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# EXPRESSION

QUATERLY E-JOURNAL OF ATELIER IN COOPERATION WITH UISPP-CISNEP. INTERNATIONAL SCIENTIFIC COMMISSION ON THE INTELLECTUAL AND SPIRITUAL EXPRESSIONS OF NON-LITERATE PEOPLES

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Bora initiation rite in Queensland, Australia. Late 19th century. (Photo Anati Archives).

## A MESSAGE FROM THE PRESIDENT

Dear Friends and Colleagues,

The International Scientific Committee on the "Intellectual and Spiritual Expression of Non-literate Peoples" (CISNEP-UISPP) gathered in its Session at the UISPP Burgos Congress 2014, as in previous occasions, experts from various disciplines to share experience and scientific approaches for a better understanding of the human creativity and behavior. Multidisciplinary is a main aspect of our Committee. Over 60 summaries and 25 full texts of papers were accepted. Participants included colleagues with different scientific concerns and specializations. The Proceedings of the Session are in the process of being printed. In the previous issue of EXPRESSION, part

UISPP-CISENP was founded in 2006 as an international scientific commission of The International Union of Prehistoric and Protohistoric Sciences (Union Internationale des Sciences Préhistoriques et Protohistoriques). Emmanuel Anati, President.

of these papers were presented. Additional papers are now included in this issue. A stimulating dialogue is in progress and readers are encouraged to participate in this dialogue by submitting to EXPRESSION comments and other pertinent considerations. Future issues of EXPRESSION will face new themes: you are invited to propose both papers and new ideas. This quarterly e-journal will convey your ideas to colleagues in the different fields of the humanities and to other people of culture of over 60 different countries in five continents.

Our Committee is favoring a joint effort of its participants, for a cooperation of different branches of the humanistic and the social sciences, aiming at building up a new kind of broad-minded understanding of the past. It is a sincere pleasure to welcome this courageous common effort. Prehistoric archaeology is in urgent need of this new landscape of "Conceptual Anthropology", for a step forward. It is an important new academic approach for a solid future of the study of man.

In the last three generations, we have followed the tendency of some humanistic disciplines, in stabilizing conservative concepts, as a mean to preserve the past acquisitions and dictate the philosophical and ideological image of the discipline. Such trend creates a sort of mysticism of the discipline, a special glossary of conventional slangs, imposing a peculiar way of reasoning. This may turn out to become a handicap for innovation and progress. Each discipline has the tendency to find a comfortable refuge in its own ghetto. The spirit of conservation then favors the progress of those best integrated into the vernacular system. The obedient alumni are not necessarily the most brilliant ones. Such conservationism may prevent new ideas and new concepts to compete with old dogmas. Such a chain could have a negative effect on the progress of scientific research.

In each regime, to make a career, it is useful to be a "member of the party". Academic regimes tend to follow the same trend. Conformism helps to survive though it does not help much in the progress of research. To avoid criticism, young archeologists and prehistorians prefer to remain descriptive, limiting new ideas that may displease "peer reviewers". This is favoring mediocrity. For the advancement of scientific research, new ideas should have space: in any case, good ideas will survive while the bad ones will die. The debate will be the judge, rather than aprioristic dogmas. Debate is alimented by new ideas. If there are no ideas there is no debate.

Archaeology, both prehistoric and historic, needs a constant and open dialogue with other disciplines. The study of man includes anthropology, sociology, psychology, human geography, semiotics, art history, and other disciplines that have to join efforts. This is the aim of conceptual anthropology. You are welcome to join in this effort.

For the last three generations the trend has been for researchers to be more and more specialized on limited research fields. Cultured humanistic formation has often been sacrificed, being replaced by specific technicalities. Rather than broadminded thinkers, this has favored the formation of technicians. They are welcome; as they are useful and needed, but it would be a dangerous dead-end for the humanities if technicians would replace humanistic scholars and thinkers. Both have to coexist side by side, both being conscious of their task and role.

