocks (manuport) and members of the Homo heidelbergensis were able to create artefacts which had an aesthetic dimension. As these finds are rather sporadic, we can only speculate about the existence of proto-art for this period. Nevertheless, we see evidence of the origins of creative artistic thinking in Neanderthals who made artefacts which had, in addition to a utilitarian function, a decorative function. Yet the development of symbolic thinking dates to a later period: it occurred during the evolution of anatomically modern humans who made artefacts with geometric patterns as they moved across Africa. The real expansion of human creativity occurred in the Upper Paleolithic in Europe, when migrating members of Homo sapiens began to create a visualised world of symbolic art.*

*KEY WORDS: Art - Proto-art - Manuport - Paleolithic period - Artefact - Symbolic thinking - Artistic creativity*

### INTRODUCTION

What is art? Is it a cultural universal that, despite time and space, appears in every culture and society? Can art be compared to an imaginary line that we can arbitrarily move within the context of a distinct cultural area or historical period? Or are there borders that precisely and concisely determine what is and what is not art? Why did art originate? Is it a product of a creative activity or the ability of an individual to "bring

a different level of awareness" to the surrounding world? How do we define art? More importantly, when did it originate? Western art scholars believe that we can give specific examples of artefacts that undoubtedly possess the status of artworks, such as the Leonardo da Vinci, Raphael or Titian paintings (Harris 1996, Carroll 1999). There does not exist, however, any representative and comprehensive set of things and phenomena that can be called art. Art theoreticians are very aware that the term "art" cannot be considered absolute and that

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Received 29 January 2015; accepted 13 May 2015.

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this phenomenon only acquires meaning in specific historical, geographical and cultural contexts. The term "art" thus remains open, for its extent and content can always be expanded or narrowed (Rosengren 2012). The statement made by Ludwig Wittgenstein is fitting in this context: *"But then how does an explanation help me to understand, if, after all, it is not the final one? In that case the explanation is never completed; so I still don't understand what he means, and never shall!"* (2001: 40–41). The confusion in understanding what is or is not art was intensified by the modern and postmodern age, and by constantly emerging and transforming new art forms and movements. It is clear that art has, in addition to its essential incomprehensibilities, is also expansive, adventurous and transformative. As a consequence, it prevents us from determining a stable and constant set of criteria that would objectively define a category of artistic phenomena (Dickie 1974, Danto 1981). If we are to view the phenomenon of art as an individual's ability to creatively interpret the world via art symbols and meanings, we can formulate the hypothesis that the roots of art stretch all the way back to the Paleolithic Period. A symbol reflects all of the personal approaches towards creation. It is an original way of forming artistic expression, as its final form and meaning depend on the nature and focus of its creator. A symbol reflects the period when it was created and its form and meaning changes in the context of a specific paradigm and historic period.

Other questions then emerge from an evolutionary perspective. Are the first expressions of artistic creativity the work of anatomically modern humans or can it be found earlier in other hominid species? What caused the genesis of non-utilitarian expressions of creativity? Can these expressions of creativity be understood and adequately interpreted? Is creative ability related to the birth of human spontaneity? What roles did human attributes, such as social skills, symbolic communication and full linguistic competence, play in establishing human creativity? (Kottak 2005, Bickerton 2010) Prehistoric art can be proof of the fact that in the final phase of anthropogenesis people crossed over the utilitarian threshold of "cultural reality" and began to create "value culture." Reality culture consists of a culture's primary elements that help a given society survive and make efficient use of available natural resources, like energy, raw materials and foods within the context of an ecosystem. Value culture, consisting of a culture's secondary elements, is an expression of human creativity that is projected into the creation of artefacts

that no longer fulfill a purely utilitarian function. We now call these things art (Kroeber 1952, Durham 1991).

