



THE PHOSPHENIC DEER CAVE OF BADISCO ART AND MYTH OF THE SHADOWS IN DEPTH

MARIA LAURA LEONE*

ABSTRACT

In the Cave of the Deer (Porto Badisco, Otranto), there is one of the most intense and mysterious painting complexes of the European Post-Palaeolithic. Hundreds of paintings realized between the Neolithic and Eneolithic, are grouped in a 600-metre long underground cave. Since the discovery of the cave, in 1970, the meanings of its art have been groping in the dark, the graphic is enigmatic and complex because it conjugates a particular geometric abstraction with human and animal figures. Our report is centred on the meanings of this art, on the aetiology of the abstract and on the interpretation of the artistic aims. It is a study based on a renewed methodology of prehistoric art that demonstrates the existence of a phosphenic graphic produced by Modified Consciousness States. In addition, it suggests the existence of mythical, religious and mysteries paradigms, that can be found in other Euro-Mediterranean contexts, before and after the Neolithic. The subsequent passages are taken from the book "La Fosfenica Grotta dei Cervi. Arte Mitologia e Religione dei Pittori di Porto Badisco". 2009 www.grottacervibadisco.it (the book has also been translated into English and Spanish).

RIASSUNTO

A Grotta dei Cervi (Porto Badisco, Otranto) c'è uno dei complessi pittorici più misteriosi ed intensi del post-paleolitico europeo. Centinaia di pitture eseguite fra Neolitico ed Eneolitico, si concentrano a gruppi in un percorso sotterraneo lungo 600 metri. Sin dalla scoperta della grotta, nel 1970, i significati della sua arte hanno brancolato nel buio, la grafica è enigmatica e complessa perché coniuga una particolare astrazione geometrica a figure umane e animali. La nostra trattazione è incentrata sui significati di quest'arte, sull'eziologia dell'astratto e sull'interpretazione degli scopi artistici. È uno studio fondato su una rinnovata metodologia dell'arte preistorica, e dimostra l'esistenza di una grafica fosfenica prodotta da Stati Modificati di Coscienza (SMC). Inoltre, suggerisce l'esistenza di parametri mitici, religiosi e misterici, rintracciabili in altri contesti euro-mediterranei, precedenti e seguenti al Neolitico.

I brani che seguono sono estratti dal libro "La Fosfenica Grotta dei Cervi. Arte Mitologia e Religione dei Pittori di Porto Badisco". 2009 www.grottacervibadisco.it (il libro è stato tradotto anche in inglese e spagnolo).

RESUME

A la Grotte des Cerfs (Porto Badisco, Otranto), il y a un des plus intenses et mystérieux complexes de peintures du Post-Paléolithique Européen. Des centaines de peintures exécutées entre le Néolithique et l'Énéolithique, sont concentrées par groupes en formant un parcours souterrain long de 600 mètres. Dès la découverte de la grotte, en 1970, les sens de son art ont tâtonné, la graphique est énigmatique et complexe parce qu'elle conjugue une particulière abstraction géométrique avec des figures animales et humaines. Notre tractation est centrée sur les sens de cet art, sur l'étiologie de l'abstrait et sur l'interprétation des buts artistiques. Il s'agit d'une étude fondée sur une renouvelée méthodologie de l'art préhistorique, et démontre l'existence d'une graphique phosphénique produite par des états de conscience modifiés. En outre, il suggère l'existence de paramètres mythiques, religieux et mystérieux, retrouvés dans des autres contextes euro-méditerranéens, précédents ou suivants le Néolithique.

Les passages qui suivent sont extraits du livre "La Fosfenica Grotta dei Cervi. Arte Mitologia e Religione dei Pittori di Porto Badisco". 2009 www.grottacervibadisco.it (le livre a été traduit aussi en anglais et espagnol).

INTRODUCTION

The Deer Cave is one of the strangest caves to visit as it conveys a subtle venerability through its wave-like walls which show bodies and faces belonging to elusive entities. Cave walls in milk colour are covered with brown paintings. The idea suggests that there may be no other place to get in touch with our inner life. In fact, the wall paintings witness a kind of art which turns out to be essentially mental. In wall paintings carried out in the underground temple, Deer Cave painters have made their visions eternal that are impossible to explain. Both creatures, seemingly human beings and shapes, seemingly geometric break out from the wall, due to an art surge absolutely unexpected and original, changing and growing beyond recognition. The paint used is brown-black guano, bat fossil dung, neolithic painters were obsessed by that substance and by its power still unknown to everyone. They can only be imagined during their mysterious artistic session, inspired and shrouded in the overwhelming darkness of Mother Earth. Painters could see myths, spirits and abstract shapes that will be called

* Leone Maria Laura
Università di Lecce, Italy



phosphenes in this book, materializing under their eyes while the earth lavished its special fertilizer. Phosphenes were real beings from a parallel universe and never the fruit of neurological process. Religion was steeped in Myth, psychedelic phenomena and a magic deer to follow into another world populated by phosphenes. The idea suggests that Porto Badisco paintings still appear a real puzzle forty years after their discovery. Our piece of research is the result of an interpretative effort turned both to artistic semiotics and to stone. The latter is a support linked with the meaning of paintings and provides us with an introduction into further studies. It is surely pertinent to point out that our work took into account not only palaeoethnology of art but entailed researching into unavoidable subjects such as ethnography, cultural anthropology, history of religions, mythology, ethnomycology, as well as some aspects of neuroscience. Paolo Graziosi (who would study the site until his death, 1988) published the remarkable volume "Prehistoric Paintings in the Cave of Porto Badisco" including a summary of the previous research, mapping, photographic documentation, whole drawing classification, as well as a detailed numbering of the pictorial panels, that have been called "Groups". The eighty-one Groups are indicated both with Arab numerals, and Roman numerals to show the twelve Zones. Admittedly, it would be impossible to orient oneself in the vast findings without such numbering and subdivision (Fig. 1). Graziosi's book is the only work centering around the topic, before this one.

