

Making «art» in Prehistory: signs and figures of metaphorical paleolithic man

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Art is meant to disturb, science reassures.
Georges Braque

1. The origins of sign-making: Neanderthal graphic experiences

We owe our first graphic experiences to Neanderthal Man, who introduced to the cultural baggage of the genus *Homo* two metaphorical behaviors that are fundamental in terms of their innovation: one concerns the preservation of the bodies of the dead through burial (Martini [2008]), which is practiced in the cave where the life of the community continues, challenging our finiteness through the creation of an area of memory. The other metaphorical behavior is the making of signs, which in this stage of evolution do not yet represent recognizable subjects but only lines (generic linear motifs, specialized linear motifs, linear motifs associated with rhythmic measure). This attests to the creation of a graphical tool that materializes and makes visible that which exists in the mind, something that is other than itself, thus providing signs of a communication that unfortunately today we cannot define semantically. We cannot say whether these linear marks are a sort of «brand» or if they are carriers of meanings, however, we can observe that, with the Neanderthals, a conceptual, projectual plan exists that enables the measurement of space and the configuration of a regular rhythm, creating an original condition of movement and an association of potentially dynamic lines.

2. The figurative experiences of Homo sapiens: from the line to the metaphorical image

The hunter-gatherer communities of the species *Homo sapiens* arrived in Europe from the east around 40-45,000 years ago, displacing the Neanderthals who died out, and

introduced new, more effective behaviors. Among these was the practice of creating naturalistic images whose subjects, present in the visible world, are instantly recognizable. Their techniques are varied: painting, incision, small sculpture in the round, bas-relief, and the modeling of clay.

While Neanderthal graphic experiences never became a system of representation of the real, *sapiens* uses the line to transform what his neurological system perceives as masses and volumes into a two-dimensional reality, tracing, with signs, forms, profiles and attributes that allow for a correlation between the image and the real world, between figure and subject. If we have to give Neanderthals credit for the invention of the line, to *sapiens* we owe the use of the line as a way to recreate in two dimensions reality that is perceived three-dimensionally, providing a solution to our visual system that proceeds by way of the perception of contrasts.

From a biological point of view, the birth of sign-making is linked to the ability not only to receive information from what is perceived, but to transmit the information through the production of an image. The revolutionary aspect of the figurative practice of the late *sapiens* is the ability to disseminate a code composed of a system of images, a code whose shared comprehensibility within the community ensures its effectiveness and durability. In other words, within the educational paradigms of a community, a new system of non-verbal communication is created that enriches the network of collective knowledge.

Archaeological evidence proves beyond the shadow of a doubt that so-called «prehistoric art», according to the improper but by now codified term, must be understood as an organic and not extemporaneous system of figurations reproduced on both cave walls (wall painting) and transportable bone or stone supports (portable art).

3. *The iconographic themes*

The themes, which are very limited, are essentially three: zoomorphic figures, human figures (also in the theriomorphic variant) and linear-geometric signs.

The main theme concerns the animal world, portrayed both with single subjects and sometimes with very elaborate and complex scenes, a theme that remains constant throughout the Upper Paleolithic.

A variant of the anthropomorphic figures are the theriomorphic subjects, with a human body and zoomorphic head (the so-called «shamans», according to another misnomer) in which, by way of the mask, a symbolic transfiguration materializes that involves and unites man with the animal world (Martini and Fratini [2013]).

A wide and well-documented series of engravings has as its object the female sexual organ, represented in a schematic but recognizable way, depicted as an isolated theme, detached from the body, like an ideogram that, in the form of synecdoche – a part for the whole – refers to the grand theme of fertility and procreation. The symbolic importance of the theme of reproduction is also underlined by the naturalistic depictions in the round of robust phalluses.

Ideologically linked to the theme of the vulvar signs, and more generally, probably to the theme of fertility, is the small anthropomorphic statuary that includes mainly the so-called «Venuses». In them, the emphasis on body parts related to pregnancy is realized through a very modern mental process of abstraction, that is, with a deconstruction of anatomical volumes and their reconstruction in primary masses designed to give deep expression to the theme of fertility without any intent of portraiture.

4. *Styles*

Palaeolithic sign-making, from the earliest images that date back about 40,000 years, includes a number of iconographic languages (styles) that are to be understood as shared rules, unwritten *nomoi* understandable to the whole community and therefore adopted for about 30 thousand years, until the Neolithic cultural revolution.

The most frequent style is naturalistic, realistic, attentive to proportions and anatomical details, sometimes even creating the effect of chiaroscuro and perspective.