## ART AND PROTO-ART

Art as a unique symbolic system can arise from various sources. It cannot be ruled out that the birth of a non-utilitarian culture of values is related to the ability of our ancestors to symbolically interpret dreams or ponder death. The world of ideas of prehistoric anatomically modern humans was probably very abundant. It was perhaps just as rich in interpretations as the attempt of contemporary researchers to fathom, through discovered artefacts and ensuing hypothesis and theories, the causes and meaning of early human creativity and art. Whatever the case may be, that which we now call prehistoric art, paintings or mobile artefacts express and reflects certain information. It is the purpose of this information, however, that we are trying to figure out. One hypothesis is that prehistoric artists use art to convey a message to their tribesmen. Yet a symbolic message, encoded in a prehistoric artefact, might have only been intended for the artist himself, providing him with access to the transcendent, imaginary worlds concealed in his thoughts. The communicative significance and import of prehistoric images and symbols were probably related to the specific places in which they were created (Lewis-Williams 2002, Hoffecker 2011, Svoboda 2011).

Despite an original skepticism toward prehistoric art and its authenticity, the search for the meaning of this form of human creativity remains at the same position and starting point. *"In the past, we have tried to run before we can walk, trying to extract more information than was available, simply because we dislike unintelligible things. But Paleolithic art is perverse - every new piece of the jigsaw raises fresh questions, and casts doubt on the conclusions already reached. There are no absolute rules, there are always exceptions."* (Bahn 1997: 213) The birth of art and symbolic creativity is usually dated to the Upper Paleolithic Period. Indications of artistic expression can be sought in the Middle and (300,000–40,000 BP) and even Lower Paleolithic (1,000,000–300,000 BP) Period. Since this is rather inclusive evidence, I feel it is useful to call these expressions of nascent human creativity "proto-art", which is synonymous with palaeoart (Bednarik 1992). I use the term proto-art to indicate the hypothetical precursor of Upper Paleolithic art that contains in it

non-utilitarian expressions by which archaic hominids "surpassed the fulfillment of the practical requirements of everyday life" (Oliva 2009: 15). Proto-art covers the non-utilitarian expressions of creativity that were made even before the onset of the Upper Paleolithic revolution and of the creative explosion that occurred outside the territory of what is now Europe (Pfeiffer 1982, Lewis-Williams 2002, Dunbar, McDonald 2004). Particularly remarkable is the human ability to create artefacts regardless of their function. The need and interest is largely missing in the Middle or Lower Paleolithic period than the ability to depict specific objects. Yet we can gradually detect a growing sense for symmetry and form in the artefacts created and an emphasis on the choice of materials used (Gamble, Porr 2005).

### **THE BIRTH OF CULTURE OF AUSTRALOPITHECUS GENUS**

The birth of culture as a supra-biological adaptation tool that humans used over the course of anthropogenesis was closely preceded by the evolution of our hominid ancestors. Several species of the *Australopithecus* genus of hominids emerged in central, eastern and southern Africa from 4.1 to 1.4 million years ago. Raymond Dart initiated the stage of discovering *Australopithecus* fossils when in 1924 he found a hominid child skull with morphological traits of both an anthropoid and human (Johanson, Edgar 1996). The following year he published his discovery in *Nature* magazine, calling it *Australopithecus africanus* (Dart 1925). Despite considerable criticism casting doubt on the importance of this discovery, many other remains of the *Australopithecus* genus were discovered in the first half of the 20th century, convincing the professional public that the ancestors of the human race were to be found in Africa. Another revolutionary discovery of a possible ancestor of the human race was made in 1974 (Grine 2007). By then the focal point of the search for the origin of the human race had shifted from southern to eastern Africa. The fossils were discovered in Ethiopia (the Hadar site). Here a post-cranial skeleton of a member of the *Australopithecus afarensis* (AL 288) genus was found and famously named *Lucy*. These hominids were already clearly part of a complex social structure that contributed to the development of their communication and observational learning skills (Wolpoff 1999, Cerling *et al.* 2011).