1. THE UNDERGROUND PLAN AND THE SHAPE OF THE ROCKS

The cave is more than 1.500 metres long and extends like a ramification into four huge branches with two entries, just a hundred metres far from the sea. The exploration has not been completed, owing to some obstructions. However, georadar gravimetric profiles indicate that the underground passages go in various directions. Explorations carried out above ground, after the discovery, found a more eastward second entry that leads to the cave and might have been the same used in the beginning. On the other hand, excavation tests relating to the inner part, revealed a busy habitual use which occurred between the middle Neolithic and Eneolithic. It would be appropriate to ascribe to the same period works of art as well as ceramic ware and manufacturing units found on the Palaeo-ground, such as vases showing features dating back to the middle Neolithic and some Eneolithic ceramics. Clearly, the temple was not used longer than the Copper Age though some engravings and digital signs are evidence of a Palaeolithic stage still to be studied. The cave, invisible from outside, is next to a small winding valley that opens onto the sea forming the small port in Badisco. Nowadays, Porto Badisco is a small village, built over the fishermen's old houses, visited by tourists attracted by ancestral paintings doodled here and there. It has free admittance only to scholars in order to protect its safety; therefore, few people know that it is a prehistoric monument of inestimable value, unique in Europe as to sheer size and graphic intensity. Moreover, some patterns appear in the Spanish schematic art, in the alpine engravings, vases, hypogeums, as well as furnishings spread over the area between the Mediterranean Sea and the Balkans. The Deer Cave has much of the ornate sanctuaries situated in France and Spain: the passage size, the stair articulation, the art abundance, the location plan with several entries. Moreover, the cave is in an area full of palaeolithic caverns with art, of which it seems to have inherited some common features.

Let us imagine the following scenario: we go down into the cave from the western entry. After some trouble in the entrance shaft, we enter the first corridor. It is two hundred metres long and five metres wide. We find a pool, fifty metres from the entrance, sunk on purpose for the collection of water, as well as small areas limited by dry-stone walls. This is Zone I, here there are the first paintings and the entrance to the fourth corridor without drawings. Further on some pictures appear on the walls of Zone II successively, after a narrow passage, we enter the second corridor, richer in art and easier to walk through. It is also possible to get to this tunnel from the eastern entrance leading as well to Zone III or the so-called Red Room because of all the paintings in ochre. It is a room about four metres high, more than thirty metres long and about eight metres wide: a real crossroads among the underground passages. Thanks to its topographic and artistic features the Red Room could have been the starting point of the ancient sacred path. From here a narrow tunnel leading to the third corridor, a branch almost parallel to the central passage.

At a first glance, in the dark, it would appear that the paintings have formed an intricate load of marks spread carelessly; but we shall see that this is not the case. In fact, the images show a consistent arrangement on the walls as they provide a setting for a sacred path about six hundred metres long. The painted route is evenly ranged by the Zones blocked by narrow passages, side-paths, descents and ascents without drawings. Zones turn out to be "chapels" having special features,

sometimes enriched with ritual spaces, small wells and shelves for votive offerings. In fact, vases and furnishings have been recovered near the drawings. In the first corridor paintings are more sporadic, well-preserved and start halfway, whereas they are rare at the beginning of the second corridor, in Zone III. After this area all the images are concentrated and continue as far as the end of the passage. The third corridor shows a lot of paintings as well; unfortunately, they are mostly faded and damaged. As the three tunnels meet in Zone III, it seems reasonably fair to say that it was the starting-point for a sacred planimetric layout established by the old authorities in charge of the cult, maybe making rational use of the two entrances far from each other, which are not visible from the outside at the same time. Nearly all the finds have been painted with bat guano, collected from an inner fossil deposit, whereas only a very small part is in ochre, easily found on the surface. Wall breaks, hollows, swallow-holes, passages, stalactites, stalagmites, rock altars, pubic signs and faces hidden in the shape of the rock, contribute to the meaningfulness of the paintings. A painstaking analysis pointed out various anthropomorphic shapes made of the one and same rock. In this connection, there is some reason to believe that people from Badisco planned a detailed route, considering the physical features of the passages and walls. The relationship between paintings and stone shows that the artists were stirred by the natural qualities of the rock, with the aid of darkness and flickering flames which highlighted new images and shadows. These images by themselves would entail an impulse to venerability and the consequent interpretation of the place. In fact, each Zone seems designated by a meaningful morphology that might have had a bearing on the symbolism of artistic rituals. Some rocks, instead, have been completed with painted eyes where the artist had seen the appearance of an anthropomorphic face taking shape. The Group 16 is painted right inside a huge anthropomorphic face "tattooed" by red paintings. There is a hunting scene with various characters in the left eyebrow socket, whereas there is a Fish-Woman in the right one. A dog appears on the forehead whereas a cloud of dots, the same as the ones gathered in a bag, can be seen between the eyes. Clearly, the stone was like a curtain reflecting the petrified portraits of spirits and entities who lived behind its surface.

2. THE MYTHS IN THE RED ROOM

The painted figures show themes and syntax both of the highly civilized hunting populations and of breeders, such as realistic and abstract compositions with people, surreal creatures, animals and geometric shapes: labyrinths, rings, spirals, crosses, concentric circles, grids, stars, waves, parallel lines, irregular shapes, dots, rhombs etc. Abstractionism and Realism match perfectly in images resulting from a special mutual action between visible and invisible. Six pictorial groups out of eighty-one are anecdotic, sixteen are of mixed type, and the others are abstract; therefore, the surreal language predominates influencing the whole complex. When we see the paintings of the Red Room (Zone III) we have the impression to be swallowed up by a long tale to be discovered. In the Red Room the myths concerning the prior events of the underground cult may have been portrayed, including the first version of the scene of the deer hunting that, like a dogma, recurs all over the cave. Artists from Badisco had good reasons to concentrate here their mythic narrations separating them from abstract paintings and making them in ochre (Groups 11,12, 16). A general interpretation of these tales is probable, as some evidence allow us to recognize the four corner-stones of a saga reaching its height with the deer hunting, which is likely to be a founding myth. The narration is illustrated in different episodes in which the characters are recognizable for their anatomy. In Group 11, the panel that seems to open the saga, there are two women with an arm up and indicates to go straight, as if they were the guide in a journey. A man is with them, he holds a stick, probably an arrowless arch, he must be the hunter. There are also two dogs. The narration describes a journey in stages, the women are accompanying the man in search of something important: maybe the arrow, or a deer, all these elements are present on the opposite wall. For the first time the hunt and the armed hunter are depicted in Group 16 (Fig. 2) at the presence of a hybrid figure with two long deer horns.

