

## Exploration

# From Continuity to Contiguity: On the genesis of consciousness, culture and oral language (Part III)

Claudio Messori\*

### ABSTRACT

Based on my previous model and supported by a biophysical interpretation of nervous cell, nervous system, memory, mind and phylogenesis, I further propose a *Tensorial-Relational model*, aimed at providing a paleoanthropological and physicalist's explanations of the genesis of *consciousness, culture and oral language* among human communities.

Part III of this four-part article series includes: 1.5 Anthropic finds from Lower to Middle Paleolithic: how and why have they been realized? 1.5.1 Lower and Middle Paleolithic artifacts, an overview; and 1.5.2 From imaginific toward conceptualization via symboling.

**Keywords:** Tensorial-relational model, tension-gradient, quanta-gradient, mnemopoiesis, dissipative system, anticipatory system, epigenetic function, continuity, contiguity, sensing-intuition dichotomy, thinking-feeling dichotomy, cavity resonator, acoustic-musical faculty.

### 1.5 Anthropic finds from Lower to Middle Paleolithic: how and why have they been realized?

*For instance, all the 'cultures' of the so-called Paleolithic period have been defined almost exclusively on the basis of subjective and untestable determinations of stone implement categories. Apart from the obvious fact that this taxonomy cannot be falsified, tools do not define cultures: we have no screwdriver, knife or spear cultures. Tools and artifact types can be and often are used across many cultures; hence they are not a primary variable defining cultures. In short, the 'cultural sequence' archaeology has given us of the Pleistocene should not be expected to be a sequence of real cultures, or a taxonomy of peoples, tribes or ethnic entities.*

R.G. Bednarik<sup>1</sup>

Based on previous premises, and knowing that even though *Humans*<sup>2</sup> belong to the same taxonomic family as the *great apes* this does not mean they *evolved from monkeys*, I am

\* Corresponding author: Claudio Messori, Independent Researcher, Str. Villaggio Prinzerà 1, Fraz. Boschi di Bardone, Terenzo 43040, Italy. Phone: +393282876077; e-mail: [messori.claudio@gmail.com](mailto:messori.claudio@gmail.com)

<sup>1</sup> R.G. Bednarik, *The origins of symboling*, p. 2, cited.

<sup>2</sup> Lineage: Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Primates; Haplorrhini; Catarrhini; Hominidae; Homo.

going to take into account a brief overview of the paleo-archeological record dating back to Lower and Middle Paleolithic (the reader is referred to consult the vast literature on the subject, often controversial as disagreement persists as to classification, terminology and chronology), by which comparison and interpretation I uphold my hypothesis on the origin of **culture** and of **oral language**, knowing that what happened on Earth in the distant past and what may have been the conditions that triggered the advent of *culture* and of *oral language* is a concept we can talk about, but these are events that we can not know for direct experience. Whatever hypothesis we do, we can not in principle verify it by a direct comparison with what happened [17]. All we can do is build a hypothesis that makes consistently linked together all the data in our possession, eliminating any apparent contradiction<sup>3</sup>.

In this section I am going to take into account the advent of *culture* (leaving the discussion concerning *oral language* to paragraph 1.6), to which I assign the following meaning:

- by *culture* is meant **the ongoing overcoming of stereotyped behavioral patterns via intentional, circumstantiated, not occasional, epigenetic ideation, programming, organization and implementation (for adaptive and supra-adaptive purposes) of cognitive behavioral<sup>4</sup> strategies.**

In the animal kingdom, all behavioral dynamics that do not satisfy, in whole or in part, the above criteria should be considered as **interactive dynamics belonging to the relational module of a given neurological-minded organism, governed by the phylogenetic diktat and bound to stereotypy.**

On the background of the scenario that we are going to take into account, they stay open four questions, to which I will try, at least in part, to give an answer to.

First question: since we are taking into account over than two millions years of very slightly documented human pre-history, what are the benchmarks that we intend to adopt in our investigation?

---

<sup>3</sup> *Any theory based on experience is necessarily statistical; that is to say, it formulates an ideal average which abolishes all exceptions at either end of the scale and replaces them by an abstract mean. This mean is quite valid though it need not necessarily occur in reality. Despite this it figures in the theory as an unassailable fundamental fact. ... If, for instance, I determine the weight of each stone in a bed of pebbles and get an average weight of 145 grams, this tells me very little about the real nature of the pebbles. Anyone who thought, on the basis of these findings, that he could pick up a pebbles of 145 grams at the first try would be in for a serious disappointment. Indeed, it might well happen that however long he searched he would not find a single pebble weighing exactly 145 grams. The statistical method shows the facts in the light of the ideal average but does not give us a picture of their empirical reality. While reflecting an indisputable aspect of reality, it can falsify the actual truth in a most misleading way.* [C.G. Jung, *The Undiscovered self*, p. 6, 1958]

<sup>4</sup> By *cognitive behavioral* is meant the epigenetic ability to program significant actions with respect to the ability of formulate meaningful purposes.

Certainly not the volume of the skull (it is puzzling that in the scientific field there is still who claim that cognitive functions increase with the increasing in brain volume or brain capacity<sup>5</sup>), and not even the modern scientific prejudice according to which the evolutionary degree of human being (*primitive* vs *emancipated*) is directly proportional to the amount and quality of artifacts that produces<sup>6</sup>(lower is the degree of manufacture, lower is the evolutionary degree).

Second question: in going so far backwards in time, do we come to a temporal border, beyond which it is necessary to adapt the epistemological approach we have adopted until then, in the analysis and interpretation of the records?

A similar question arises when we pass from the supra-atomic scale to the sub-atomic scale. In this case the answer is yes, we must change our epistemological approach.

Third question: the animal species *Homo* it has been *human* since the beginning or it has become human over time (besides possessing a fully upright bipedal gait and a full-time terrestrial bipedality<sup>7</sup>, what are the features that makes *human* the *animal*)?

A question for which I have already suggested an answer in the previous paragraph.

Fourth question: does it makes any sense to compare the stages of cognitive development of the child with the (supposed) stages of cognitive development of the human species? Or worse yet, to compare the behavior of the human infant to that of apes?