*Australopithecus*, or a specific species of slender, advanced representatives of these hominids, are

considered to be potential ancestors of the *Homo* genus. Their cognitive potential is usually compared to the mental abilities of modern chimpanzees. Even more remarkable is the evidence indicating that the *Australopithecus* hominids perceived the external world through aesthetic colors and natural forms around them. Reddish brown jasperite pebble found in a dolerite cave of Makapansgat, northern South Africa and dated to between 2.5 and 2.9 million years ago, attests to the hypothetical ability of *Australopithecus* hominids to distinguish aesthetically impressive attributes within the structure of rocks. This might consist of a manuport – a natural object moved from its original context, but which otherwise remains unmodified (Oakley 1981). The stone comes from the layer in which the skeletal remains of an *Australopithecus africanus* were found. One hypothesis holds that this hominid took the pebble from a different place and brought it into the cave. We now are unsure whether the individual who found the stone was attracted to its striking colors or the fact that its shape and structure resembled that of a human face (Lorblanchet 1999, Kuckenbug 2001). In any case, the pebble represented in the layer in which it was found a completely foreign element since the closest breccia outcrop was located 4.8 kilometers from the cave where the pebble was found. The waterworn marks indicate that it was taken from a gravel bed (Korisettar, Petraglia 1998). The pebble, created by erosion, features three symmetrical recesses. Microscopic examination reveals that the depressions and grooving on the surface do not represent traces of intentional modification; it cannot therefore be considered an artefact (Bednarik 1998, 2011). Nevertheless, the occurrence of an aesthetically attractive anthropomorphic pebble within the context of hominid fossils is a mysterious puzzle that will probably never be resolved.

### **HOMO GENUS AND THE GENESIS OF NON-UTILITARIAN SYMBOLIC THINKING**

The evolution of *Australopithecus africanus* toward early representatives of the *Homo* genus was accompanied by the development of cognitive abilities and the birth of culture. The first stone tools appeared in eastern Africa 2.6 million years ago and were most likely the work of early representatives of *Homo rudolfensis* and *Homo habilis*. These tools are associated with the block-and-block technique (Oldowan). *Homo ergaster* appeared on the evolutionary scene 1.8 to 1.4 million years ago and came up with

a new type of stone tools that differed from the more primitive Oldowan tools in their more advanced technology, multi-functionality and better choice of materials (Ash, Robinson 2010). The qualitative leap in human evolution is linked to the origin of numerous forms of archaic *Homo sapiens*, which probably emerged from regional populations of *Homo ergaster* some 800,000 to 700,000 BP. Under the archaic *Homo sapiens* we can include the broad spectrum of advanced hominids whose anatomy demonstrates a unique combination of erectoid and sapient features (Svoboda *et al.* 1996). A typical representative of an archaic human is *Homo heidelbergensis*, whose fossils dating from 700,000 to 200,000 BP, were found in various Old World regions, including the sites Bodo and Kabwe in Africa, Petralona, Arago and Sima de los Huesos in Europe, Dali and Jinnishuan in Asia. *Homo heidelbergensis* was probably the direct ancestor of both *Homo neanderthalensis* and of anatomically modern humans (Beneš 1994, Conroy, Pontzer 1997, Klein 1999, Wolpoff 1999, Soukup 2004, Gräslund 2005, Cela-Conde, Ayala 2007, Conroy, Smith 2007, Grine *et al.* 2009, Pallen 2009, Tattersall 2009, Adams, Blades 2009, Coolidge, Wynn 2009).

Utilitarian artefacts have primarily been preserved from the period in which members of the *Homo heidelbergensis* species occupied the climate-friendly regions of the Old World. One exception is a 5.9-centimeter-tall quartzite rock resembling a human figurine found on a river terrace deposit on the north bank of the Draa River, south of the Moroccan city of Tan-Tan. This artefact dates to between 300,000 and 500,000 BP and was discovered by Lutz Fiedler in 1999 just a few centimeters from Acheulean handaxes. The stone's naturally formed basic shape most likely inspired an archaic human, and its deliberate modifications include grooves and a red coloring that is probably symbolic (Kuckenburger 2001). The anthropomorphic form of the artefact contributed to it being named the *Venus of Tan-Tan*. Robert Bednarik's microscopic examination in 2003 confirmed the influence of erosion on the artefact's original structure. The deliberate cultural modification of the stone is only apparent in the horizontal grooves on the front and back side of the quartzite rock. Bednarik even conducted an experiment in which he treated the same type of rock in the way the found artefact was modified. He also discovered that the traces of the strikes corresponded to those on the quartzite rock surface. He concludes that this was a manuport whose naturally formed shapes and lines were enhanced; the artefact

