



ADORNING THEMSELVES WITH A WOLF'S TOOTH, PAINTING A WOLF ON THE ROCK: LOOKING AT THE ORIGINS OF SYMBOLIC BEHAVIOUR

*Gabriella Brusa-Zappellini**

Abstract - Adorning themselves with a wolf's tooth, painting a wolf on the rock: looking at the origins of symbolic behaviour. In the first human settlements, for a certain time, teeth and other non eatable parts of animals must have been left on the ground among other food waste. Then, an intelligent hand, handled by a complex brain, started to pick them up and pierce them at the root, charging them with an ornamental symbolic meaning.

At the beginning of the Upper Paleolithic the last Neanderthal men adorned themselves, as the Sapiens did, with human remains, possible amulets possessing magical effectiveness. Similarly, the images painted in the Aurignaziane caves may have had some magical effectiveness. But what different symbolic messages do these two different manifestations of human behaviour speak? Is it enough to justify the absence of images in the Neanderthal cultures, to refer to linking logics sustained by neuronal basis of the brain? Or is there something else? If we travel back in time, in the Middle Paleolithic both in Europe and in Africa, the Musterian cultures and the Middle Stone Age cultures were quite similar, but may be - in the first southern African sites of the first Sapiens, the surfacing of a new, particular circumstantial paradigm could contribute to shed a light on these questions.

Riassunto - Ornarsi con un dente di lupo/ dipingere un lupo sulla roccia. Un salto cognitivo nei livelli di astrazione della mente? Nei primi insediamenti umani, per un tempo infinito, i denti, parti non commestibili degli animali, devono essere rimasti al suolo fra gli scarti del pasto. Poi, una mano intelligente guidata da un cervello complesso, ha iniziato a raccogliarli e a forarli alla radice, caricandoli di un significato ornamentale di carattere simbolico. Agli inizi del Paleolitico superiore, gli ultimi neandertaliani si adornano, come il sapiens, di vestigia animali, probabili amuleti dotati di efficacia magica. Anche le immagini dipinte nelle grotte Aurignaziane dovevano avere una efficacia magica. Ma quale diverso linguaggio simbolico parlano queste due differenti manifestazioni del comportamento umano? È sufficiente, per giustificare l'assenza di immagini nelle culture neandertaliane, riferirsi alle logiche associative sostenute dalle basi neuronali del cervello? O c'è dell'altro? Se andiamo indietro nel tempo, nel Paleolitico medio in Europa e in Africa, le culture Musteriane e le culture della Middle Stone Age erano piuttosto simili, ma forse, già nei primi siti del sapiens in Sudafrica, l'emergenza di nuovi, particolari "paradigmi indiziari" possono contribuire a gettare luce su questi interrogativi.

Résumé - Se parer d'une dent de loup ou peindre un loup sur la roche : un saut cognitif dans les niveaux d'abstraction de l'esprit ?

Pendant très longtemps dans les premières installations humaines, les dents, parties non comestibles des animaux, ont certainement dû être jetées par terre, parmi les autres déchets du repas. Ensuite, une main intelligente, guidée par un cerveau complexe, a commencé à les ramasser et à les percer à la racine, leur donnant une signification ornamentale à caractère symbolique. Au début du Paléolithique supérieur, les derniers Néandertaliens se paraient, comme le sapiens, de vestiges animaux, vraisemblablement des amulettes dotées d'un pouvoir magique. Les images peintes dans les grottes aurignaziennes devaient elles aussi comporter une efficacité magique. Mais quel langage symbolique différent ces deux manifestations dissemblables du comportement humain parlent-elles ? Pour justifier l'absence d'images dans les cultures néandertaliennes, suffit-il de se référer aux logiques associatives soutenues par les bases neuronales du cerveau ? Ou bien y a-t-il quelque chose d'autre ? Si nous reculons dans le temps, dans le Paléolithique moyen en Europe et en Afrique, les cultures moustériennes et les cultures de la « Middle Stone Age » étaient plutôt semblables, mais peut-être que l'émergence de nouveaux « paradigmes indiciaires » particuliers dans les premiers sites du sapiens en Afrique du Sud peut contribuer à faire la lumière sur ces interrogations.