From the neurological point of view, the early stages in the development of the individual are marked by CNS operation's modes very global and scarcely selective. Indeed, at birth humans has a remarkable physiological immaturity of the CNS compared to the other mammals. In the first weeks of life prevails a slightly differentiated mode, which organizes itself in massive responses to even minimal stimuli, and the better functioning sensory analyzers are the *proximal* (tactile, thermal, dolorific, vibratory and proprioceptive sensitivity, smell, taste) while hearing and seeing, especially the latter, are not yet able to deploy all their discriminative potential. But this is due to the physiological state of immaturity of the CNS, a state of great vulnerability but also crucial for the development of the skills required for the relational autonomy and for subsistence, a stage that can not be classified as "inferior" but "different" compared to the adult stage, and that can not be assimilated neither to an early period in the history of humanity, nor to non-human animal forms, a stage of neurological, behavioral and cognitive development widely exploited by the so-called *ricapitulation theory* (Ernst Haeckel). According to this theory, the

---

<sup>5</sup> "How did prehistoric man manage to leave behind such a rich cultural heritage of rock art? Answer: by developing a bigger and more sophisticated brain.", in *Human Evolution: From Axes to Art*, at: <http://www.visual-arts-cork.com/prehistoric-art.htm>

<sup>6</sup> "Human evolution is defined via the development of stone tools", in *Prehistoric Art Timeline (2.5 Million - 500 BCE)*, at: <http://www.visual-arts-cork.com/prehistoric-art-timeline.htm>

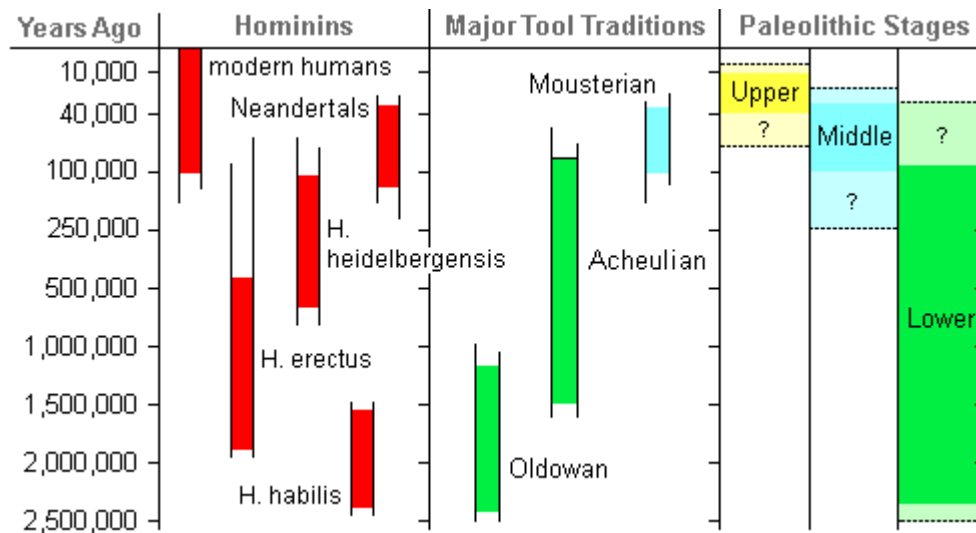
<sup>7</sup> Recently it has been suggested that bipedal walking was already used by hominids around 3.7 MYA [18].

embryological development of higher forms of life summarizes, in the Darwinian sense, the phylogenetic evolutionary development: an individual organism's biological development, or ontogeny, parallels and summarises its species' evolutionary development, or phylogeny.

In the nineteenth century, the *recapitulation* served as general theory of *biological determinism*, used to justify a hierarchical and linear ordering of human variation: groups judged inferior (in particular, black adults, whites of the disadvantaged classes and women) were equated, for anatomical and mental features, to the white males children of the groups considered superior, and presented as living examples of the primitive stages of linear, progressive and ascending evolution of the latter. *Recapitulation* influenced numerous disciplines. In psychoanalysis, for example, Freud was a *recapitulationist*, believing that the child summarize the phases of adult sexuality of his ancestors and that, in particular, the infant Oedipus complex represents the repetition of a phylogenetic event (the original patricide) really happened between ancestral adults (idea widely developed in *Totem and Taboo*, 1913, as part of a parallelism between the psychology of the child and of the neurotic of modern society and the psychology of the people considered primitive). Many estimated scientists of the past and present are *recapitulationists*.

According to the German psychiatrist, pathologist and anatomist Paul Emil Flechsig (1847-1929) the human infant is a *decerebrated being equipped with reflexes*. For the German biologist, ethologist and philosopher Ernst Heinrich Haeckel (1834-1919) the ontogenetic development of the child is a summary of the main phylogenetic stages from the emergence of life on earth to present humans. For the US neurologist and neurosurgeon Temple Fay (1895-1963), by analyzing and comparing the locomotor development of children and animals, in the course of evolution of the species, we can select different levels of development: a spinal level of undulatory locomotion, similar to that of fish; a bulbar level of amphibious locomotion in water; a mesencephalic level of amphibious locomotion on the ground; a subcortical level of quadrupedic locomotion; a cortical level of locomotion in upright position similar to that of primates; a neocortical level of upright locomotion typically human. According to the US neuroscientist Paul D. MacLean (1913-2007) the brain would be divided into three main structures used to as many functions (*triune brain*): an instinctive reptilian brain, a paleo-mammalian instinctual brain and a neo-mammalian cognitive brain.

The temptation to assume the childhood as a comparative stage (a stage considered somehow cognitively primitive and scarcely developed as compared to the emancipated and highly developed adulthood of *Homo technologicus*) for the interpretation and explanation of the early stages of development of the human species, is so high, that is widely followed even among anthropologists, starting from Emil Huschke (1797-1858), a German anthropologist who wrote (1854): *The Negro brain possesses a spinal cord of the type found in children and women, and beyond this, approaches the type of brain found in higher apes*.



**Fig. 4.** The Paleolithic stages began earlier and/or persisted longer in different regions. Subsequently, the demarcations between stages was not sharp. The same is true of the transitions between hominin species. Credit: [http://anthro.palomar.edu/homo2/mod\\_homo\\_3.htm](http://anthro.palomar.edu/homo2/mod_homo_3.htm)

Any assumptions we may do on the behavioural life of human communities that inhabited and transmigrated on Earth during the Lower and Middle Paleolithic, it depends almost exclusively on the availability of *anthropogenic* lithic finds, durable enough to remain intact for hundreds of thousands of years because they were made of or on rock or of/on non-lithic but durable materials (e.g. bone, ivory, horn). Any other early efforts in other materials, such as wood or leather, would have disappeared long ago, but this is not a good reason to doubt that the results of these efforts once existed.

Most of these finds are *utilitarian artifacts*, i.e. *tools*, with some exceptions given by a kind of *non-utilitarian finds* [19] belonging to the so-called *paleo-art production*, the analysis and interpretation of which should establish whether their realization:

- a) it has been possible thanks to the *intentional* application of time to time specific processing techniques, or
- b) it has been possible thanks to the *put into practice* of phylogenetically inherited skills, or
- c) thanks to a combination, with varying (geographically and temporally) proportions, of both *a* and *b*.