was then covered with red ochre pigments (Bednarik 2003). This conclusion is not shared by all experts, however. For instance, American archaeologist Stanley Ambrose believes that this specific form of found rock is merely the result of erosion or natural weathering, since such a high level of abstract thinking cannot be expected at this level of hominid evolution (1998).

Yet the discovery of the *Venus of Tan-Tan* is not the sole piece of evidence suggesting the genesis of non-utilitarian symbolic thinking during the evolution of *Homo heidelbergensis*. In 1981, Naama Goren-Inbar found in the Golan Heights region of Israel a pebble evidently modified into the form of an artefact. This 3.5-cm-high object made from a small pebble of volcanic tuff comes from the edge of a crater of an extinct volcano that is now partially filled with water. The discovery was embedded between two basalt flows (Goren-Inbar 1985, Marshack 1997). "*The archaeological layer where the figurine was found is estimated to date to approximately 250,000-280,000 BP.*" (d'Errico, Nowell 2000: 125) The natural shape of the pebble resembles a woman, which led to it being called the *Venus of Berekhat Ram*. American archaeologist Andrew Pelcin states that, when cooling, eructated volcanic slag acquired cracks or fissures resembling the grooves of the stone tool (1994). Naama Goren-Inbar assumes that a hominid, probably *Homo heidelbergensis*, deliberately modified the pebble to enhance the natural features (Goren-Inbar, Peltz 1995). Microscopic analysis by American archaeologist Alexander Marshack in 1997 proved that the structures on the pebble are the result of intentional human work. Both deep and narrow grooves are apparent in the area of the head, neck, chest and arms. If this really is a human artefact, it is the oldest known depiction of a human figurine (Marshack 1997). The *Venus of Berekhat Ram* can therefore be considered a proto-sculpture whose shoulders were made with a tool and ground to resemble an upright figurine. The pebble shows obvious traces of intentional grooves and grinding that are not, however, clear proof of the symbolic intentions of the creators of this artefact (Goren-Inbar 1986, Lorblanchet 1999). As in the case of the *Venus of Tan-Tan*, the *Venus of Berekhat Ram* has its share of opponents who reject its status as a proto-art work and the hypothesis that *Homo heidelbergensis* demonstrated a capability of symbolic thinking.

Finds from the German archeological site Bilzingsleben are among other discussed prehistoric artefacts that some scholars feel suggest the seeds of abstract thinking. Grooves on flat pieces of bone,



thought to be made by *Homo heidelbergensis* were discovered here. The open air site of Bilzingsleben became an important source for understanding the development of culture of the late phase of the Lower Paleolithic in present-day Germany. Its settlement is dated from about 420,000 to 350,000 BP (Mania *et al.* 2004). These bone artefacts can be considered the oldest proof of non-utilitarian deliberate modification of bone matter. One of the artefacts is a 28.6-cm-long object made from the rib bone of a large mammal (KN Bilz 219, 34). The smoothed outer surface is covered with cut lines characterized by a morphological uniformity (Gamble 2005, Mania, Mania 1988, Steguweit 2003). Confocal microscopes have revealed that the cut marks are of a non-utilitarian nature and feature homogenous configuration. This enables us to

rule out a mechanical origin of the marks or the use of the bone artefacts as cutting boards (Steguweit, Valoch 2006). These grooves most likely do not demonstrate a capability for abstract thinking and, moreover, they cannot be interpreted as bearers of a communicative or mnemotechnic meaning. In 1988, another object was discovered at the Bilzingsleben site – a tarsal joint bone from a forest elephant that features crossing lines. Its anthropogenic origin still has not been confirmed though (Mania, Mania 1988). The grooved surface or little cracks could have been made by trampling, field shifts and fluvial processes or from scratching or browsing animals or by the utilitarian activities of humans. Natural influences also might have left traces on the surface of the bone medium which might be mistaken as deliberate human work. But not even the confirmation of anthropogenic activity necessarily serves as proof that a given cultural modification of a natural object reflects the artistic aspiration of its creator. The border between non-utilitarian and utilitarian manifestation is blurred since an incision by stripping meat from bones or cutting and chipping materials on a bone medium cannot be clearly determined (Steguweit 2009).