THE FIRST ORNAMENTS

In the most ancient human settlements, for an indefinite period of time, teeth - inedible parts of animals - must have remained on the ground, lying abandoned among the scraps of food. At a certain moment, a gesture, establishing a new order of meaning, broke age-old habits and introdu-

* Gabriella Brusa-Zappellini
formerly Aesthetic and Art History professor, Associazione Lombarda Archeologica.
gabriella.brusazappellini@istruzione.it

ced a new way of behaving: teeth began to be collected and perforated through the root to be hung around the neck or sewn on to garments. We can assume that previously some particularly hard teeth had already attracted man's attention and had been used as awls or levers: a practical use related to motor faculties, starting and finishing with an action. In this case, form suggested function. Instead, using teeth as ornaments implies a different attitude. Here form is freed from its practical functionality, so as to become an aspect of imagery. It is likely that, before beginning to make jewellery, men and women adorned themselves with flowers and sprigs or bird feathers, a practice still current in many traditional societies. Perhaps mineral pigments, which were exploited from the Lower Paleolithic onwards, were used to decorate the body. Even shells must have been used earlier as jewellery than animal teeth. In levels 21, 22 and 24 of Qafzeh in Israel (100,000–90,000 BP), some sea-worn valves of *Glycymeris* were found. They were probably not pendants, but their natural holes might have suggested an ornamental use. Microscopic analysis carried out on *Nassarius gibbosulus* shells from the Cave of Pigeons in Morocco (85,000–70,000 BP) indicates that the holes cannot be attributed to natural causes (D'Errico et al., 2009). Moreover, the cave is located about 50 km from the coast, and the shells were collected when dead, which would exclude any interest in food. Were they pendants? Or were they bargaining chips? Valves of *Spondylus gaederopus* from Neanderthal sites in Murcia (Spain, 50,000 BP) were most likely used as containers for colouring matters (Zilhão et al., 2010), in any case not used for food. In the hominisation process, symbolic behaviour seems to evolve gradually, along a continuum in which cognitive and cultural aspects intertwine. Even the first Acheulian axes made by *Homo ergaster* (1.4 MA), with their beautiful mirror-like symmetry, seem to reflect a quest for harmony rather than meeting purely practical purposes. Yet within this evolutionary continuum of symbolic behaviour, some finds mark moments of acceleration, if not real turning points. Perforated teeth constitute the earliest certain evidence of an imaginative relationship with forms. The oldest finds belong to the Danube region and date back to the early Upper Paleolithic, a time when our species began to settle throughout Europe, moving from east to west, starting from the steppes north of the Black Sea and the Near East (Otte, 2010). While in later periods zoomorphic pendants will be included among grave goods, in the Aurignacian period a significant number came from living levels and hunting camps. We can therefore think that they were objects which people carried with them and accompanied everyday life.

Level 11 of the Bulgarian Bacho-Kiro Cave (42,000 BP) contained fox and bear teeth perforated at the root. In the Cave of Mladec (Moravia) 22 reindeer and beaver teeth came to light, while Cave Mamutowa (Poland) yielded 13 perforated teeth referable to wolves, foxes, bears, horses, deer and bovids (Kozłowski, 1992). The number of polar fox canines is large, statistically much larger than that of the deer residual canines. At this early phase, lion teeth are also frequent (Taborin, 2004). As with the zoomorphic images from the Aurignacian caves, no ornaments reveal a bi-unique correspondence between food animals and symbolic animals: we are dealing with a greater animalistic repertoire than that just defined by the usual game. But what do such finds mean?

Animal teeth do not possess any particular intrinsic beauty. From a certain point of view, they are like flint: they have no value in themselves, but they are valued for the spark they can create, in this case, the spark of symbolic behaviour. Many scholars have emphasised their function as evident signs of social differentiation within the group. The pendant and *parure* could reflect membership of a clan or an age group. But in a still loosely hierarchical society their effectiveness must have involved a magical rather than a social horizon. They were probably regarded as powerful amulets: a source of energy capable of transmitting particular powers to its possessor or protecting him/her from evil influences. Perhaps the animal tooth, an element that recalls the jaws and ingestion of food, could acquire a metonymic meaning in the imagery of early times: the part stood for the whole. The tooth was the animal and ensured the animal's presence *in absentia*. Keeping it could perhaps mean carrying its power or guardian spirit. In any case, keeping an object which served no immediate material needs was an explicit sign of symbolic behaviour.