Which one of these three options, must be regarded as the most realistic, it is what will be addressed by taking into consideration just the first one of the three in paragraph 1.5.2.

I assume (thesis) that the necessary precondition for any form and degree of *cultural* and *linguistic* production, to be such, is that who is producing it must perceive themselves as *individualities distinct from their environment*. This kind of *awareness*, which I argue is conceived in the womb of what I call *psychological birth of human being* [Messori, 2000, 2004, 2012], is reached only by human species (I say quite late in human history) and coincides with the emerging of *self-consciousness* or just *consciousness*<sup>8</sup>. Therefore, from an anthropo-neuro-psychological point of view the phenomenological definition of *consciousness* would be: ***consciousness is the neuropsychological warp on which is interwoven the weft of the ongoing faculty and ability to ideate, program and engage, not occasionally and not by domestication nor by artificial programming, an adaptive and supra-adaptive behavior not ruled by the phylogenetic prescription.***

### 1.5.1 Lower and Middle Paleolithic artifacts, an overview

*A scorpion came on a riverbank and wondered how to cross it. Suddenly, he noticed a frog leaping around. "Hello, Mr. Frog, would you carry me to the other side of the river?" asked the scorpion. "I would have but you see I don't trust scorpions," replied the frog. "All scorpions are not bad. If I sting you on the way I will die for I do not know how to swim," explained the scorpion. Now the frog saw enough reason in the scorpion's statement and agreed to carry him across the river. So the scorpion hopped on to the frog's back and they set out on the journey. The frog paddled his limbs through the water as fast as he could. Half way through the journey, he suddenly felt a sharp sting on his soft hide. "Why did you sting me? Now both of us shall drown," cried he. "What can I do for this is my nature," replied the unrepentant scorpion. The frog and the scorpion immediately drowned in the gushing water.*  
Zen story

The paleo-archaeological record through which we groped to reconstruct, at least in general and with reasonable uncertainty, the essential features of the behavioral life of our distant ancestors lived during the Lower Paleolithic period (c. 2.7-2.4 MY to c. 300-120 TYA), are (controversially) of few genres (variously classified) and are becoming increasingly scarce and fragmented as passing from the most recent finds, dating from the second half of the Lower Paleolithic (c. 900-700 to c. 300-120 TYA), to the oldest anthropogenic finds dating from the first half of the Lower Paleolithic (c. 2.7-2.4 MYA to c. 900-700 TYA), and even earlier [20].

The information we can glean from these anthropogenic finds vary according to their chronology and depend on the type and provenance of records that we have available, namely *utilitarian* and *non-utilitarian* anthropogenic finds.

---

<sup>8</sup> *Without consciousness there would, practically speaking, be no world, for the world exists as such only in so far as it is consciously reflected and considered by a psyche. Consciousness is a precondition of being.* [C.G. Jung, *ibid.*, p. 48]

*Utilitarian finds* are mainly *artifacts*, i.e. *tools*, dating back to the first half of the Lower Paleolithic like *simple pebble tools*, *quartzite pebble tools* and *flakes* (India), *chopping-tools* (Eastern Hemisphere), *handaxes* and *cleavers* (Middle Est, Africa, western Europe), *bifacial-tools* and *flint tools* (western Europe, Jordan), all of them sharing a minimalist and essential shape, made according to a synthetic spatial perspective of a *mirror-symmetrical type* (double-sided) [21], a symmetry (*mirror simmetry*) which reflects a *two-dimensional spatial perspective* (bipolar) and a based guidance on the horizon, the line where, I argue, the two sides of the *sensing-intuition mental bipolar dimension* comes together.

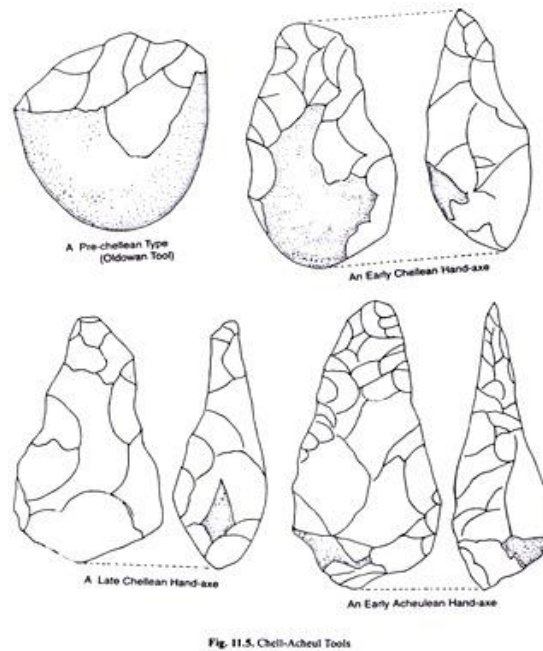


Fig. 11.5. Chellé-Acheul Tools

**Fig. 5.** Imagine source:

<http://www.historydiscussion.net/ages/paleolithic-period-lower-middle-and-upper-paleolithic-period/1821>

*Non-utilitarian artifacts*, i.e. *palaeo-art finds*, from this period are<sup>9</sup> *beads* and *pendants* from the Acheulean of France (at Saint-Acheul); iron hematite (*ochre*) *fragments* (occurring together with Acheulean *bifaces* and exotic *quartz crystals*), the processing of which may have provided a pigment used for coloring objects, bodies or surfaces, from Wonderwork Cave, in the northern Cape region of South Africa; numerous *manuports*, i.e. natural objects that were collected and carried by hominids because of some outstanding properties, such as *quartz crystals* from the Lower Acheulean of Singi Talav (India), Choukoutien (China) and Gudenus Cave in Austria; the *red jasperite cobble with distinctive natural markings* (that makes the cobble looking like an anthropomorphic shaped face with eyes and mouth) from Makapansgat Cave in South Africa (Fig. 6), which was collected by a hominid some 2.5-3 MYA; the *Erfoud manuport*, in the form



of a fossilized fragment of a *cuttlefish* with natural phallic resemblance, from an archaeological site near the towns of Erfoud and Rissani in eastern Morocco (Fig. 6a), which was collected by a hominid some 300 TYA [22]; an *engraved bone fragment* from the Acheulean of Sainte Anne I, France, which bears *ten short cuts* along an edge.