FIGURE 1. *Venus of Berekhat Ram*, Golan Heights. © Robert G. Bednarik.

## NEANDERTHAL ART

The population of Neanderthals (*Homo neanderthalensis*) expanded through present-day Europe and adjacent regions of western Asia 220,000 to 30,000 BP. Over the course of evolution, the Neanderthals morphologically adapted to the harsh conditions of the most recent ice age, which led to the formation of the classical Neanderthals (80,000–35,000 BP), via Holstein-Hoxnian forms such as Bilzingsleben and Sima, and Saalian ones such as Biache and Ehringdorf (Condemi, Weniger 2011). Populations of anatomically modern humans that emerged independently of Neanderthals during the period of 200,000–140,000 BP in Sub-Saharan Africa began migrating to Europe about 35,000 BP. Neanderthals exhausted their adaptive potential by 28,000 BP and relinquished their position in the ecosystem to anatomically modern humans who were evolutionarily more successful.

Grooves on three bone fragments dating between 135,000 and 80,000 BP were found at the German site of Oldisleben I inhabited by Neanderthals. This consists of the Micoquien, confirmed by the chipped-stone industry here (Conard, Richter 2011). A bone

artefact featuring the graphic depiction of a human figurine is especially noteworthy. "This is the oldest picture found so far, and it destroys yet another cornerstone of the archaeological dogma, according to which iconic graphic art older than 40,000 years would never be found." (Bednarik 2006b: 7) A configuration of five lines was made using a sharp stone tool. Microscopic analysis of three bone fragments showed that the grooves were made by a repeated cut from the edge toward the inside. All three artefacts were probably made during a single period by a single individual and tool (Bednarik 2006a).

Two artefacts dated to 100,000–50,000 BP were discovered at the Tata site in present-day Hungary. Two crossing lines were found on a circular silicified fossil nummulite disk. It was originally thought that the surface was disturbed by a lateral cross that led the Neanderthal to cut a line at a right angle. The most recent conclusions have the crack being created secondarily after the cut lines (Steguweit 2003, Bolus, Schmitz 2006). Another find from the Tata site, an oval shaped plaque from a piece of mammoth tooth, was rounded, polished and covered with red pigment (Steguweit 2003).

In the 1980s, Naama Goren-Inbar found an incised piece of cortex on the open-air Mousterian site Quneitra in the Golan Heights. The flint cortex dating to

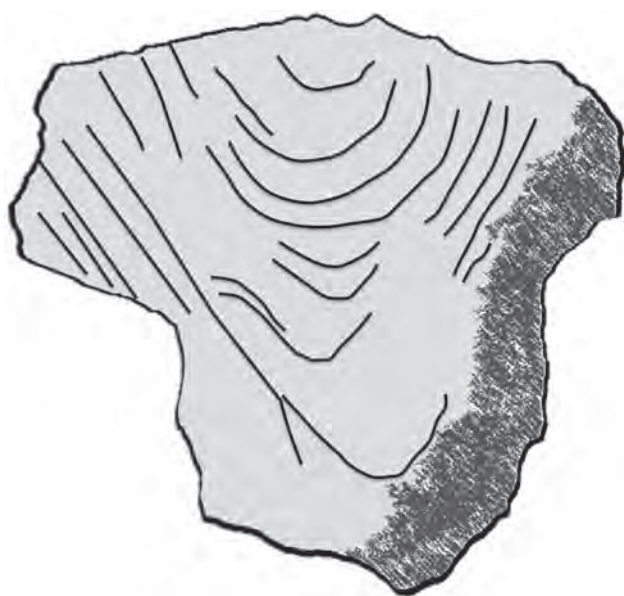


FIGURE 2. Flint cortex from Quneitra in the Golan Heights characterized by a set of concentric lines. © Author's personal archive.

c. 54,000 BP is characterized by a set of concentric lines. Microscopic analyses have proved the anthropogenic origin of the cut lines and their intentional character. Yet it is not possible to determine whether the individual creating the artefact was a Neanderthal or an anatomically modern person (Goren-Inbar 1990, Lorblanchet 1999, d'Errico *et al.* 2003).