Another style is apparently rough, with representations of animals seen in profile, essential in its representation of primary characteristics and the identifying morphologies of the subject. Also present is the schematic style, rigid and essential, that sometimes also uses synecdoche.

All of these languages, to be understood as linguistic processes in the visual field that reflect a shared canon, standardized and comprehensible to all («formal sequences» *sensu* Kluber), appear simultaneously in Europe between 40-35,000 years ago and coexist on the continent, alternating in roles of greater or lesser adoption. The coexistence of different styles throughout the Upper Paleolithic (40-10,000 years ago) indicates that the rules that Man has given himself have never been binding and that the history of Paleolithic figures, that is the story of the creative Pleistocene experience, is marked by several *nomoi* that alternate and succeed each other in being dominant over one another, but that always coexist in the minds and hands of the hunter-gatherers. Finally, it seems likely that the adoption of one or more styles from the very beginning of figurative experience (naturalistic or schematic) is connected to an aesthetic sense,

perceived, among other things, in the symmetry and harmonious balance of forms and profiles, in the use of monochrome, polychrome and chiaroscuro, and in the relationship between the image and the mobile or wall support.

5. *Places*

The Palaeolithic figurative system characterizes the so-called «sanctuaries», caves in which figuration is aimed at a clear and unmediated visual impact, also by means of a premeditated placement of individual figures and panels with multiple images. More or less elaborate panels are realized in areas of immediate visibility (for example, the Caves of Chauvet, Lascaux and Font-de-Gaume), at times creating continuous friezes that can be large, positioned at eye level or several meters above, on both cave walls (for example Niaux Cave) and ceilings (for example Altamira Cave), creating for the viewer the effect of the images' physical weight. Aiding in the effect are the architecture of the cave, the barely torch-lit darkness, and the roar of silence of the closed, sometimes underground, environment.

A second type of place concerns not visible, accessible spaces, but narrow galleries, tunnels, passages of difficult accessibility and practicability, hidden places that hold single images or a large number of figures overlapping one another in a tangle of signs that makes individual images imperceptible and invisible even to the creator himself.

The varied locations of the iconographic production lead us, among many doubts and uncertainties, to consider legitimate a diversified reading of Paleolithic sign-related experience that involves two different approaches to iconographic practice (Martini [1988]). One concerns a public figurative production (eidetic art) which, through a metaphorical vision of the world, entrusts to the ritual symbol a shared memory, a production that has, in the circumscribed space of the caves, whether they were used for habitation or rituals, the legitimization of its sacredness. In this environment the great production of the Paleolithic «sanctuaries» is situated, where zoomorphic images dominate the environment, structured and located in such a way (*manifest iconicity*) that they are immediately visible and recognizable, also emphasized by their polychromy, an instant communication tool.

The other approach concerns individual hidden paths (non-eidetic art), concealed in the nearly inaccessible, uncomfortable cavities and passages, where single, instantaneous processes of figuration, repeated over time or by the same individual, left panels of overlapping signs and figures, inextricable from each other, invisible to the creators themselves; the sign as a result of an act which in itself defeats the purpose of the

image, sign that exists but neither recounts nor represents, the concrete result of an ephemeral individual performance that leaves no trace, mirror of an immediate relationship with one's own state of mind. The non-eidetic figurations, or of *hidden iconicity*, in their performative interpretation are configured not so much as a visual practice but more as a graphic kinetic action, very similar to the act of writing: the dynamic gesture of engraving or painting allows those who execute it to observe the unwinding of the line on the rock wall, but when inserted into a previous chaotic tangle of signs, its visibility and placement within a space are impeded; in these cases the metaphorical movement that produces the mark becomes similar not only to the act of writing, but also to vocal articulation that produces sounds, perceived dynamically in the use of the voice, or dance steps. As soon as performative products are materially concluded, they either die (a dance, manual gesture, song or phonic experiences) or they remain immobile (writing, graphics) fossilized on a support which is itself also static.

This interpretive dual-track of Palaeolithic figurations would lead to justifying different productions that a single reading would not be able to explain. But such a non-univocal interpretation neither explains nor describes the components and meanings of the ritual and sacred dimension, on which we pose many questions.

6. *Synonymy and Polysemanticity*

These questions remain unanswered for now, however, some observations can be proposed in merit of the semantic value of the depictions, especially the zoomorphic ones.