Was this a behaviour specific to *Homo sapiens* or already of the Neanderthals? From the beginning of the early Upper Paleolithic, for at least 10,000 years, Europe underwent a transition characterised by the coexistence of the last Neanderthals and the anatomically modern newcomers. Only in this period, and not before, perforated teeth appeared on the sites of some Neanderthal groups. Think, for example, of the excavation of Quinçay (France), which yielded three fox canine teeth, one wolf canine and three deer residual canines. Are these innovations the result of an autonomous development of the Mousterian culture, or did Neanderthals begin to use ornaments by imitating the



behaviour of newcomers, that is, by acculturation? The question is still open and far from an agreed solution. But we can assume that if some modern practices influenced the Neanderthals, this was because they found fertile ground in their minds, where symbolisation processes had already begun to act. On the basis of current knowledge, however, there is no evidence of figurative attitudes outside our species. Between hanging a wolf's tooth around the neck and painting a wolf on a rock face, there is a gap which is not only behavioural but also cognitive (Figures 1 and 2). Nonetheless, both operations belong to the symbolic realm of human action. Both the zoomorphic image and the animalistic necklace 'presentify' absence.

But the wolf's tooth hung around the neck is still a material datum, it is an object associated with physical manipulation, the sense of touch, with the body, with its moods and movements over the territory. Unlike the animalistic ornament, the animal depicted on the rock cannot be physically carried by man; if anything, it can be carried inside his mind. But there is something more. If a necklace is still a 'body', zoomorphic images are visions that have become flesh. In the representation, the being of the animal wholly consists in the perceptive play of matching its forms with our inner zoological repertoire: no longer vestiges, but pure forms of the imagery.

In the case of the ornament, the process of symbolisation remains within the same semantic horizon, moving from the part (the tooth) to the whole (the animal), while the image requires a more complex operation: extracting the form from its sphere of belonging and transferring it to a different context without compromising its identity and its effectiveness. This is an operation that involves associative connections between different levels of experience – spatial, experiential, cognitive – and placing itself on a higher level of abstraction compared with the making of jewellery. We could place the imitations of perforated teeth on the same route. The earliest evidence is probably a copy of a deer residual canine made out of deer horn found in the Cave of Istalloskö (Hungary), in a deposit dated to $44,300 \pm 1900$ BP. In this case, the copy of the canine was obtained by using a part of the same animal. As time passed, we find an increasing number of copies made out of different materials, such as ivory or steatite. An emblematic find comes from the site of Trou Magrite (Belgium). In a layer dated around 30,000 years ago, next to a red deer perforated tooth, a perfect limestone copy has been found.

Especially during the coldest periods, it is likely that the rarity of deer (an animal with a particular symbolic value) led to the first step. Copying a canine – initially an economic operation, perhaps due to its scarcity – requires not only an undeniable technical mastery, but also a new openmindedness. In a context where the object must have been valued not so much for its beauty as for its effectiveness, the copy was not valued as a simulation, as it would be in subsequent, ancient and modern, contexts.

In a match still wholly played in terms of magical power and not of aesthetic taste, a new way of thinking was established through the imitation. If the practice of magic requires authenticity, we could think that in the copy the efficacy of the animal is no longer found in material element, but in its similarity of shape: the natural canine and the limestone canine have the same power because they have the same shape. In this case, it is the form that establishes the magic equivalence, an abstraction already contiguous to the world of images.

THE BIRTH OF IMAGES

If the ornament and painted depictions belong to the same conceptual horizon, the making of images, however, marks a watershed, after which the Neanderthal and *Homo sapiens* are to be considered differently. The Neanderthals adorned themselves with jewellery, but they did not leave any paintings, unlike the *sapiens*. Why? Is the image a cultural invention? Is it related to environmental circumstances and the rise of new abilities to transmit knowledge, or is it the result of the evolution of the neurological structures of the brain?

In *The Mind in the Cave. Consciousness and the Origins of Art* (2002), David Lewis-Williams, developing a theory already put forward in *Les Chamanes de la Préhistoire* (written in 1996 with Jean Clottes), suggests an interpretative paradigm where a series of cultural and neurobiological elements intertwine in reciprocal support. According to Lewis-Williams, images do not naturally belong to man's perceptual experience. In order for a hand to draw with colour or to engrave with a burin two-dimensional figures on a rock (and for the gaze to recognise them), a man needs to have actually already seen this two-dimensional phantasmagorical world moving before his eyes.