There are several dozens of artefacts that did not have a utilitarian function and that were probably made by a Neanderthal. The most significant of these include bone fragments from the French sites Abri Suard (Charente, c. 150,000 BP), La Quina (Charente, 70,000–40,000 BP) and the Kebara Cave (60,000–48,000 BP). Another bone artefact was found at the Mousterian site of Bacho Kiro in Bulgaria consisting of a bone fragment with deeply carved zigzag patterns (between ca. 47,000 and 41,000 BP). The creator, probably a Neanderthal, used an original technique in which he did not lift the tool at the end of the tool, but turned the bone and continued cutting another line (Marshack 1976). More than 450 pieces of manganese dioxide (older than 43,000 years) were found at the late Mousterian of Acheulian tradition (MTA) site of Pech de l'Azé I (Dordogne) in France; more than 250 of these finds showed traces of utilization. Their use varied from scraping a tool, grinding a stone surface or rubbing a soft material such as leather (Bolus, Schmitz 2006, Soressi, d'Ericco 2007).

Three umbo-perforated valves of *Acanthocardia tuberculata* and *Glycymeris insubrica*, some of which showed pigment stains, were found in 1985 in the Spanish cave Cueva de los Aviones (Murcia). A colorant is also preserved on a specimen of *Spondylus gaederopus*, which might have been used as a box for



FIGURE 3. Bone fragment from Bacho Kiro Cave in central Bulgaria bears zigzag markings. © Michel Lorblanchet.

the storage of colorants or as a kind of paint cup for their preparation. The colorant consisted of minerals that included lepidocrocite, haematite, pyrite and charcoal (Zilhão *et al.* 2010). A similar mixture – goethite and hematite – remained preserved on the outer side of a scallop shell (*Pecten maximus*) found in 1991 in the Cueva Antón (Murcia). The likely source of goethite and hematite is located five kilometers from the cave. The pigment, applied only on the outer side of the shell, could indicate a supplementing of the natural red tone on the inner side. In addition to the pigment application, the shell is perforated. Unfortunately, damage to the edge of the perforation has prevented a definite determination of whether the modification is of natural or of anthropogenic origin.

Also attesting to the spiritual dimension of the Neanderthal culture is the fact that they were able to make musical instruments such as the bone flute found in 1995 in the Slovenian cave Divje Babe I. A bone fragment dating to 43,000 BP was preserved only with two roughly circular holes, whose artificial or natural origin is a subject of debate (Turk 1997, Holdermann, Serangeli 1999). Despite significant evidence indicating that the Neanderthals mental capabilities could have been comparable in many ways to anatomically modern humans, the blossoming of human artistic creativity is only linked to anatomically modern humans who began to create through their drawings, painting, engravings and sculptures semiotic systems that we now call Upper Paleolithic art (Wadley 2001).

A purported artefact (about 35,000 years old) found in the 1970s in the front of the La Roche-Cotard Cave (Indre-et-Loire), inhabited by Neanderthals, occupies a unique place among Mousterian artefacts. A remarkable object called the Mousterian Protofigurine (Mask) was found here. This is a 10.5 centimeter-long and 9.4 centimeter-trapezoidal piece of flat flint, whose shape and structure resembles an anthropomorphic face. A piece of bone 7.5-centimeter long was inserted through a tunnel-like opening in the place resembling the hollows of human eyes; it was then wedged in with two tiny pieces of flint. By inserting the bone, the prehistoric individual achieved the effect of animating the human face since the bone filling the hollows resembled the whites of eyes. Traces of intentional work, probably to make it look more like a human face or ritual mask, are apparent on the three-dimensional artefact (Lorblanchet 1999, Marquet, Lorblanchet 2003, Bolus, Schmitz 2006).