In the rest of the cave we will see again some of these figures, the deer, the dogs, the hunter will hold his arrow and will always be surrounded by fantastic geometries (Fig. 3 - 4). Consequently, we understand that the purpose of the journey was to find an important thing, probably an arrow that could enable him to perform a special hunt. It is clear that the hunter was the leitmotiv for the artists from Badisco, perhaps a mythic ancestor who was given a magic dart so that he could make a magic hunt, the one that painters used to simulate or "dream of" in the telluric darkness. This is what we can reconstruct from the most important elements of the red paintings. After this introduction on the characters of the Red Room, we enter the enigma of the abstract graphics starting from the



hunting scene that, from now on, will be always connected to abstractionism. First of all we will try to find out what makes this art so complicate; why the artist mixed realism and abstraction.

3. THE METAPHORIC AND PHOSPHENIC HUNTING

Essential syntactic data can be inferred by observing all the cave hunting scenes. There are only fourteen of them, with a maximum of three representations per Zone. It is usually in the background compared to the surrealist drawings, moreover the deer is never hurt and is always combined with abstract figures. The hunter does not always aim his arrow at the animal, he sometimes aims at space or at fantastic forms; striking the animal or the geometric forms was probably the same thing. Occasionally the deer, the dogs and even the wolf (there is also this animal) are not close to the hunter, but far away and combined with fantastic forms. Very often the animals have unusual protuberances: long ears or strange appendages (perhaps horns), which are the result of abstractionism and metamorphosis. The deer, now and then, it is vaguely anthropomorphic but its features are usually surrealist. Therefore surrealism becomes understandable only if hunting is conceived as a magic formula triggering a metaphysical process. Actually, all this unreality leads back to the hunter that, by hunting, enters a rich world of abstraction staging a hunting mimesis. We will see that the deer symbolism, in various religions, has always been interwoven with the supernatural and the psychic hidden nature: the precious animal was the symbol or the myth of an astonishing universe wished by the artists from Badisco. They probably were a sort of shamans, engaged in reviving the metaphor of a myth that provoked psychedelic visions with unfinished structures, recognizable as entoptic phenomena and therefore phosphenes. That is why the paintings have appeared so inexplicable so far: such graphics would never come out from a mind in its normal state of consciousness.

Phosphenes (from the Greek *φωσ*: light; *φαινω*: to appear, to shine, to make visible) are optical phenomena of bio-chemical and neurological origin that characterize mostly Altered States of Consciousness of psychedelic type; they may be caused by pressing the eyeballs or by the induction of electrical stimuli, but mainly through the ingestion of hallucinogenic substances that enrich their variety and stupefaction. Phosphenes appear as colored, luminescent, fluctuating and interchangeable structures that develop into strange figures and moving arabesques. Neurological studies have discovered that they have origin from the cerebral cortex and they can be seen thanks to special conditions. Phosphenes originate spontaneously after a fall or a blow on the head, but it is also possible to see them in absence of visual stimuli, that is in total darkness or in a thick snowstorm. These are called entoptic phenomena because they result from structures within the eye itself. Their reproduction through electrical stimuli and the use of drugs has been long tested also in order to classify their basic shapes and understand how the brain generates them. In the 30s the German scientist Max Knoll carried out an extensive research on electrically induced phosphenes, and drew a classification according to what more than one thousand voluntary experimenters reported. He listed fifteen basic shapes according to the recurrence of the apparitions. The most frequent shapes were rings, stars, waves, parallel lines, irregular shapes, concentric circles, dots, labyrinths or indefinable shapes, rhombs, spirals, crosses, grids, triangles, in the shape of digits and cherries (Fig. 5). Some shapes were influenced by the induced electric frequency, but they varied from person to person. The fifteen basic shapes and their variants appear in the abstract repertory of Salento.

There are good reasons to believe that the relationship between phosphenes and spirituality was born this way, spontaneously and since the origins. In 1962 Gerald Oster put them in relation with prehistoric art speaking of cultural and mystic inspiration, but also of fear and terror. Moreover he thought the cave was the ideal place to experience the apparition of phosphenes. Between the 60s and the 70s practical studies on entoptic art in an ethnographic context were carried out and phosphenes turned out to be graphic archetypes implied in our neural system. In the same period the Austrian ethnologist Gerardo Reichel-Dolmatoff delved into the power of hallucinogenic plants used by the Tukanos indios in the Colombian forest. He realized that visions caused by the drugs taken by the natives (the *yagè*, also called *ayahuasca*, obtained from liana *Banisteriopsis caapi* and from the shrub *Psychotria viridis*), were the same as the motifs of their potteries, of the ceremonial sites, of the paintings made on bark, of the drawings on baskets and other items. Most of all, Reichel-Dolmatoff discovered that those drawings were identical to phosphenes (Fig. 6). The scholar realized, then, that those people believed that phosphenes were like supernatural signs having a mythical meaning. Felipe Cardenas Arroyo, who investigated Amerindian cultures, demonstrated that Tukanos' motifs were also present on pre-Colombian potteries of Ecuador and Colombia, thus backdating R. Dolmatoff's observations.