The perceptual experience of the images precedes their making. But how is this possible? The answer to this apparently paradoxical question can be sought, according to Lewis-Williams, in the

shamanic rituals of the Paleolithic hunter-gatherers: the mental visions of the afterlife, projected on the walls in a hallucinated state, paved the way to 'figurative' behaviour. The origin of the zoomorphic figures of the caves can therefore be traced back to a quite particular visionary experience, accessible only to an anatomically modern mind, already able to control the entire spectrum of levels of consciousness, to re-elaborate dreams and visions, and to socialise them. Paleolithic man, according to Lewis-Williams, descended into the bowels of the earth not to paint empirical animals, but to seek visions and to meet, in a state of trance, the animal-spirits, an experience barred to the still archaic cognitive structures of the Neanderthal.

Unlike mental images, that are linked to the neural basis of the functioning of the modern brain, painted depictions require a further cultural step, that is, to exhibit communicative intentionality in keeping with the needs of a differentiated, conflicted and complex society. In the first cultures of European *sapiens*, the fixing of visions must have contributed to strengthening the prestige of those in the group who, through the living membrane of the cave, were able to interact with the supernatural creatures of the spirit world.

Some questions now arise. How can we explain the clear resemblance between the animal spirits of the mental visions and the empirical animals of the surface world? Is it enough to refer to a hunting culture to account for the prevalence of the animal depictions in the earliest art forms, or is a further reflection necessary?

STRATEGIES OF THE EMOTIONAL LANGUAGE

If every perception is a projection of the mind on to the perceived object, it must nonetheless be recognised that the animal depictions of the earliest times are in most cases naturalistic. Whether figurative images originated in the visions of trance, or by the impulses of a creativity which recognised the presence of large zoomorphic creatures in the natural formations, in the case of decorated caves we are faced with a highly imaginative attitude of the mind, triggered by the visual reminder of the sensible reality. In the play of light and shadow, animals actually appeared before being drawn by hand: the rocks conveyed the animal's presence. Projected on to the cave walls by a hallucinated mind or evoked by the unevenness of the rock surfaces, the figures originated from an altered state of perception which drew on the memories of the surface world. Was this perception altered by a psychotropic substance or by a substantial inability to cope with a state of overwhelming emotion?

'The visual language of "Archaic Hunters",' Emmanuel Anati wrote, 'is a universal language, characterized not only by systems of representation and styles that are very similar in different parts of the world, but also by associations of figures and symbols that follow the same logic, which indicates the same way of thinking and expression' (Anati, 2002, p. 11). So, we are dealing with a universal language of visual forms.

Now, if the processes of creativeness which structure the artistic impulse are to be viewed as a language, the logical analysis of these processes could explain some otherwise obscure aspects of making art. But what language do the earliest images speak? We could say that, while the animalistic ornament speaks the language of metonymy – the part stands for the whole – the zoomorphic depiction speaks the language of metaphor. Let us be clear. In the metaphor, the dynamics of ordinary logic, based on the principle of non-contradiction, explode, leading to the emergence of a different type of cognitive organisation, which establishes an imaginary identity starting from the resemblance of the predicates (that man is strong, the lion is strong, that man is a lion). In the visual image, on the contrary, it is the shape – or the shape's features perceived as salient – that plays the role of the predicate, establishing a fluid and polymorphic identity: the stalagmite cascades which have the same shape as the mammoths, are mammoths (Figures 3 and 4). We are faced with a particular associative logic, the symmetrical logic of Ignacio Matte Blanco, which characterises and structures the syntax of the emotional language. Only a strong emotion – originating in a transfigured relationship with the animal world – could have led the eye to recognise a great animal-spirit in natural rock formations, or to re-elaborate in mental imagery a supernatural world populated by zoomorphic creatures. In this sense, the shamanic paradigm might represent a particular variation – typical of some cultures – of a more general artistic impulse dominated by a strong emotion, by an inner disquiet aiming to overcome itself by releasing itself into the forms. But what emotional state might have led to this particular propensity?

Trying to extract the emotion from its figurative expression in order to understand its meaning is certainly risky. A phenomenological view, however, could provide some clues. The flickering flame



made the animals depicted on the walls seem to shake and move, even if they remained constantly motionless. In their illusionistic dynamism, they share the heat of the living and the cold of the mineral, crystallising the flow of life in the immobility of the inorganic. It is a magic of the vision which interweaves time and space, projecting the mind into a mythical dimension where life and death are merged. There is thus a place where the fear of death might spill into the illusion of regeneration. Art as a strategy against the disruptive power of death? Some human skeletons found in the Cussac Cave (France), laid in an inner room, are of the same date (25,000 BP) as the engravings that surround it. An important clue?