Cupules found in the rock formations represent a specific type of cultural modification of natural

materials. These are hemispherical cut-marks carved on the walls of rock shelters, which generally occur in groups. In addition to the hollows intentionally created by an individual, there are naturally created recurring hollows caused by phenomena such as fragmentation and abrasion (Bednarik 2011). An anthropogenic origin can be attributed to the hollows found on the vertical surface and their diameter reaches up to ten centimeters (Bednarik 2008). Louis Capitan and Denis Peyrony made a unique discovery of hollows in 1921 when they found the La Ferrassie Neanderthal burials under an overhanging cliff. Hollows were found on the surface of a block of stone that covered the skeletal remains of a three-year-old child. These hollows possessed diameters of one to three centimeters and were grouped in pairs (Lorblanchet 1999). The discoveries of the Neanderthal artefacts, which performed a symbolic function, indicate that the Neanderthals stood at the very threshold of creating a symbolic culture. However, the flowering of artistic creativity is linked to anatomically modern humans who began to create semiotic systems through drawings, paintings, engravings and sculptures.

## **THE FIRST ART OF ANATOMICALLY MODERN HUMANS**

Anatomically modern humans (*Homo sapiens*) emerged around 200,000–40,000 BP in Africa, from where, ca. 100,000 to 75,000 BP, they successfully spread to other parts of the world, replacing other hominid species including Neanderthals in Europe, Solo Man in Java and the descendants of Peking Man in China (Finlayson 2004). Sophisticated Upper Paleolithic blade-based stone-working industries played a role in the successful expansion of anatomically modern humans. These were elongated flake tools that were twice as long as wide. This shape allowed for a tool to be secured in a wooden handle and for changing blades into scrapers, chisels or drills. New types of artefacts from bones and mammoth tusks, such as needles, decorations, harpoons and spear-throwers also appeared in Europe (Mithen 1998, Müller-Beck, Conard, Schürle 2001, Mohen 2002, White 2003, Klein 2009, Cook 2013).

We find the first proof of anatomically modern humans' ability to create artefacts that perform a symbolic function in the Blombos Cave in South Africa located in a limestone cliff on the coast of the Indian Ocean, 290 kilometers east of Cape Town.



Pieces of ochre and a large collection of tick shells *Nassarius kraussianus* were found here. Based on OSL dates, the M1 phase in the Blombos Cave was dated to around 75,000 BP and the slightly older M2 phase to 78,000 BP. The perforated shells were probably strung as ornament using leather string or animal sinew. They might have been partially or fully colored using ochre (d'Errico 2003, Henshilwood *et al.* 2005).

More than 8,000 pieces of ochre were found at various levels in the Blombos Cave. Two deliberately engraved ochre pieces belong to the M1 phase (Henshilwood, d'Errico, Yates *et al.* 2002). Both samples are found in undisturbed and hardened ash and sand. The engraving made on a rectangular slab of ochreous shale (SAM-AA 8938) required considerable control and skill. This is a geometric pattern that consists of a band of cross-hatched lines bordered by two enclosing ones, and divided through the middle by a third parallel line which divides the lozenge shapes into triangles. These lines might suggest an initial phase of the artefact's modification linked to an uncertain design that was gradually improved on to the right side. The engraving on the flat piece of shale-like ochre (SAM-AA 8937) might have formally been connected to the previous piece of ochre whose sides were worn away. One side bears an engraving featuring cross-hatched lines that are bisected and framed by horizontals (Henshilwood 2009).