One might well argue that the abstract art of Badisco is of phosphenic, entoptic, psychedelic origin, as it seems to be connected with the previously described neurological processes. Seeing phosphenes is also seeing a part of afterlife, or in any case something that is unreal. Many researchers consider this neurological graphics as a foundation of our aesthetic sense, raising it to source of fantasy and inspiration of several ancient cultures. Edward O. Wilson, famous evolutionist biologist from Harvard, is a supporter of this theory, in fact he believes that aesthetic opinions and artistic expressions may be affected by our biologic nature. The first pieces of research on polychromatic paintings found in some caves in California and Lower California, always date back to the 60s and 70s, when the lively entoptic art of the shelter of Chumash at St. Barbara was studied in detail. The most striking feature was that all phosphenic shapes were concentrated, and it would be appropriate to point out that they are very similar to the ones examined in this book: stars, zigzags, chains of rhombs, crosses and imaginary beings. The art of Chumash (Fig. 7) is supported by ethno-archeological evidence concerning a shamanistic cult that has strongly contributed to its psychedelic explanation. It is the initiation rite of the antap cult, survived among the natives, linked to the use of *Datura Stramonium*, a powerful hallucinogenic plant of the Solanaceae. The paintings of St. Barbara together with Tukanos' crafts, are today a cornerstone for the shamanic art of phosphenic origin and the paintings of Salento perfectly combine with the above mentioned studies.

As we noticed with the Tukanos people, the experience of phosphenes is not confined to the simple entoptic vision, but it acquires a meaning especially in an ethno-tribal context. Through a process of cultural fission, phosphenes assume precise values and, slowly, they take their place in the mythical, cultural and artistic repertoire. Graphic actions have always a practical origin linked to direct experience, then they become symbolic and finally decorative. Therefore phosphenic art is a concentrate of interpretation and overlap of spontaneous meanings, generated by associations of ideas and similitude with real things, people, concepts and myths. This means that a phosphene may become an eye, a pelvis, a heavenly body, a snake, cold, heat and so on. In the case of the cave of Porto Badisco, geometries seem to be the equivalent of entities but also of symbols and magic formulae, spirits and expressible, transmittable energies roaming in an invisible realm (Fig. 8).

The cave with its obscurity was the ideal place to investigate entoptic phenomena. Darkness, the prolonged absence of visual stimuli, combined with some spontaneous techniques of sensorial deprivation may have helped even the attainment of a trance. The artists could also have made use of particular psychoactive substances, today apparently untraceable. The individuation of these substances is not easy but it can be helped by palinologic or paleobotanical researches to apply, for example, to the contents of the vases. Anyway, the hypogeal habitat was the main ally to the artists who could have searched a wide range of Altered States of Consciousness, light or deep, even though the art under examination reflects experiences based on deep hallucinatory states. Generally, where there are hallucinatory states, there may be artificial expedients to induce them, but this is not a rule as the use of drugs or natural techniques remains a cultural choice that is not always traceable.

4. THE SACREDNESS OF THE DEER

The range of features attributed to deer and similar animals is wide and includes regality, agility, sexual and fighting strength, regenerative power related to the re-growth of their horns. As to symbolism, all dictionaries agree on their connection to the netherworld. Their sacred iconography is everywhere in the world and relates to primitive, polytheistic and monotheistic religions. But this is still a point of discussion. On Copper Age statue-steles of Valcamonica they appear as a symbol of the netherworld, in Assyro-Babylonian mythology, two deer appear related to the Tree of Life, the axes of the world, they are the link between earthly life and the netherworld, and keep playing this important role also in other mythologies. In Greek-Roman mythology, buck and hind have mystic features, in particular the buck is a psychopomp. The sacredness of the deer comes to us from the Paleolithic, from the sacred hunting tradition, from the link between a powerful nature and the human destiny, since the time when it was established a multi-level contact between men and animals: psychological, emotional, metaphysical. The deer is a fast animal who disappears in the deep of the forest, and symbolizes hierophany and the contact with a fleeting god. In order to spread out, Christianity has used the best pagan theological vectors, inherited by the Prehistoric Era. The deer represents Christ himself, a vector of the presence of the Virgin, a symbol of the faithful who drinks at the fount of faith.

We are persuaded that, according to a sacred hierarchy, the deer is a superior symbol, related to archaic religious elements. The reasons of its luck, in our opinion, are hidden in the ancient know-



ledge of those who used to observe it in nature, hunters and shamans who knew well its behavior. In particular, a natural behavior that connects deer, elks and other species of horned herbivores to the visionary and supernatural world, through the ability of finding medical, psychotrope and hallucinatory plants. The direct observation of these animals has showed that not only they eat psychoactive plants and mushrooms, but they also like them and look greedily for them. The ability of finding the food of Gods has certainly aroused shamans' attention, and this probably explains an important part of their symbolic and iconographic luck. It is not to be forgotten, moreover, that time erases the early reasons of symbolisms. So, maybe a shamanic, spiritual and pharmacological interest has been oriented to deer because they are "psychonaut" animals and mediums in nature. It is well known that Siberian deer and Canadian caribous eat *Amanita Muscaria* (an hallucinatory mushroom characterized by a red, white-dotted hat) and that, according to some Siberian cultures, stoned deer are hunted by shamans who particularly appreciate their meat. In Mexico, instead, the deer is symbolically absorbed through the consumption of peyote. In the myth of the origin of the sacred cactus, the deer plays the role of the father of the plant, and in Huichol rites there are precise indications about the mythical deer-peyote relationship: still nowadays, Huichol Indians, during their pilgrimage to Wirikùta (the land where the magic cactus grows), are used to hunt the peyote-deer in the same way as in the past, throwing arrows towards the animal as described in the myth. In fact, on every pilgrimage, pilgrims take the identity of spirits, because only in this state they can repeat the ancestral deeds of hunting, killing and picking up of the peyote-deer.