But what is this anxiety about death expressed through a zoomorphic imagery? In Paleolithic cultures, food is the main source of the regeneration of life energy. To live, the hunter sheds blood, reducing the living to an inert thing: in the meat meal, a life offered itself as a victim, so that life could regenerate. This is perhaps the origin of an unquenchable disquiet requiring a reparative strategy, of a guilty emotion inducing anxiety about the life which is being taken.

A PARADISE LOST?

It is not possible to demonstrate that the emotional dimension responsible for the birth of symbolic forms is to be traced back to the anguish of death. We might think that this fear is rooted in an ancestral past, when a bipedal ape adopted a rather unusual behaviour for a primate, choosing meat as a food, which transformed a habitual prey into a formidable predator, an irreparable breach in the evolutionary programme of nature. But this is a vague hypothesis, which perhaps pushes reflections too far back in time to give support to an interpretative paradigm of the origin of art. A recent discovery in a South African settlement could add a less fragile piece of the jigsaw.

According to the most recent studies of population genetics, the incipient characters of modern man must have emerged in Africa around 200,000 years ago during a mild climate phase. Then, around 190,000 years ago, a 'climate catastrophe' (Marine Isotope Stage 6) changed the environmental conditions, gradually expanding the desert areas. It is in this glacial period, destined to last up to 130,000 years ago, that those genetic traits that characterise our species were established. But in what ecological niche could the small group of *Homo sapiens* destined to colonise the world survive?

According to the American scholar Curtis W. Marean, only the existence of a region rich in food could prevent our emerging species from risking extinction, a hypothesis that has found some support in recent excavations. While food resources became scarcer in the rest of Africa, some areas of the southern coast (Cape Floral Region) could have offered a safe haven. In a stretch of 100 sq. km it was possible to exploit a food supply that was not affected by drought and cold, and consisted of geophytes, perennial plants with bulbs rich in carbohydrates, and molluscs very rich in proteins and omega-3 fatty acids.

The excavations conducted by Marean with Peter Nilssen from 1999 in the caves of Pinnacle Point (South Africa) have revealed several occupation levels ranging between 164,000 and 48,000 years ago. In particular, Cave PP13B contained, even in the earliest occupation layers, alongside fireplaces, a large number of shells (*alikleukal*), thin silcrete blades and small blocks of ochre.

Having analysed all the finds, Marean suggested that the cave must have been inhabited by anatomically modern people, who around 150,000 years ago knew the techniques of heat treatment of stones and developed a calendar system based on the lunar phases, used for collecting molluscs.

Our specific origins should therefore be found within a culture of archaic gatherers of shellfish and vegetables. Possessing notable cognitive abilities, these our direct ancestors must have started to develop their myths and beliefs outside the hunting practices (indeed, the rare bone remains of seal and whale make us think of a sporadic exploitation of already dead animals). Now, around 125,000 years ago, the arrival of warmer conditions caused a diaspora that led this generative nucleus of *sapiens* to migrate and multiply outside Africa. It is at this point that the hunting of large mammals started to establish itself, together with gentler gathering, as the dominant mode of production. Was this a shock that required the new bloody dynamics to be included within a horizon of meaning that had already been woven for millennia into the threads of a different mythic imagery?

The Neanderthals manufactured efficient working tools and jewellery to adorn themselves, but the *sapiens*, with their visionary images, produced extraordinary instruments to fantasise. The Neanderthals became extinct, the *sapiens* colonised the world, not only the surface world, but also the submerged world of imagery.