What is to be the image of Prehistoric and Protohistoric sciences in the future? Understanding the past is necessary to build a future. The knowledge of the past is the elementary base of culture. Even in the tribal world young people are being initiated to the knowledge, to the history and the mytho-history of their past. Let us join efforts to develop public awareness, education, formation, engagement, research, for a broader understanding of our past. Join actively in the dialogues and debates.

Emmanuel Anati
President

# DISCUSSION FORUM

## ROCK ART: WHEN WHY AND TO WHOM?

In February 2015, the following call for papers was sent off. Many replies arrived in one month time. Some requested a delay in the presentation of their paper, one scholar replied that in one month time he is unable to write four pages, several colleagues presented their ideas in a colloquial way and were invited to submit a paper that could be published. Over sixty interesting and pertinent papers were submitted, and are now being reviewed. The flow did not stop yet, so we decided to continue considering incoming papers although we are not sure that all of them can be included in a single volume. The discussion forum is leading towards new concepts in rock art studies and it is worthwhile to listen to voices coming from over 30 countries. Some of the papers of this "WWW PROJECT" may make the theme of one of the following issues of EXPRESSION.

### *ROCK ART: WHEN WHY AND TO WHOM*

*UISPP-CISENP (International Scientific Committee on the Intellectual and Spiritual Expressions of Non-literate People)*

*Dear friends,*
*Some days ago an invitation was sent to a few rock art specialists to write and present short texts on "ROCK ART: WHEN, WHY AND TO WHOM?" and we were pleased to receive several positive replies. The same invitation is now extended to a larger number of specialists, in view of an international publication in English of the pertinent papers. Following specific requests, the participation is extended also to topics concerning mobile or "mobiliary" art of non-literate people. In such case the title of the resulting publication could be "Prehistoric art: when, why and to whom".*

*It is a pleasure to invite you to join this project and to reply to the three questions for a prehistoric art site or assemblage: WHEN, WHY and TO WHOM.*
***When**: what kind of society produced the art: hunters, gatherers, agriculturists, ....? When was it produced and by whom?*
***Why**: Why was it produced. What did it intend to convey, what was its motivation: message, communication, commemoration, memorization? What is its content. Prehistoric art is "Writing before Writing". Or was it produced just to embellish the rock surfaces? If it contains messages, they could be read thousand years ago. If the messages are still there, can they be read and decoded today?*
***To whom**: To whom was the message addressed: Human beings, ancestors, gods, nature? What kind of communication was produced by the art? What did their makers expected to obtain as a result of producing it?*
*Length of each paper could be from 2 to 4 pages (1500 to 3000 words) and may include up to 4 images. Texts should be in English. They could include description of locality and of the art, and reasoned considerations of these three queries. Illustrations should be of high quality with a definition of 600 dpi. The papers received will be considered by reviewers. Please let us know the locality selected and the title of your communication as soon as possible. Kindly consider that we would appreciate receiving your final text within one month from the date of the present email.*
*We look forward to hearing from you.*

*Best regards,*
*Emmanuel Anati*
*(President UISPP-CISENP)*

The logo of ATELIER *kokopeli,* the American Indian story-teller. Tracing from rock art, Arizona (USA).

## Contents

# The Canadian Shield rock art and its spiritual dimension: Finding some tangible and intangible aspects of rock art sites in the Canadian Shield through a contextual approach

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## Introduction

Dating from the Pre-Cambrian era and covering a huge territory in the centre of Canada, from Saskatchewan to Québec, the Canadian Shield forms a vast geological area dominated mainly by igneous rock formations such as granite. It is usually on such formations that the rock art made by the ancestors of the Algonquian-speaking peoples – that is, the Ojibwa, the Anishinabe, the Cree, the Attikamekw and the Innus, to name a few – can still be found nowadays. Nearly 800 of those sites have been identified (in the Province of Québec, only 23 rock art sites have been identified so far, see fig. 1), most of them scattered in the boreal forests to the north and west of the Great Lakes region, considered as the core area of rock art phenomena in the Shield. Most of the Algonquian rock art sites might predate the settlement of the first European colonies in North America more than five centuries ago.[1]