**Fig. 6.** The *red jasperite manuport* from Makapansgat Cave, South Africa, 2.5–3 million years, the oldest known palaeoart object in the world. Credit: R.G. Bednarik, IFRAO, 1998 (Image source: <http://www.semioticon.com/virtuals/symbolicity/origins.html>)



**Fig. 6a** The *Erfoud manuport*, from a Late Acheulian dwelling in Morocco. Credit: R.G. Bednarik, 2002 (Image source: <http://www.semioticon.com/virtuals/symbolicity/origins.html> )

*Utilitarian finds* from the second half of the Lower Paleolithic are artifacts that provide some likely clues on Paleolithic humans migration flows (a series of quartz stone axes, found in Crete and dated between 800 to 130 TYA suggest that already from the second half of the Lower Paleolithic perhaps *Homo erectus* and certainly *Homo heidelbergensis* built rudimentary boats for sailing in the open sea) [23]; *stone tools* (*choppers, bifaces, scrapers, handaxes and spikes*)

<sup>9</sup> See: R. G. Bednarik, *The Earliest Evedence of Paleoart*, cited.



[24] belonging to the so called *core-tool tradition*, developed and diversified in terms of their intended use, but also because of the location of their makers perspective<sup>10</sup>, a fact of great importance in the *process of psycho-relational individuation* that has transformed the inner life and the relational approach of human communities, because it indicates that the human position, in the binocular perception of reality, is taken as the psycho-spatial coordinate that gives a sense of depth to the reality itself: the human actor's position, as psycho-spatial coordinate for the depth, is the dependent variable which orients the two-dimensional extension of the line and the one-dimensional point (dot) generating the *tridimensionality*<sup>11</sup>.

*Non-utilitarian finds* from this period are *stone carvings*, such as *cupules* [25] (a shallow, non-functional cup-like depression, cut into the surface of a rock as an engraved dot) and *petroglyphs* [26] found in Bhimbetka and Daraki-Chattan Caves, India (dated between 700-500 to 290-200 TYA), lines and dots as engravings which add the size of the depth to the two-dimensional perspective, creating the suggestion of three-dimensionality (for further explanations on the subject see paragraph 1.5.2); artifacts with *zoomorphic and anthropomorphic forms* realized according to a two-dimensional spatial perspective; specimens of *anthropomorphic statuettes* or figurines classified as *Venus* (*Venus of Tan Tan*, Morocco, dated between 500 to 300 TYA; *Venus of Berekhat Ram*, Israel, dated between 500 to 230 TYA) [27]; *iconic figures* in the graphic art of eastern Europe and Asia such as some of the paintings in Kapova Cave and Ignatiev Cave and two mammoth engravings, one each from Mal'ta and Bereliokh, Siberia, and perhaps one figure from Hayonim Cave; *geometric or non-iconic marks* such as the numerous *geometric signs on portable objects* from Russia, Ukraine, Siberia and India, best exemplified at Eliseevichi, Mezin, Kirillovskaya and Mezherich (but also occurring, less pronounced or in smaller numbers, at Patne, Mal'ta, Afontova, Kavkaz, Balinkosh, Klinets, Timonovka, Suponevo, Novgorod-Severskaya, Avdeevo and Gagarino), in the first Palaeolithic art discovered in China, in several *engraved objects* from the Levant (especially the Urkan e-Rub II plaque and an Upper Besor 6 *ostrich eggshell fragment*) and in Blombos Cave [28], southern Africa.

---

<sup>10</sup> See: *Evolutionary Psychology of the I/Me and the Idea of the Immortal Soul*, cited.

<sup>11</sup> With respect to the 3-dimensional sense Wynn observes: *Perhaps the most critical new spatial concept is the understanding and coordination of multiple points of view. The intentionally straight edges and parallels on some of the Isimila bifaces require attention to a stable point of view, which is a projective notion. More complex still are the regular cross sections of many of these bifaces . . . Unlike the spatial concepts used for earlier tools, these projective notions allow the internal frame of the artifact to be controlled by the external relation of perspective. A second spatial concept to appear by 300,000 years ago is that of a "Euclidean" space, that is, a space definable by a three-dimensional coordinate grid. . . . The acquisition of this constellation appears to have hinged on a single breakthrough in spatial thinking, the invention or discovery of perspective. . . . The evolution of these concepts of space reflects, I think, the development of a very distinct concept of self as an actor in an independently existing world. Such an awareness is at the heart of human understanding.* [In: Wynn T., *The evolution of spatial competence*, Chicago, University of Illinois, 61-65, 1989].

- Compare with: Harrod James B. *Notes on Middle Acheulian Spirituality: Stone Tool Logic Structures and Analogies of the Soul*, 2002, available at: <http://originsnet.org/machultool1183k.pdf>

The finds from the Middle Paleolithic (in Europe) or Middle Stone Age (Africa), c. 300-120 to c. 45-30 TYA, include *pictographs*, *petroglyphs*, *survival flukes* (rock paintings in deep caves), *proto-sculptures* or figurines, iron hematite (*ochre*) *fragments* such as those found in an archeological site near Twin Rivers, in Zambia, South Central Africa, dated c. 270 TYA, abundant and varied types of tools and other hand processed stone artifacts belonging to the so called *flake-tool tradition*<sup>12</sup>, some of them showing a clear propitiatory-magical significance, as well as some evidences on the evolution of fire control. Their processing and typological variety are in favour of a substantial refinement of the skills used in the manufacture of materials such as stone, bone and wood<sup>13</sup>, showing that in humans' psyche was taking place a mature process of elaboration and structuring of the objectives pursued with their production, an evidence of the settling of the three-dimensional perspective orientation assumed by humans in their relation with the surrounding.

From now on it develops an anthropocentric orientation which entails a progressive detachment from the *relationship of continuity* or *phylogenetic (quasi)unconditioned identification* with the

---

<sup>12</sup> "The Middle Paleolithic period is differentiated mainly from the typological point of view where the presence or absence of hand-axes or biface is critically important. The core-tool tradition have totally been transferred to the flake-tool tradition in this level. Therefore, Chellean-Acheulian hand- axes are no more found. Instead, implements have been made on flakes that are knocked off from the nodule. Both Levalloisian and Mousterian traditions were developed on the flake tradition involving a higher technology. Levalloisian tradition was started from the Middle Acheulian stage and its developed form is named as 'Proto Mousterian', which became further developed later with the name 'Levalloiso- Mousterian'. This indicates that the Mousterian also emerged from Middle Levalloisian stage. As a matter of fact, evidences of Levalloisian flake-tools making come from the open-air sites, whereas the Mousterian had kept its evidences mostly in caves and rock-shelters of South-Western France. Besides, the Mousterian provides the earliest evidence on the regular use of fire and first definite burial has also been discovered from this stage in Western Europe.