The ability of identifying medical plants is also described in Medieval Bestiaries, which explains that the deer is able to heal arrow wounds using the medical power of dictamnus (a plant that is also able to cure snake bites). A more recent source of information reports that Ojiban hunters (North America) used to fill deer footprints with a small bag of medicines, so that the animal turned back to eat them. So, the origins of the sacrality of such animals, considered as guardian spirits and supernatural messengers, should be found in these ethologic signs.

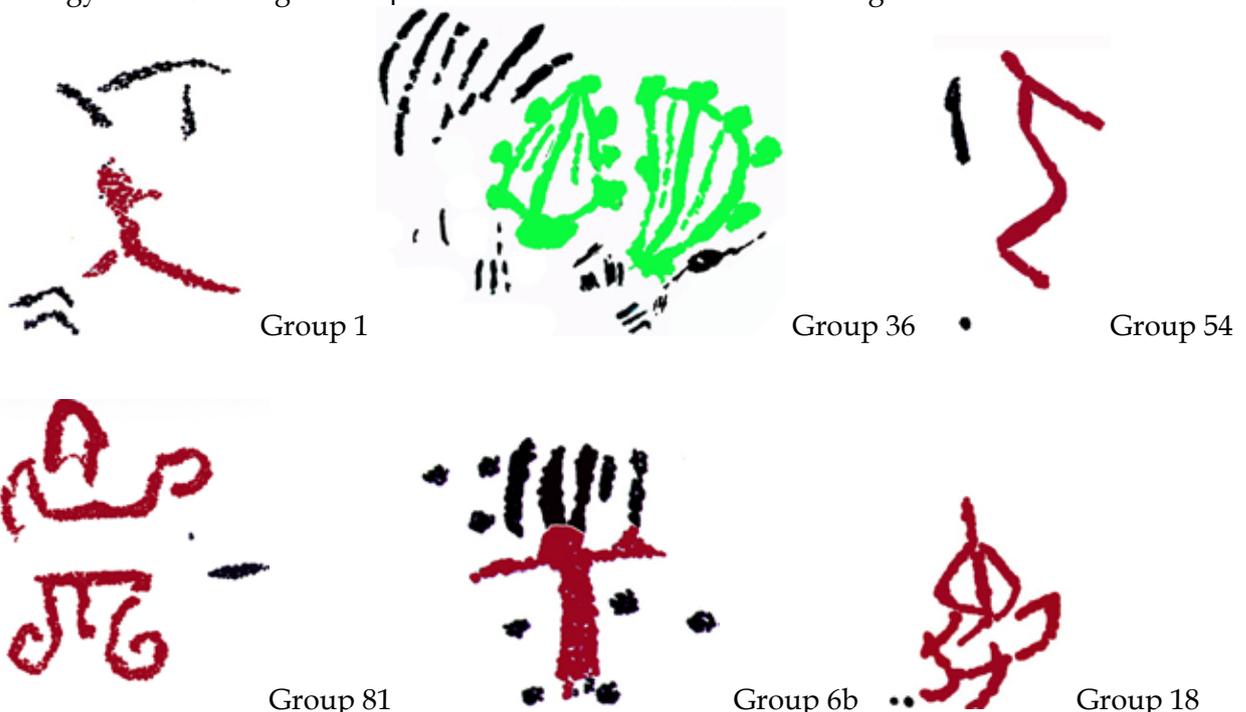
5. THE GRAPHIC PROCESSES AND THE MOVEMENT OF THE FIGURES

Let us try to reorder the crowded mosaic of the graphic art of the underground. In his extensive work, Graziosi made an essentially morphological classification of graphemes. Here, instead, we have tried to trace back their etiology and their meaning, reordering them in a catalogue divided into four main categories: the PHOSPHOGENES, the ANTHROPOGENS, the ZOOGENES, and the ADDITIONAL SIGNS. The Phosphogenes come from Knoll's fifteen basic phosphenes, the Anthropogenes from human beings, the Zoogenes from animals, then Additional Signs are various dots, strokes and segments that have the purpose to indicate, to define and to link the other categories or to stress the movement of images. In order to carry out a painstaking analysis we have surveyed all groups, except those not readable or made of rare drawings, spots and strips of colour. The result of this work is an Iconographic Album conveying a global vision that helps us to grasp the recurrences, the distinctiveness and the typology of every painting. It would be appropriate to point out that two groups were never equal, because the visionary product was subjective rather than objective and, like the words of spoken language, the images join to create various surrealistic representations with a mythical background. The most frequent and persisting themes concern mainly phosphenic apparitions, then the symbolic hunt and only rarely anecdotic situations like: the tale of the Journey and the meeting with the various abstract entities, the performance of rituals, the worship of the deer, the birth of a horned "god". The protagonists, therefore, are: people, animals, myths, abstract entities, ghosts, and lots of phosphenes. The category of the anthropogenes is represented by: normal human beings, hybrids and theriomorphics, psychonauts (perhaps artists who live personally the visionary experience).

A specific chromatic code has been invented to distinguish all graphemes, it is not easy to distinguish the shapes of the figures without any sectioning and their colour. Functional polychromy has proved to be not only practical but fundamental as well. True, the colours highlight the exact correspondences between the depicted figures, but also the category they belong to. Functional polychromy has certainly made shapes, objects and figures emerge, but it cannot be comparable to the real colouring that the artists had to know. Actually a feature of the entoptic phenomena is the gaudy and bright polychromy, partly present in Chumash paintings, but above all in the art of the Huichol people, the present Mexican population that uses the peyote. The small sacred cactus inspires the drawings and the multicoloured textile handcraft of these people. Monochrome, like the

one found in Badisco, is therefore an exception, so we wonder why men, women, ghosts, objects, animals, energy signs and phosphenes, the most coloured things there could be, had been obsessively portrayed in black? Why such overabundance of guano on the walls: paintings, throws of small balls, spots, sprays and finger strips? The explanation of this enigma might lead to sacred, liturgical reasons, rather than the ones based on easy supplies in situ. We think, in fact, that the massive application of black pigment could find an explication only in the strange paintings that burst on the walls like posters extolling guano, or indirectly to some chemical features of the same substance. The only information that we have is that bat-guano is a powerful natural fertilizer. The guano was extremely important for the artists and this importance was inextricably intertwined with the sacredness of abstract paintings, which do not seem to be directly connected with agriculture.