BIBLIOGRAPHY

- Anati, E., 2002, *La struttura elementare dell'arte*, Studi Camuni, Vol. XXII, Edizioni del Centro Camuno di Studi Preistorici, Capo di Ponte.
- Anati, E., 2003, *Aux origines de l'art*, Fayard, Paris.
- Brusa-Zappellini, G., 2009, *Morfologia dell'immaginario. L'arte delle origini fra linguistica e neuroscienze*, Arcipelago, Milano.
- Brusa-Zappellini, G., 2011, *La mente e le forme. Alle origini del comportamento simbolico*, Arcipelago, Milano.
- Clottes J., 2008, *L'Art des Cavernes préhistoriques*, Phaidon Press, Paris.
- Clottes J. and Lewis-Williams, D., 1996 *Les chamanes de la préhistoire*, Éditions du Seuil, Paris.
- D'Errico, F. et al., 2009, 'Additional evidence on the use of personal ornaments in the Middle Paleolithic of North Africa', in *Proceedings of the National Academy of Sciences of the USA*.
- Kozłowski, J.K., 1992, *Preistoria dell'arte orientale europea*, Jaca Book, Milano.
- Lewis-Williams, D., 2002, *The Mind in the Cave*, Thames & Hudson, London.
- Lorblanchet, M., 2006, *Les origines de l'art*, Le Pommier, Paris.
- Marean, C.W. et al., 2007, 'Early human use of marine resources and pigment in South Africa during the Middle Pleistocene', *Nature*.
- Otte, M. (ed.), 2010, *Les Aurignaciens*, Errance, Paris
- Otte, M., 2008, *Cro Magnon, Aux origines de notre humanité*, Perrin, Paris.
- Soressi, M. and d'Errico, F., 2007, *Les Néandertaliens. Biologie et culture*, Éditions du CTHS, Paris.
- Tabarin, Y., 2004, *Langage sans parole. La parure aux temps préhistoriques*, La maison des roches, Paris.
- Vialou, D., 1991, *La Préhistoire*, Gallimard, Paris.
- White, R., 2003, *L'Art préhistorique dans le monde*, La Martinière, Paris.
- White, R., Klein, R. and d'Errico F. (eds), 2006, 'La naissance de l'art', *La Recherche*, hors série no. 4, Tallandier, Paris.
- Zilhão, J. et al., 2010, 'Symbolic Use of Marine Shells and Mineral Pigments by Iberian Neanderthals', in *Proceedings of the National Academy of Sciences USA*.



Fig. 1 Wolf's tooth perforated at the root, Châtelperronian, Quinçay (France), redrawn by G. Brusa-Zappellini.

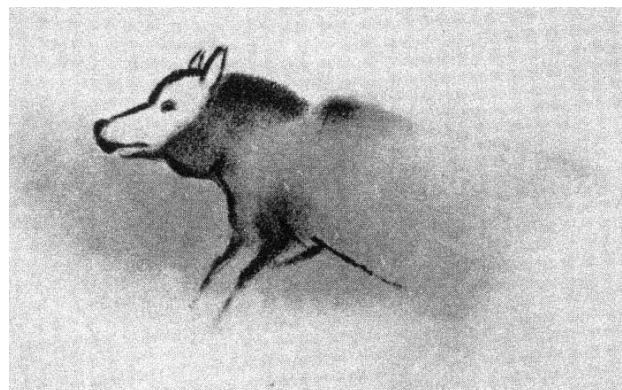


Fig. 2 Wolf, polychrome paint, Font-de-Gaume (France), Magdalenian, drawing by H. Breuil.

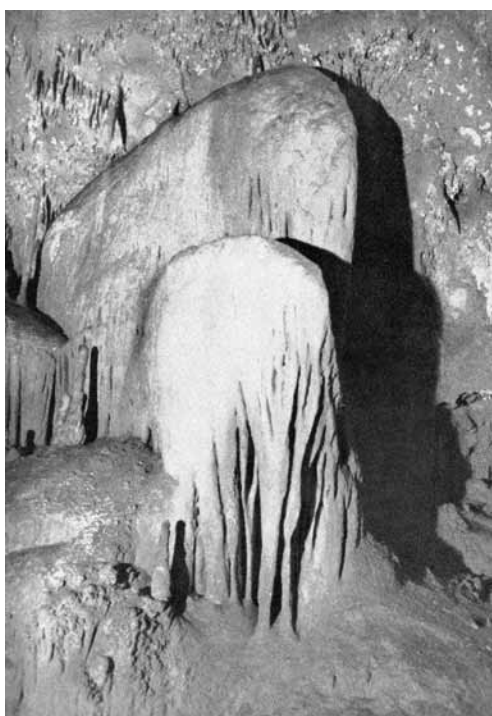


Fig. 3 Natural stalagmitic formations, Pech-Merle (France) (photo by R. Laborie).

Fig. 4 Mammoth, black paint, Pech-Merle (France) (photo by R. Laborie).