The Mousterian tools, in general, show faceted striking platform and secondary workings in the form of step-chippings where the pressure-flaking technique is commonly applied. For the first time, a crude bone-tool industry appeared in the Mousterian stage (.....) Levallois flakes were preforms for making a variety of scraping, cutting, and puncturing implements. The raw flakes were modified for particular uses by systematic percussion flaking their edges. Mousterian flake knives made in this way were apparently used for such tasks as cutting small pieces of wood and butchering animals. Flake scrapers had a number of uses but were particularly important in processing animal skins. Levallois flakes were also shaped into crude unifacial spear points by Neandertals. This was the first time in human prehistory that stone tips were affixed to spears. It allowed greater penetration of the spears and, subsequently, more effective killing of large animals. The fact that Neandertals were the pioneers in creating these new deadly weapons is further reason to reject the old view that they were "dull-witted, brutish, ape-like creatures." [Credit: Mamta Aggarwal, *Palaeolithic Period: Lower, Middle and Upper Palaeolithic Period*, available at: <http://www.historydiscussion.net/ages/palaeolithic-period-lower-middle-and-upper-palaeolithic-period/1821> ]

<sup>13</sup> "The earliest wooden spears yet recovered came from a 380,000-400,000 year old cave site near Schöningen in Germany, presumably left by a group of late *Homo heidelbergensis*. They were 6-8 ft. (1.83-2.44 m.) long and had sharpened points at both ends but were not stone tipped. The fact that these spears were found in association with the butchered remains of 10 horses, suggests that they were hunting weapons. Only a few wooden artifacts have been found associated with Neandertal remains. Those that have been discovered include spears, plates, and possibly pegs. It is likely that Neandertals made other kinds of artifacts out of wood and more perishable materials. Their hand axes and some other stone tools very likely were used to create and modify artifacts out of these organic

natural habitat, determining a drift towards a problematic epigenetics *relationship of contiguity*, or *epigenetic-conditioned identification* with the surrounding, which, in overcoming the relationship of continuity, re-creates the world in the form of *internal representation (first symbolic and later on also semantic) of external reality*.

In this regenerative and representative psychophysical process, the *undivided unity composed by the individual and its natural habitat* is cleaved into a territory and its mapping. In the tension, fraught with uncertainties, created by this splitting, the (quasi)absence of intentional supra-adaptive purposes<sup>14</sup> in early humans is facing and integrates with the rising humans' *state of consciousness*<sup>15</sup>, and from its anthropo-centric orientation flows the fully supra-adaptive behavioral which we call, to all intents and purposes, *cultural production*.



**Fig. 7.** Bone fragment with two sets of sub-parallel lines engraved with stone tools, from the Oldisleben 1 site, Germany, of the Micoquian, and possibly in the order of 120,000 years old.

Credit: R.G. Bednarik, 2006 (Image source: <http://www.ifrao.com/wp-content/uploads/2014/06/jev.pdf>)

The path of the progressive detachment from a relationship of continuity, to enter into a relationship of contiguity, hides many unknowns and hence a tragic side. A tragicity that we still discover expressed in the myth of Oedipus, of which M. Graves gives us the following version<sup>16</sup>:

*Narcissus was marked, in his short life, by the maternal intentionality which the myth wishes modulated in Tiresias' warning ("Your son will live until he knows himself", which means "until*

---

*materials."* [Ibid].

<sup>14</sup> It should be stressed that it is not possible to conceive the ongoing transformation process of human cognition, as if it has been composed and divided by *jumps*. All forms of behavior observed at a certain period of time within a given species, are always somehow prefigured, among that same species, in earlier behavioral forms. That is to say that any behavior undergoes over time a more or less observable process of diversification, going from a phase in which its effectiveness it is not fully established, to a phase in which it is. In human species it has never been a behavior completely free of intentionality! However, the behavioral intentionality (stricto sensu) it has been for a long time overshadowed by the prescriptive action (eminently unconscious) exerted by the sensing-intuition mental function. For this reason, its impact on the behavior adopted by the human communities in the course of Lower Paleolithic, does not seem compatible with the establishment of a fully cultural and linguistic production.

<sup>15</sup> *Individual consciousness is only the flower and the fruit of a season, sprung from the perennial rhizome beneath the earth; and it would find itself in better accord with the truth if it took the existence of the rhizome into its calculations. For the root matter is the mother of all things.* [C.G. Jung, *Symbols of Transformation*]

<sup>16</sup> In: D. Napolitani, *Identità, Alterità, Culture*, available at: <http://www.rivistacomprendre.org/allegati/XIX.Napolitani.pdf>

*he stops nestling in the conscious womb of you, his mother”) and, true to this “norm”, he avoided any relationship, keeping himself to a solitude that we could define as “autistic”. Until the day when, gazing at his reflection in a pond, as was his wont, he saw it rippling thanks to a spiteful puff of air from Zephyrus, the spring wind, and so saw his image in the water disappear: no longer, in this image, a Narcissus reflecting his existential condition of a oneness with the maternal intentionality, but, all of a sudden, a reflective him in his own autonomy, in his self-knowledge emerging from the norm that had led him to this point. The unbearable distress due to this laceration led him to stab himself to death.*

### 1.5.2 From imaginific toward conceptualization via symboling

*Art is a kind of innate drive that seizes a human being and makes him its instrument. To perform this difficult office it is sometimes necessary for him to sacrifice happiness and everything that makes life worth living for the ordinary human being. As a human being he may have moods and a will and personal aims, but as an artist he is "man" in a higher sense— he is "collective man"— one who carries and shapes the unconscious, psychic forms of mankind.*  
Carl Gustav Jung<sup>17</sup>

While sharing Bednarik’s opinion<sup>18</sup> on the relevance to be assigned to the finds he describes as *paleo-art* or *paleo-non-utilitarian traditions*, e.g. *rock carvings* (petroglyphs), *cupules*, *engraved pebbles*, *beads*, *iron hematite’s pigment*, *manuports* and the like, dated from the Lower Paleolithic, in his words “*the body of very early paleoart, and any other 'non-utilitarian' evidence may provide clues to early hominid cognition*”, I have to disagree with him in assigning them a *cultural value*, which assume *cultural relevance* only in a complex social system of *symboling* and of *value concepts*. The reasons adduced in support of this hypothesis would prove that as early as from the first half of the Lower Paleolithic human communities were producing *culture* and were organized in a *complex social system* which could rely on the use of *symboling* and of *value concepts*, but I argue that this hypothesis is based on an interpretation of the findings inferred by a definition of *culture* and of *symboling* too broad and therefore very questionable. In speaking of culture Bednarik writes<sup>19</sup> “*‘Culture’, defined scientifically, is the passing on of practice by non-genetic means (Handwerker 1989), therefore many animal species possess culture*”, and elsewhere he writes<sup>20</sup> “*In the case of humans, ‘culture’ defines the collective customs, beliefs and arts of a group of people who are usually bound together by it, and these are passed on from generation to generation*”.