Thirty-nine perforated *Nassarius kraussianus* shells made during the upper M1 phase and two shells created in the middle M2 phase were found in the Blombos cave, although these latter shell might represent an intrusion from the M1 phase (d'Errico 2003, Henshilwood *et al.* 2004). The shells are characterized by a similar size, wear and perforation size. *Nassarius kraussianus* shells are found in nature in the mouths of rivers and at places where fresh and salt water mix. These shells might have been brought from the Duiwenhoks and Goukou rivers, located around 20 km

from Blombos Cave. Natural processes could not have contributed to their transport to the cave, since the shells show no sign of smoothing or fragmentation and do not differ in their developmental stages. All the found shells possess a mature developmental stage; they were obviously intentionally collected due to their size. Moreover, they are all perforated on the dorsal side. Also important is the fact that 88% of the shells feature a medium-sized perforation near the lip or larger perforation extending from the lip toward the right edge which are man-made and deliberate (d'Errico 2003). The anthropogenic perforation was probably made with a sharp bone point through the inner sides of the box. Perforation by sedimentary abrasion or alteration can therefore be ruled out. Microscopic analysis of the boxes revealed evidence of use-wear with friction from rubbing against thread, skin or other beads. Some of the boxes were colored with red pigment or colored by rubbing against other material (Henshilwood 2009, d'Errico, Stringer 2011).

Other proof of the genesis of human creativity and abstract thinking include finds made in the Diepkloof Rock Shelter (Western Cape, South Africa). Here 270 fragments of intentionally marked ostrich eggshell dated to 60,000 BP were found. The cut geometric patterns on their outer surface can be divided into four categories: 1) a parallel to subparallel line motif, 2) an intersecting line motif, 3) a cross-hatching motif and 4) a hatched band motif. Several fragments can even be pieced together into a larger whole. The engraving process included the standardized method in which longer parallel lines are gradually created, supplemented by smaller lines. Ostrich eggs served as water containers (Texier *et al.* 2010, Henshilwood, d'Errico 2011, Tattersall 2012). The found geometric patterns on the ochre in Blombos and on the ostrich eggs in Diepkloof support the hypothesis that the birth of the modern human mind and symbolic behavior did not occur in Europe around 40,000 BP, but in southern Africa around 85,000 BP.



FIGURE 4. Engraved ochre from the Middle Stone Age levels at Blombos Cave, South Africa. © Marian Vanhaeren.

## CONCLUSION

One of the questions of human prehistory researchers has been trying to answer is when art and artistic creativity originated. Many scientific disciplines, ranging from prehistoric archeology or paleoanthropology to theory and history of art, have tried to resolve this issue. However, none of these disciplines research – the genesis of art in a comprehensive way and within a wider



systematic and interdisciplinary context. Research focused on the nascence of human art creativity may thus remind us of compiling a very special menu. So that the culinary demonstration of the meals would appeal with its taste to the consumers, not only do the ingredients have to be well prepared, but also served in a sophisticated manner. Moreover, with every new and unknown ingredient the meal changes revealing new tints of taste. Similarly, with every new discovered artefact a researcher in the field of proto-art and Paleolithic art reveals new semantic dimensions and structural connections, which often leads to reassessing old or formulating new hypotheses about the age and causes of the prehistoric art nascency. Prehistoric art research cannot be restricted only to focusing on how artefacts were made, used or in what situation they were discovered. Even the production of Paleolithic stone industries, which had primarily utilitarian functions, shows the interest of our ancestors in selecting the material used on the basis of its aesthetic value and their tendency to make artefacts not only on the functional, but also artistic principles. This is the reason why the origins of human creativity cannot be considered to be dating back to the rise of the Upper Paleolithic, but actually much earlier. There are many indications suggesting that humans in the period *Homo heidelbergensis* and *Homo neanderthalensis* were able to endow their artefacts with an aesthetic dimension, at least to a certain extent: this demonstration of proto-art dates back to the very beginning of the creative explosion which occurred in Europe during the Upper Paleolithic (Renfrew 2008, Bednarik 2011, Geertz 2014).

## ACKNOWLEDGEMENTS

I would like to thank Walter Leitner (Institute of Archaeology, University of Innsbruck), Miroslav Popelka (Department of Archaeology, Charles University in Prague) and Václav Soukup (Institute of Ethnology, Charles University in Prague) for their valuable advice and many constructive comments on the previous versions of this paper.

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