They are represented singularly and isolated, in groups of several individuals of the same species, and in association with different species. Their high numerical frequency in the figurative repertoire and the fairly pronounced selection of depicted species in relation to those that are far more numerous in the different European environments of the Upper Paleolithic can suggest the existence of a numerically limited symbolic nucleus of animals, a metaphoric system based on few subjects. In other words, in the zoomorphic repertoire of some single caves or of some regions, few animal species are well represented (for example, the horse at Lascaux Cave, the bison at Niaux cave) compared with a higher number of species that are less represented (in linguistics this corresponds to Zipf's law).

In the economy of the communication system, a reduced system of subjects allows the creator of the image to use a limited vocabulary that reduces the weight and difficulty of communication itself and, in turn, offers the viewer a greater capacity to

perceive effortlessly the meaning of the metaphor. In this reduced system of expression, then, that includes few categories of meaning, it is not possible to lose one's way because its limited vocabulary allows one to bring about syntactic connections that pave the way for unambiguous metaphors.

The lack of a privileged recurrence of zoomorphic subjects, single or in pairs or groups, their uneven spatial distribution in the various areas of the caves, the overcoming of old hypotheses of symbolic attributions of sex to some animals (for example, the horse as a symbol for male, ox and bison as female) perhaps tend to confer on the various animal species a character of polysematicity within a network organized in categories (the various animal species), which may be thought interconnected, mutually combined and associated. Like the spoken language, also original figurative language seems to be characterized by the combination of single elements within a network of polysemantic subjects. The regional variability regarding some figurative parameters (animal species represented, their position in the spaces, iconic images or narrative scenes...) suggests that the practice of sign-making spread rapidly across the European continent departing from a common cultural (and perhaps biological) structure and that single communities built more semantic systems.

But we can also glimpse, in addition to the polysematicity, a different aspect, that is synonymy. In the images of individual (theriomorphic) humans with animal masks, the figure is composed of different types of animal features (of bird, deer, bison, horse...), it can be male (the majority) or female, standing or moving, armed or not, isolated or in association with animals, in a struggle or not, furnished with details concerning anatomical parts (for example, the presence or not of a tail, the presence or not of a penis, often erect). This variability of attributes does not detract anything from the common denominator of this repertoire, which seems connected to a transfiguring fusion between the two primary components, the human and the animal, conferring on the repertoire itself a strong homogeneity and, probably, a final analogous meaning.

7. Verbal and metaphorical languages

The appearance during evolution of the practice of creating figures coincides with an enormous explosion of symbols. The making of signs is not an isolated phenomenon but, as an *aesthetic experience*, is part of a cultural Big Bang that involves the biological component, but not only, and confers upon the late *sapiens* of the Early Upper Paleolithic, the colonizers of Europe that displace the Neanderthals, the license of full «modernity».

In the first place it must be remembered that at this stage *sapiens* acquires the capacity for complex and fully articulated language. At the same time, as the archaeological record shows, a complex symbolism is present that extends the forms of non-verbal communication: in fact, along with the first figurative images appear the first musical instruments, flutes made from the hollow bones of large birds; anomalous heel prints, at multiple sites and related to multiple individuals, seem to indicate dance moves or particular postures perhaps during ceremonial practices; the funeral rite is enriched with metaphorical meanings through offerings, gifts, graves goods and funerary dress; the practice of bodily ornamentation as a sign of individual identity is born and spreads. The result of this explosion of metaphors, dated to about 40,000 years ago, which is also accompanied by improvements in production technology, shows an effective system of communication and transmission of knowledge, resulting in greater social cohesion and the strengthening of the community group. Last but not least is to be considered, in this global modernity, the environmental knowledge of the first *sapiens* in Europe that allows for an effective integration into various habitats and the ability to make maximum use of all available local resources.

This means, to return to the theme of this conference, that the figurative phenomenon appears at the moment of maximum expansion of the «conscious function», which is, for an archaeologist, the ability, typical of the genus *Homo*, to have an organized mental life and to structure and coordinate thoughts and actions. Consciousness, therefore, as in the awareness of one's own skills and instrument of knowledge, as in the ability to know and recognize one's environment, to relate to the things of the world and, not least of all, to reproduce them. Sign-making, in conclusion, is one of many elements that, in different times and places, have characterized the evolutionary history of our culture and its creative processes: moral conscience, social organization, technology, science, a sense of the sacred, ritual and, the object of reflection here, art.

The Palaeolithic figurative experience emerges at an advanced stage of this process of complication and one of its main aspects is its symbolic character. Early art, in its ability to «put together» (*syn-bàllein*) allows one to refer to elements that in the laws of logic are opposites, and to give form, body and voice to elements that do not exist. In other words, the hunter-gatherers of about 40,000 years ago arrive at a complex cultural structure that allows them to be aware of what exists and at the same time to imagine and create a non-visible reality, to transcend the material and to materialize the non-existent. Sign-making thus renders visible an otherness of the real through images of the

real. The figurative image (art) «does not repeat visible things, but makes them visible» (Klee [2004]); it is «substantially true but it is not essentially real» (Cappelletto [2009]).