One of the upshots that emerged during the survey and colouring work is that nearly all the figures have been devised as they were moving. We have to imagine anthropomorphs, animals and phosphenes while running, floating, swinging, moving forward, leaving a trail behind them, jumping, flying, moving from right to left and transforming under our own eyes. It seems as if space, time and feelings were concentrated in a particular graphic synthesis. To represent the above movements artists used Additional Signs: small graphemes superimposed to the basic enunciation and similar to the ones used by cartoonists: dashes, more or less long segments, dots, trails and chevrons (i.e. signs similar to circumflex accents). Just two chevrons express the movement of a running figure in Group 1, strokes indicate the floating of the big quadrangular phosphene in Group 36, while the jump of the figure of Group 54 is revealed by a vertical dash and a single dot. The figure in Group 81 is moving rightward and his movement is revealed by a dot and a horizontal dash. Dots similar to a trail are near the feet of the figures in Groups 31 and 18. Other segments surround the spiral of Group 22, conceived as rotating. Vertical dashes indicating an ascent are in Group 20c and 42. Moreover there are haloes and rays like the ones surrounding the anthropoid of Group 6b. Like the additional signs, some phosphenes indicate a movement in progress, they are the spirals, the "S", the waves, the parallel lines and the dots. Quite the contrary, it can be said that these figures behave like energy entities or engines responsible of the movements and changes.



The dynamism of the figures is therefore caused by intrinsic forces that we can better understand when we read the Iconographic Album. We have realized that the pictorial plan was conceived on multiple space and time dimensions: the additional signs express the existence of a big invisible vital flow involving all the figures. A visual reality swinging between space and time, like the one appearing on the screen of a cinema. In Group 42 it may seem that there are two hunts and two hunters, but one hunter might have been portrayed before and after the hunt: on top he is standing steady, below he is levitating. The representation involves synthesis, contemporaneity, development and narration at the same time. Just what happens in photography. In the light of this, the Deer Cave drawings convey a grammatical dimension never contemplated, that should be searched also in



other relating graphic contexts.

CONCLUSION

The cave. A dark, intricate universe full of spirits, energies, devils, ancestors, deities. A space swarming with invisible lives that have always been in touch with special people and acolytes. The Deer Cave corresponds to these parameters through which it might have been used as a liminal world, door to the supernatural. Its sacredness should have been of the shamanic kind and paradoxically, the difficult paintings reveal forgotten though never waned attitudes that shorten the neurological gap of centuries between yesterday and today. These psychological aspects produced a kind of graphics inextricably intertwined with the meaning of the dark place. At this stage it comes natural to believe that the art of the Deer Cave comes from chaotic, unrestrained emotional states and that it is the response of incoherent associations. Admittedly, this argument does at first seem convincing, but a careful reading will show otherwise. The Deer Cave art was regulated by the universal principles of prehistoric ideographic syntax; in fact, artists approached figures following a millenary simplifying deductive method, very effective and capable of recording the complex visionary experience. Thanks to this structure we have been able to detect the basic elements of the graphic language: the role of some images, the existence of psychedelia and the power of abstract phosphenic signs, the presence of energies and fluids, the psychosomatic metamorphosis and above all the movements of the figures. It must be said that the metamorphosis are the same as the ones perceived by today's psychonauts during certain Altered States of Consciousness, therefore they have been similarly experienced by the artists of the cave. Undoubtedly, they themselves hunted for the visions miming the metaphoric hunt and experiencing the transfer in the hunter or in the painted characters. Of course, the development of all this was much more complex and articulated, but it can be reconstructed in the paintings. It would be appropriate to point out that visions coming from Altered States of Consciousness are influenced by different factors: the cultural background, the psycho-physical state and the habitat where the hallucinogenic experience took place. These elements had an impact on the neurological standards. During the imaginary journey the artist went across different stages of the experience, in the first ones, he could see mainly phosphenic shapes, but later images closer and closer to his cultural experience added and mixed to the former ones. That is the reason why abstraction and realism coexist in the graphic art of Badisco. However artists exalted phosphenes to a greater extent, i.e. the neurological aspects of the first stage. It follows that these shapes had a fundamental value in the mythic-religious imagination of the time insofar as their entoptic and metaphysical nature guaranteed the existence of an important universe parallel to the normal one.