About symboling, he writes<sup>21</sup>: “*One could further speculate that symboling by re-enactment is*

<sup>17</sup> C.G. Jung, *The Spirit in Man, Art, & Literature (Collected Works of Jung Vol. 15)*, Paperback, 1971

<sup>18</sup> See, R. G. Bednarik, *The Earliest Evidence of Paleoart*, cited.

<sup>19</sup> R.G. Bednarik, *The origins of symboling*, p. 2, cited.

<sup>20</sup> R.G. Bednarik, *The Lower and Middle Palaeolithic origins of semiotics*, p. 1, cited.

<sup>21</sup> *Ibid*, p. 5.

*likely to have originated from neuronal pathways facilitating deceptive behaviour, which has been observed in chimps. Once again we see that symbol use is based on neuronal circuits that may well have their antecedents in those of earlier primates. It is therefore inappropriate to expect finding a specific development or event that would mark the beginning of symboling. Rather, this must be assumed to be an incremental process, with its origins deep in unconnected neuronal structures that existed even before humans appeared (Fiedler L., 2003). It was apparently during the Lower Palaeolithic that, in a sequence of developmental events that still need to be identified, various strands or fragments of behavioural traits came together in such a way that what we call "consciousness" became possible."*

About culture I have already expressed my idea, which exclude the possibility that non-human animals may be capable of 'producing culture' and at the same time establishes which cognitive and behavioral criteria are to be adopted in the definition of 'producing culture'.

About 'symbolic production' or symboling, which I will discuss below, I merely point out that the idea according to which it would be the structure (neurological) that generate the function (mental) it is simply wrong, while the opposite is correct: in our psycho-physical reality the function (Tensorial-Relational dynamics) is the cause while the structure (energy-matter organization) is the effect.

As an alternative to the above hypothesis, I claim that *i)* the findings dated from the first half of Lower Paleolithic lies on the plane of *pre-symbolism*, which belongs to the *imaginific function*, the territory of the 'archaic remnants' or 'archetypes' or 'primordial images' (C.G. Jung), *mental-basins of attraction* rooted in the phylogenetic bifurcations that led first to the formation of vertebrates and then to that of humans, in which they develop the tendency to form *symbols* and therefore *magic images or motifs*; *ii)* while those dating from the second half of Lower Paleolithic lies on the plane of *proto-symbolism*, i.e. on the plane of what *exceeds the signified because it does not contemplate a signified as such*, i.e. as *concept* (one of the three factors that together with the signifier and the referent compose the semiotic triangle) and, with it, exceeds the *abstract way of thinking* (therefore it exceeds also the plane of *concept*, i.e. of *abstract idea or mental image which corresponds to some distinct entity or class of entities, or to its essential features, or determines the application of a term – especially a predicate -, and thus plays a part in the use of reason or language*<sup>22</sup>).

If accepted, my hypothesis would provide a scenario of *cognitive hominid evolution* which do not exclude *a priori* the possibility that the effectiveness of *paleo-art production* may also **not** be because of belonging to a complex cultural and social system, which must include a variable but significant amount of abstract thinking and conceptualization. That is to say that hundred of thousands of humans generations for hundred of thousands of years have lived and transmigrated on this planet just relying on the *ground of the imaginific function and sensing-intuition mental*

<sup>22</sup> Credit: Oxford Dictionaries, Language matters, available at: [www.oxforddictionaries.com/definition/concept](http://www.oxforddictionaries.com/definition/concept)

*bipolar dimension*, the *phylogenetic basin of attraction* where are embedded the essential and *ready to use* humans' pre-cultural behavioral strategies, without getting bogged down in the maze of abstract thinking, concepts, cultural production, speech communication and the like. They were human in every respect, able to take care of their offspring and to perform all the functions required to meet the needs related to survival, included interpersonal relationships and reproduction without perceiving themselves as entities subjectively distinct from the wild, which is, I claim, the precondition for there to be cultural production.

Our pre-cultural and pre-verbal humanity perceived the world, via *imaginific function and sensing-intuition mental bipolar dimension*, as a system of vibrating fields, each with a particular sound and rhythm, and this is the reason why early non-utilitarian traditions have devoted much of their physical and mental energy in the caves and rockshelters' stone processing, because caves and caverns are places whose sound structure makes them natural and primordial resonant telluric crates, where sounds resonate, echoes, rumble, reverberate, places in which it may be found the highest environmental acoustic effects, where not seeing for the dark requires to sharpen the listening above and beyond the sensing, where the sound is an alive tension of vibrations shrouded into the silence [29].

The cave as the cavern is the *lithic throat* (Vishuddha, the fifth *chakra* of Vedic Tradition) whose breath generates the sound, the *telluric uterus* (Muladhara, the first *chakra*) where the echo of the sound creates the mystery of births and deaths, of appearing and disappearing, of day and night, the primordial abyss, the space of the unknown thing, the spell. With the magnificence of its silences, its forms, shadows, transparencies, the cavern is the place where all the resonances can rejoin the primal resonance and hence re-born to a new sound. The rich and widespread production of *cupules* is a tangible sign of the deep (unconscious) bond that unites cavern and rock, as guardians of the primordial sound, to the human being, who digs and carves into it and over it her/his sound, resonance, her/his sounding board, her/his uterus-throat concavity, her/his receptacle of the sound, the *cupula*.

In saying so I join the Jungian thought. Carl Gustav Jung believed that *symbol creation* is a key in understanding human nature. Symbol, as defined by him, is the best possible expression for something *essentially unknown*. He wanted to investigate the similarity of symbols that are located in different religious, mythological, and magical systems which occur in many cultures and time periods.

To account for these similar symbols occurring across different cultures and time periods he suggested the existence of *two layers of the unconscious psyche*. The first of the two layers is the *personal unconscious*. It contains what the individual has acquired in his or her life, but has been forgotten or repressed. The second layer is the *collective unconscious* which contains the *memory traces* common to all humankind. These experiences form *archetypes*. These are *innate*



*predispositions* to experience and symbolize certain situations in a distinct way. As pointed out by Laughlin [30] citing Jung: *Archetypal structures underlie all recurrent, "typical" (panhumanly typical, not culturally or personally typical) ideas, images, categories, situations, and events that arise in experience. They contain no inherent content, but exist "at first only as forms without content, representing merely the possibility of a certain type of perception and action". Archetypes may manifest as "a priori, inborn forms of 'intuition'". And as the instincts impel us to act in a distinctly human way, so do the archetypes impel us to perceive and understand the events we instinctively respond to in a distinctly human way.*

That is. In agreeing with Jungian way of explaining what should be meant by *symbol*, I speculate that in the absence of an *I/Me* that distinguishes itself from an *Other than I/Me* (which is the psychological condition that has ruled, remaining essentially unchanged, humans behavior for at least *fifty of the sixty minutes* that mark *humans' hour timeline*), human psyche did not contemplate a territory belonging to *unconscious psychic material* and the other one to *conscious psychic material*, and did not even contemplate an unconscious psyche characterized by two well distinguishable layers, one *personal* and one *collective*. Almost all there was during these *fifty minutes* it was *phylogenetic psychic material*, the territory of the *essentially unknown*, embedded with the *innate predispositions* which have assigned to humankind all the ready to use strategies and skills necessary to fulfill its adaptive needs.