These observations, supported by archaeological documents, are shared by Dissanayake (1988, 1992), according to whom the figurative practice of *Homo aestheticus* appears as an extraordinary event (*making special*) like ritual, religious, ceremonial behavior, at a particular stage in the evolution of the genus *Homo*, a behavior typically *sapiens*, which we call «art», and which is cognitive, communicative and emotional (Deacon [2001]). This is the competence with symbols that makes us unique among living things, and that is not a static biological event but the result, in an evolutionary perspective, of the use of previous knowledge, transmitted from species to species, made permanent and exploding at the moment when it proved effective. The figurative symbolic stage enriches the «episodic» culture of the Australopithecus, who precedes the genus *Homo*, and the «mimic» culture of *Homo erectus / ergaster*, cultures that are among the most ancient of the genus *Homo* (Donald [1996]).

The metaphorical dimension, not only in the figurative sphere, presupposes a shared and «conventionalized» expressive system (Corballis [2008]) between those who produce images and those who observe and perceive the images themselves, and this confers on figurative production and on its communicative value a strong social characteristic. In other words, the shared understanding of the sign and of images signals an agreement between performer and audience that makes the figurative gesture a socio-cultural event.

However, a fundamental problem remains, unsurpassed to date for those who try today to trace back the semantic path of signs and symbolic images: access to their meanings. The interpretation of symbolic images, in fact, which is already difficult for cultural contexts that have left written sources, is further complicated, for those concerned with prehistory, by the absence of literary sources. The scholar of Paleolithic art has at his disposal only minimally configured icons, essential in their visual inference, which, contrary to the word that dies as soon as it is pronounced, remain as a *real fact*, handed down with its load of memory and cultural tradition.

In a very general sense, because the images can and tend to transfigure reality, giving form and body to the transcendent or transforming the transcendent into *figure*, sign-making expresses the ethically religious sense, typical of Man, of giving shape, body and image to states of mind through symbols.

Its symbolic-ritual significance is currently the most plausible interpretation. The single images, groups of figures, and the few narrative scenes appear, in their crystallized

organization, conventionalized for over 30,000 years, during the most recent phase of the Paleolithic, as symbolic formulations of an interior and spiritual heritage based on the major themes described above. The images do not recount the world, do not flatten the real in its perceptible formal attributes but stimulate shared intuition, appealing to the sensitivity of the viewer, and evoke meanings that had to be rooted in memory and in the practices of those populations. The repetition of the iconographic schemes, of individual details and often also the position of the images demonstrate this. The repetitiveness and the crystallization of the sign system in its main elements allow us to believe very likely, we would be tempted to say objectively, the symbolic-ritual significance of the figures, which have communicated and transmitted meanings, beliefs and states of mind for millennia.

Narrative, mythical reference, and symbolism: three possible meanings of the Paleolithic images whose contours blur and that blend together if we give to sign-making a communicative value. Such communication probably occurred not only through non-verbal language (images), but perhaps also through gestural attitudes (dance steps? particular postures?), and, probably, through the word, through oral expressions that have left no trace. A value of global communication, therefore, that becomes important in the interaction between the choice of underground space, the characteristics of the place (darkness, sonority, visibility), the subject depicted, the image's size, its integration into the space and rock support, and the techniques of execution. All this implies a very dynamic vision of the iconographic practice with the involvement of the body, the senses, the mind.

The final result of our reflection, to conclude, is an interpretive model of Paleolithic visual culture steeped in doubt and uncertainty. In fact, on one hand, we run the risk of formulating hypotheses that emphasize the significance of the iconic symbol, attributing to it a sense that it does not have. On the other hand our perception and our ability to process topographical, iconographic and formal data might not be capable of perceiving references and values assigned to that visual repertoire.

8. The origin of art: from the Little to the Infinite

Homo sapiens and Neanderthal behaviors, in terms of graphics and figuration, because they belong to two different species without phyletic links, do not seem to enter into a single evolutionary process and, like funerary rituals, practiced by both in different ways, they seem autonomous to each other. Along the diachronic development of sign-making we seem to be able to note a progression that includes a Neanderthal phase, older than

several tens of thousands of years, with simple graphics of which there are few examples, followed by a very complex system of signs. Is it possible that this last behavior, so elaborate in its semantic value, often refined in polychrome images, varied in styles and able to spread almost simultaneously across Europe, might have had such a simple, meager and elementary genetic antecedent?