REFERENCES

- AA VV
2002 - La grotta dei Cervi di Porto Badisco e la preistoria nel Salento. (Conte) Lecce
- ANATI E. 2004 b - La grotta-santuario di Porto Badisco. Boll. Camuno St. Preist., n. 34 :106-123. (ed. del Centro) Capo di Ponte
- BELTRAN A. M. 1982 - Las pinturas de la cueva de Porto Badisco y el arte parietal "esquemático" español. Annali del Museo Civico della Spezia, vol. II, 1979/80 :65-79. La Spezia
- BONNEFOY Y. 1989 - Dizionario delle mitologie e delle religioni. (BUR Rizzoli) Milano
- BORONEANT V. 1977 - Arta rupestra din Peștera Gaura Chindiei, comuna Pesacri (Județul Caraș- Severi). Monumente istorice și de Artă; Revista muzeelor și monumentelor, n.1 :23-43.
- CLOTTES J., LEWIS - WILLIAMS D.
1996 - Les Chamanes de la préhistoire. Transe et magie dans les grottes ornées. (Seuil) Paris
- DONA' C. 2003 - Per le vie dell'altro mondo. L'animale guida e il mito del viaggio. (Rubettino) Catanzaro
- DIOLE' P. 1975 - Gli animali malati d'uomo. I rapporti dell'uomo col mondo animale. (Rizzoli) Milano
- ELIADE M. 1977 - Lo sciamanesimo e le tecniche dell'estasi. (Mediterranee) Roma
- GRANT C. 1993 - Rock Paintings of the Chumash: A Study of a California Indian Culture Museum of Natural History (EZ Nature Books) Santa Barbara, Reprint of 1965 edition
- GRAZIOSI P. 1980 - Le pitture preistoriche della Grotta di Porto Badisco. (Giunti Martello) Firenze
1995 - The Prehistoric Paintings of the Porto Badisco Cave. Riedizione Ist. It. Preist. Protost. (ETS) Pisa
- GUERRI M. 1994 - Scoperte di arte visiva paleolitica nella grotta di Porto Badisco (Lecce).(Scavi e ricerche 1981-89) Istituto Italiano Preistoria Protostoria, vol. XXVIII : 319-325.
- HAMILTON R. 2005 - Visiones de cerámica antigua. <http://www.iadb.org/idbamerica/archive/stories/1998/esp>
- HEDGES K.
1976 - Southern California Rock Art as Shamanic Art. American Indian Rock Art, Volume 2, edited by K. Sutherland: 26-138. El Paso Archaeological Society, El Paso.
- 1982 - Phosphenes in the context of native American Rock Art. American Indian Rock art, VII - VIII : 1-10
- HYDER W. D., OLIVER M. 1983 - Style and chronology in Chumash Rock Art. American Indian Rock Art, 10: 86-101.
- HYDER W. D., LEE G. 1994- The Shamanic Tradition in Chumash Rock Art <http://www.rain.org/campinternet/trailguides/hyderchumashshaman.html>
- KELLOG R. , KNOLL M., KUGLER J. 1965 - Form - Simi-

larity between Phosphenes of Adults and pre-School Children's Scribbles Nature, December 1965

LEONE M. L.

2001 - La caverna degli stati modificati di coscienza. A proposito dell'arte di Grotta dei Cervi di P.to Badisco (Otranto). BC Notiziario del Centro Camuno di Studi Preistorici, :15-17, Marzo. Capo di Ponte.

2002 - Fosfeni ed arte psichedelica nella Grotta dei Cervi di Porto Badisco (Otranto, Puglia).Archeologia Africana, Saggi Occasionali, : 63-69, Museo Civico St. Nat. Milano.

2009-La Fosfenica Grotta dei Cervi. Arte, Mitologia e Religione dei Pittori di Porto Badisco. (l'Espresso ilmiolibro.it) Roma www.grottacervibadisco.it

LEWIS-WILLIAMS J.D.

1996 - Light and Darkness: Earliest Rock Art Evidence for an Archetypal Metaphor. World Journal of Prehistoric and Primitive Art: 125-132.

2004 - Neuropsychology and Upper Palaeolithic Art: Observations on the Progress of Altered States of Consciousness. Cambridge Archaeological Journal

LEWIS-WILLIAMS J.D. and DOWSON T.A.

1993 - On the Vision and Power in the Neolithic: Evidence from the Decorated Monuments Current Anthropology: 55-65.

MARRINER H. A. 2002- Colombian rock art motifs: some ideas for interpretation. <http://rupestreweb.tripod.com/motif.html>

motif.html

OSTER G. 1962 - "Phosphenes" Scientific American, 222 : 83-87

PALMER DAWN J. 2002 - Dizionario magico degli animali. Miti, leggende, poteri e misteri. (Newton Compton)

RIEHEL-DOLMATOFF G. 1978 - Beyond the Milky Way. Hallucinatory Imagery of the Tukano Indians. (UCLA) Los Angeles

SAMORINI G.

1995 - Gli allucinogeni nel mito. Racconti sulle piante psicoattive. (Nautilus) Torino

2000 - Animali che si drogano. (Telesterion)

WALKER J. 1981 - "The Amateur Scientist, about phosphenes: luminous patterns that appear when the eyes are closed". Scientific American 244 : 142-152.

WELLMANN K. F.

1978 - North American Indian Rock Art and Hallucinogenic Drugs. Journal of American medicinal Association, 239: 1524-1527.

1981 - Rock Art, Shamans, Phosphenes and Hallucinogens in North America. Boll. Camuno St. Preist., n. 18: 89-103, (Ed. del Centro) Capo di Ponte

ZEZZA F. 2003- La Grotta dei Cervi sul Canale d'Otranto. L'ambiente carsico ipogeo e lo stato di conservazione delle pitture parietali. (Capone) Cavallino

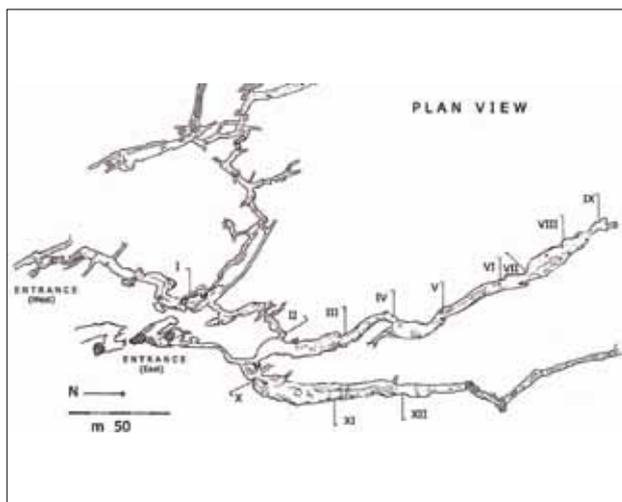


Fig. 1 - Plan view of the Deer Cave. The Roman numbers indicate the Zones (adaptation from Graziosi, 1980)

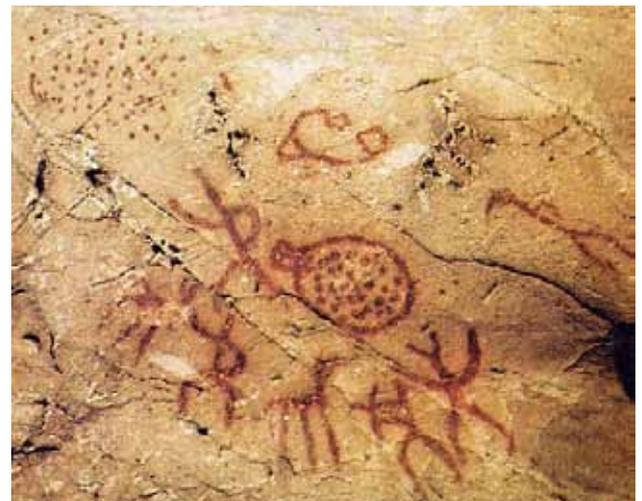


Fig. 2 - The hunting scene of Group 16. (Photo by Graziosi, 1980).