This is why from the beginning of Lower Paleolithic until the end of the first half of Middle Paleolithic, there have not been huge variations in the type of products realized by human's hand, even though the variations that there have been, however slight, are nonetheless an evidence of the fact that human psyche was undergoing the slow psychological process of individuation which would be led to the settling of a *state of consciousness*, with all the consequences that we observe in the findings dated from the second half of the Middle Paleolithic onwards.



**Fig. 8.** Some of the more than 500 Paleolithic cupules in Daraki-Chattan, India, thought to be of the Acheulian or Middle Paleolithic. Credit: Robert G. Bednarik

A clue that can help us in understanding these variations is given by taking into account the paleo-art works according to their perspectives, namely the one-dimensional, two-dimensional and



three-dimensional perspective.

On the subject Bednarik expresses an interesting point of view<sup>23</sup>, although not entirely sharable: *If we separate art works into three-dimensional figurative, two-dimensional figurative and non-figurative genres, we see that the first is the least complex and the last the most complex. This is because in the first art genre, referent (the object depicted, the signified) and referrer (the art motif) are cognitively relatable by direct visual resemblance of certain characteristics. In graphic figurative art, the referent is related to the art motif through the projection of certain of its characteristics onto a two-dimensional plane, so the perception of its relationship to the referrer involves a decoding process requiring certain cognitive faculties. In entirely non-figurative arts as well as those that use highly 'stylised' versions of iconicity it is impossible to know the referrer, unless one has direct access to the cultural conventions in question. Moreover, in the last-named art form, concepts or ideas involving no figuratively definable referents can readily be 'depicted'. It is therefore clearly the most sophisticated art genre, and can communicate unlimited numbers of ideas, in rather the same way as written characters.*

The meaning to be assigned to the *geometric or non-iconic marks or non-figurative genre*, from the earliest parallel sets of straight lines (vertical or oblique) and sets of convergent lines and dots (*cupules*), to the increasingly complex geometric arrangements, such as multiple arcs, zigzags, circles and radiate patterns and the likes, it remains an outstanding question. In this regard, Bednarik has advanced the hypothesis, named *phosphene theory* (Bednarik 1984 et passim), according to which *phosphenes* may have a role in the earliest engravings. This hypothesis does not explain how *phosphenes* are connected to paleoart origins, but merely points out that all known pre-figurative engravings appears to resemble *phosphene motifs* [31].

In Bednarik's words [32]: *Phosphenes are most easily described as a kind of test pattern of the visual system. They are an autogeneous and involuntary phenomenon of the mammalian visual system whose form constants cannot be influenced by cultural conditioning and which seem to be ontogenically stable. This phenomenon can be produced by many factors, such as electrical stimulation (frequency dependent), pressure on the eyeball, blows to the head ("seeing stars"), certain hallucinogens and many others. Phosphene forms are the fifteen known standard form constants of phosphenes, and most of these are found in the earliest engravings and petroglyphs. It is beyond doubt that phosphenes are intrinsic phenomena of the visual system, or entoptic phenomena, and that they reflect inherent structures of the visual system rather than any external factor or information. Since the earliest graphic production of the modern infant and the earliest production of hominins both consist entirely of compositions resembling phosphene forms, I consider it likely that these art forms are in some way related to specific basic neural processes of the visual system. Therefore the idea that these earliest engravings "resonate" with the neuron structures of the brain seems to be confirmed by the phosphene theory, according to*

---

<sup>23</sup> R.G. Bednarik, *The Lower and Middle Palaeolithic origins of semiotics*, p. 101, cited.

*which the entoptic stimulation recorded by the visual centre resembles inherent structures, such as perhaps that of the striate cortex.”*

My hypothesis is developed on a different plane from that indicated by Bednarik, though not incompatible with it. The three above-mentioned forms of art genres belongs to three different levels of expression which lie on three different logical planes. They should be seen as correlated to the three main marking steps of the psychological process of individuation which would be led to the settling of a *state of consciousness*: the *non-figurative genre (geometric or non-iconic)* marks the starting phase (first half of Lower Paleolithic) of this process, with a pre-symbolic (*imaginific function*) and consciousness-free way of expressing the insight (a *relationship of continuity* in which no space or time elaboration is involved, just *totipotent sensing-intuition images*); the *two-dimensional figurative genre* marks the transition phase (second half of Lower Paleolithic) towards a *relationship of contiguity*, with *sensations* turning into *feeling-emotions*, with a way of expressing the insight contaminated by the psychologic tension that arise in differentiating, i.e. orienting, the undifferentiated space-time of the non-figurative genre; the *three-dimensional figurative genre*<sup>24</sup> (dating from late Middle Paleolithic onward [33]) marks the ending phase of the process, with a way of expressing the insight ruled by a *state of consciousness*, pre-rational (*stricto sensu*), with a fully established competitive relationship between *continuity* and *contiguity*, where out of *sensing-intuition* endowed by *feeling-emotions* are settled the two mental bipolar dimensions of *sensing-intuition* and *thinking-feeling* that still characterize our mind territory.

If we integrate the above statements with what Jung defines as art, i.e. “*Art is a kind of innate drive that seizes a human being and makes him its instrument. To perform this difficult office it is sometimes necessary for him to sacrifice happiness and everything that makes life worth living for the ordinary human being. As a human being he may have moods and a will and personal aims, but as an artist he is "man" in a higher sense— he is "collective man"— one who carries and shapes the unconscious, psychic forms of mankind.*”, we obtain a quite clear picture of what should be meant not only by *paleo-non-utilitarian traditions* but also by *paleo-utilitarian traditions*: the tangible traces of the extraordinary efforts made by thousands of generations of men and women to conform, without succumbing, to the tension (still acting) created from being animals (as we are) governed by the phylogenetic dictates (the *innate drive that seizes a human being and makes him its instrument*) but nevertheless carriers of the germs, *essentially unknown*, of their possibility and capacity to undertake a long and full of dangers journey, still ongoing, leading to come to terms with the phylogenetic *innate drive*.