What the archaeological record attests to unequivocally is that the figurative phenomenon of *sapiens* appears suddenly and presents itself at different latitudes as an explosion of languages (styles) simultaneously present, in a mature and complete syntax. From single lines or bands, from the sparse combinations of linear Neanderthal signs, that, once associated, become complementary to each other, we pass to the full animal shape, proportioned, depicted in its anatomical details, and in its movement (Chauvet Cave).

The change, which is not gradual but sudden, generates complex iconographic structures in an immense figurative increment that can be defined «from Little to Infinite». The analogies to the Chomskian concept of «recursion» in the context of verbal language are evident. We can also infer that the ability to dramatically increase the figurative potential presupposes a new larger capacity to give meaning to paintings, carvings and small anthropomorphic and zoomorphic statuary. The sum of lines, shapes and images cannot amount to a sum of semantic elements; metaphoric Man who creates a sign knows how to interpret the extensive iconographic heritage that he produces, not only sign by sign, but also on the basis of relationships and connections of the individual signs, which make up pictures, images, scenes. The expressive potential of Paleolithic sign-making seems to lie in the ability, typically human, to compose in a unitary way the single graphic units.

The future prospects in dealing with the topics covered in this conference can only be multidisciplinary, involving various fields of biology and the cognitive sciences. The prehistoric archaeologist cannot furnish the neuroscientist with a Paleolithic brain within which the individual areas, the nerve fibers and neural networks can be studied; since only the external morphology of the brain itself can be recovered through endocranial casts of human fossil remains, the interpretative models cannot only have an anatomical basis, but should be a convergence of the most likely hypotheses in the different disciplines.

The starting point might be, at this moment, the analysis of the main phenomena and the different behaviors that occur at the same time in the late European *sapiens* about 40,000 years ago: Man simultaneously achieves a form of articulate verbal language,

creates a series of non-verbal languages (art and music) that allows him to acquire the capacity, unique among living beings, to express himself through metaphor.

We do not note in human history gradual transitions that are bearers of cognitive improvement, but we note more and more complex cognitive – and communicative – states: the manipulation of matter, the group hunt, the domestication of fire, the simple symbology of the Neanderthal, the complex symbology of the *sapiens*.

Some milestones in neurolinguistic study lead us today to state that verbal language and conceptual thinking are two mutually independent processes, with an inclination to interconnection and reciprocal conditioning, whereby organisms with more complex linguistic procedures can create more elaborate reasoning. It may follow that, with the late *sapiens*, a greater phonic articulation led to, around 40,000 years ago, a more expressive language, and in synchronicity, a development of conceptual processes.

Leaving to neuroscientists the task of identifying «where» and «how» in our brain the networks and connections are activated, neurolinguists, philosophers, ethologists, anthropologists, geneticists and archaeologists can pose some questions that might help to create interpretative models of organizational systems that the *sapiens*' brain developed in its evolution in relation to its complex and not unambiguous communication systems. It remains, in any case, a problem of method, that is to say it should be remembered that in the examination of the figurative phenomenon we tend to analyze separately the various modules that constitute iconographic experience: the type of sign, the association between the signs, their spatial location and stylistic structure on one hand, and meaning on the other. In summary, each figurative production tends to be seen, analyzed and interpreted in a bimodular way: in its grammatical and syntactic structure on the one hand, and in its semantic value on the other. Perhaps it is time to start reflecting on the validity of this procedure, historicizing it within Western classical culture. But this could be the topic for another conference. Let us return, in conclusion, to some of the many questions that prehistoric archeology and the study of art at its origins pose today.

- Between the simple Neanderthal phase and the complex *sapiens* phase we note not a slow and gradual progression but a qualitative leap: continuity or rupture?
- To *sapiens* we owe the invention of the line as a means of representing real subjects: with what apparatus?
- Does a cognitive system exist that is designed to make signs? Or is there an «organ of the sign», like the language organ hypothesized by Noam Chomsky, that, at a certain point in biological development gives rise to the explosion of the figurative?

- Like verbal language that can unite different words and create multiple semantic units, figurative production can combine different signs, express itself with different styles and create multiple systems: do connections exist between different areas of the brain? Are there centers of processing of differentiated phonatory, motor and perceptual information?
- A cerebral architecture oversees visual language and verbal language: which areas of the brain and what mechanisms of synergy have allowed for the development of the flexible thinking that has led to a strong evolutionary advantage?

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