Fig. 3 - The Group 42 covers a surface of 3 X 1.50 meters. It is divided into three parts, each of which contains a hyperanthropic labyrinth and some quadrangular phosphenes. In the central

part, a labyrinth anthropoid stands out with a branched and spiral shaped body. It has two spirals under its feet. A cross quadrangular phosphene with a point in the centre dominates the top. To the right, a hyper-ithyphallic archer seen in two moments: at the top he has well planted feet, he is holding a bow marked by a point and is aiming the arrow at a quadrangular phosphene that is next to a realistic buck; underneath, he seems to be rising and pointing his arrow at a labyrinth anthropoid that is next to a buck that has strange protuberances on its neck. The right part of the group contains a big hyperanthropic labyrinth similar to the form of an encephalon. Also here, an elaborate cross quadrangular phosphene appears, there is a spiral and an irregular phosphene nearby. The left part of the group contains another two cross quadrangulars linked to a character that is holding an object similar to a bow in his hands. There is a big dot near him and a pair of quadrangular phosphenes behind him. The black segment behind him links him to two phosphenes that are rising as if they were kites. Maybe he is about to transform into the anthropoid and the labyrinth that are above him. (Photo by Graziosi, 1980).

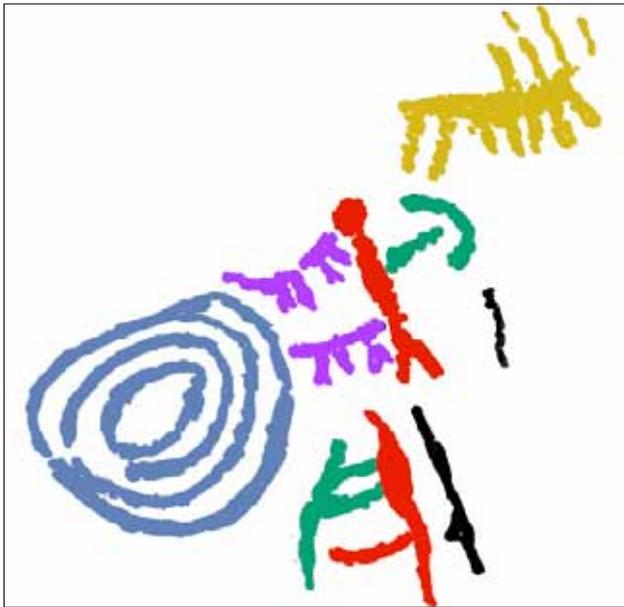


Fig. 4 - A detail of Group 73. The Group 73 is one of the most suggestive and complete of the repertoire and extends over about 2.50 meters. The hunting scene is at the bottom to the right with the hunter, two dogs and a big concentric phosphene that is pointing out its psychoactive state. Extremely schematized, at the bottom, there is another hyper-ithyphallic archer with a bow in its hands. Further to the bottom, there is a fantasy buck and parallel lines that are going towards a chain of seven comb shaped images.

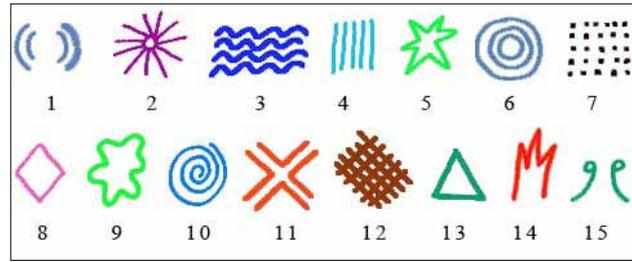


Fig. 5 - Basic phosphenes listed by Max Knoll. Numbers indicate the incidence of the apparitions.

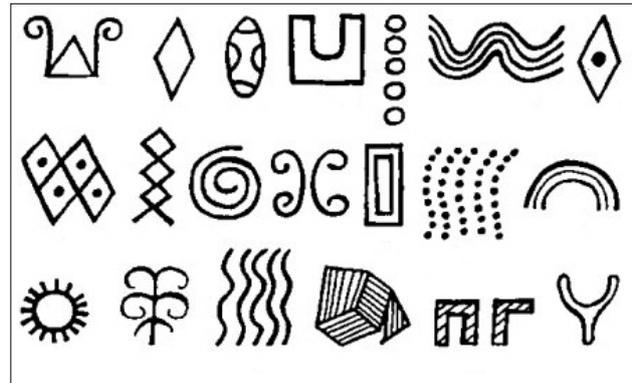


Fig. 6 - Decorative motifs of Tukanos' art. (R.- Dolmatoff, 1975).



Fig. 8 - About two meters from 19, there is Group 21 made up of various types of phosphenes, such as concentric, cymbals and a character represented in the scheme of the Marathon Runner. The latter has his arms on his sides and something that crosses his body "φ" and touches his head. He is clearly in a psychoactive state, in fact he is floating while slipping on a concentric phosphene that is under his feet. This concentric is pushing him towards a gigantic apparition formed by two parallel straight lines and two long zigzags. The comb shaped images behind him are similar to the quadrupeds in the metaphoric hunting scene. Even further to the right there is a sub-triangular, probably female element. (Photo by Graziosi, 1980).