It is within this tension, that is traced the history of our humanity, and it is from it that develop

---

<sup>24</sup> On the subject see: F. Martini, *Prima e al di là dell’arte: origine dei segni e delle figurazioni nell’arte paleolitica*, “Aisthesis. Pratiche, linguaggi e saperi dell’estetico” peer-reviewed international journal, v. 6, n. 2, p. 49-60, Dec. 2013. Available at: <http://www.fupress.net/index.php/aisthesis/article/view/13768/12800>

all forms of psychic relationship with the existing, from those that did not contemplate an *I/Me* as distinct from an *Other than I/Me*, to those that do. This last condition it is very well expressed by the matrix of all the *internal representations of external reality ruled by consciousness*: **above is the Sky, below is the Earth, in between is the (troubled medium) Humankind, the carrier of the tension developed within a humanity strongly held to the ground by phylogenesis and a humanity pulled upright by consciousness.**

So now we are able to answer the question posed at the beginning of paragraph 1.5. If we choose to adhere to the first of the three possibilities advanced we should embrace the hypothesis according to which *technique* and *technology* have been conceived and implemented at first by *Homo erectus*' early communities (Acheulean tradition) or even earlier (Oldowan tradition, *Homo Habilis*?).

Given that *technique* is the daughter of the *process of abstraction* and that it has been driven by social and cultural production that require instruments, and that *technology* is the know-how meant as intentional ideation, production and application of manuals and/or instrumental *techniques* (procedures) aimed at the satisfaction of anthropic purposes, and given that there is well over than a million years stasis with very little trend in the overarching lithic manufacturing system, I claim that the hypothesis associated to the first possibility it appears inconsistent with the fact that until late Middle Paleolithic humans communities *i)* must have had very little interest and/or needs (that would have justify the request) for *technique* and for *technology*, or at least for *technique* and *technology* aimed at stone manufacturing, and/or *ii)* have not developed any particularly promising and/or useful kind of *technique* and *technology* (aimed at stone manufacturing), which means that for hundreds of thousands of years *handaxes* variously worked was about everything they had need (we could also argue that their capacities, possibilities and tendencies were insufficient or inadequate to trigger a progressive trend in the overarching lithic manufacturing system, but this would mean to measure their priorities on the basis of our priorities, and I do not think that this is our aim, for sure is not mine).

Acheulean *handaxes* production is an example of what I mean by what stated at the above points *i)* and *ii)*. What we can say is that around 1.5 MYA a new kind of artifacts developed from simple Oldowan broken (flaked) rock tools. These artifacts, known as the *Acheulean*, is typified by one type of tool, perhaps the most successful tool ever used: the *biface handaxe*, a basic, essential and functional tool produced and utilized for subsistence and adaptation's needs. *Homo ergaster* and/or *erectus* made this tool for over a million years as did later members of the *Homo* genus. *Homo erectus* made handaxes everywhere they could find the appropriate kind of stone, with little stylistic variation, all of them having the same *tear-drop shape* from any angle. Why?

According to what I stated so far, the reason for which the style and form of handaxes (like that of other anthropogenic finds from Lower Paleolithic) were consistent for a very long time over a

wide geographic range, from the Middle East to Europe and Africa<sup>25</sup>, it could be because the ability to shape a stone in the form of handaxe was *hardwired* in the **sensing-intuition interactive dynamics phylogenetically inscribed into the neuropsychological relational module** of early *Homo*, much like the ability to make a particular kind of nest is *hardwired* in the *sensing interactive dynamics phylogenetically inscribed into the neurological relational module* of birds, the ability to make a particular kind of cobweb is *hardwired* in the *sensing interactive dynamics phylogenetically inscribed into the neurological relational module* of spiders, the ability to make a particular kind of hive is *hardwired* in the *sensing interactive dynamics phylogenetically inscribed into the neurological relational module* of hymenopters and the like.

This is to say that early humans did not have to **invent or conceive** handaxes and the techniques to manufacture them, all they had to do was to follow phylogenetic skill-prescriptions based on *sensing-intuition mental function*.

If what stated is correct, the hypothesis according to which *technique* and *technology* would have been conceived and implemented by *Homo erectus*' early communities (or even earlier) it looks very much unlikely. Instead, it looks more consistent the hypothesis according to which almost all the anthropogenic production dating back to the Lower Paleolithic has been possible thanks to the mental action exerted by the *irrational function sensing-intuition*, typical for mental and perceptual activity that predominantly (and, for the most part, unconsciously) operates with opportunities, i.e. various possible outcomes and sensations result from some premises and sensations, mostly driven by unconscious processes.

Here, once again, I am following C.G. Jung's explanation<sup>26</sup> of 3rd century alchemist Maria Prophetissa's axiom: *One becomes two, two becomes three, and out of the third comes the one as the fourth*. To which Marie-Louise von Franz gives an alternative version thus<sup>27</sup>: *Out of the One comes Two, out of Two comes Three, and from the Third comes the One as the Fourth*.

According to Jung the Maria's Axiom may be interpreted as an alchemical analogy of the *process of individuation* from the many to the one, from undifferentiated unconsciousness to individual consciousness: "*One* is unconscious wholeness; *two* is the conflict of opposites; *three* points to a potential resolution; *the third* is the transcendent function, described as a *psychic*

---

<sup>25</sup> Compare with: A. Nowell and M. J. White, *Growing Up in the Middle Pleistocene: Life history strategies and their relationship to Acheulian industries*, 2010, in: A. Nowell and I. Davidson (eds) *Stone Tools and the Evolution of Human Cognition*. Available at: [https://www.academia.edu/292428/Growing\\_up\\_in\\_the\\_Middle\\_Pleistocene\\_Life\\_history\\_Strategies\\_and\\_their\\_relationship\\_to\\_Acheulian\\_industries\\_In\\_Stone\\_Tools\\_and\\_the\\_Evolution\\_of\\_Human\\_Cognition](https://www.academia.edu/292428/Growing_up_in_the_Middle_Pleistocene_Life_history_Strategies_and_their_relationship_to_Acheulian_industries_In_Stone_Tools_and_the_Evolution_of_Human_Cognition)

<sup>26</sup> C.G. Jung, *Psychology and Alchemy*, Collected Works, Vol. 12. Bollingen Series XX. 2nd Edition. Princeton University Press, 1980, p. 160

<sup>27</sup> Marie-Louise von Franz, *Number and Time: Reflections Leading Towards a Unification of Psychology and Physics*, Rider & Company, London, 1974, p. 65

*function that arises from the tension between consciousness and the unconscious and supports their union*<sup>28</sup>, and *the one as the fourth* is a transformed state of consciousness, relatively whole and at peace, namely the *mystical* way that leads to transcend the phylogenetic *innate drive*.

*(Continued on Part IV)*

---

<sup>28</sup> Daryl Sharp, *Jung Lexicon: A Primer of Terms and Concepts*. Inner City Books, Toronto, 1991, p. 135