According to the Algonquian oral traditions, those ancestral sites are closely related to the spiritual sphere of the First Nations (as we call the Indians in Canada). However, in many parts of the Canadian Shield, the traditional sacred knowledge associated with rock art has been forgotten, especially with regard to the interpretation of its graphic content, but also in relation to the ritual practices conducted on those sites in ancient times. Nonetheless, elsewhere, notably in some of the more isolated regions of the Shield's northern parts, some groups have been able to maintain their traditional knowledge and practices alive, sometimes till now, and along with some historical accounts, those data may help us to reconstruct what may have been the ancestral spiritual context proper of the Canadian Shield rock art.

Indeed from an archeological point of view, the meanings to be given to a rock art site always offer a big problem that cannot be challenged easily. For example, some scholars (Conway 1993; Conway and Conway 1990; Molyneaux 1987; Vastokas 1992) have argued that the interpretation of the motifs depicted, their meanings or even correct identifications remain impossible to achieve without the comments of the artists, those who made the drawings or engravings, because usually no oral accounts nor any written text related to a specific site is available. What is more, it is assumed that many sites might have been produced by individuals during a secluded session, called the vision quest, and no one but the author could know what has been really depicted (Conway 1984; Rajnovich 1989). Otherwise during the last two centuries, the collective memories related to the sacred ancestral knowledge of

Fig. 1. Map showing the distribution of rock art sites in the Province of Québec, Canada. Letters refer to the rock engraving sites, numbers to the rock painting ones. The sites discussed in the text are: Girdwood (no. 11), Nisula-Pepeshapissinikan (no. 9), Kaapehpeshapischinikanuuch (no. 1), Dashwa (no. 6) and Mikinak (no. 14).

1 The Nisula-Pepeshapissinikan site, located inland of the St Lawrence north shore, is the only one having been dated with the AMS dating method by Dr Alan Watchman. Two samples were taken in 1993 and 1994, suggesting that the site may be older than 2,000–2,200 years (see Arsenault 2002c; Aubert et al. 2002).

Fig. 2. In the Canadian Shield, the rock painting sites located in the boreal forest can usually been reached by canoe or boat during the summer season. And in a few cases, the painted panels can only be seen at several metres above the current water level, forcing the archeologist to work at precarious stations if he wants to have a closer view of the graphic (here, my team is taking pictures at the Girdwood site, located on the Dumoine River, Temiscaming region, Québec (ph. D. Arsenault, PETRARQ project).

the Algonquians, including the one linked specifically to rock art, have been altered, if not erased, due to the conversion of many communities to Christianity and overall the proactive form of ideological conviction done by the missionaries themselves about the devilish works that rock art might represent for the Aboriginal individuals adhering to the new faith (Jones 1970 [1861]). All in all, the meaning content of a rock art graphic could remain idiosyncratic and therefore undecipherable without such original insights.

But this pessimistic view can be successfully challenged if one takes into account a series of relevant data that can give us significant clues about what is represented on a rock art site and why such a site has become sacred. What is more, it is even possible to determine to an extent what kind of ritual actions had been performed at that specific location. To do so, it is important to contextualize the raw materials available, that is, on the one hand, the archeological data gathered *in situ*, and on the other hand, the ethnographic and ethnohistorical sources collected over four centuries in Canada. This kind of contextual reconstruction has been also discussed by Chris Chippendale and Paul Taçon (see their introduction in Chippendale and Taçon eds 1998) as being a combination of formal and informed approaches. Therefore, and in spite of a lack of age estimation which might have given important clues about the historical and religious status of a site, I argue here that such a reconstruction is possible and can allow us to convincingly better figure out the past and actual spiritual contexts of those sites in the Algonquian sacred landscape.

Now, what are those relevant data that could represent the key elements for better construing the meaning content of a rock art site?

**The archeological data compared with graphic content specific to a rock art site**

The first key elements to evaluate are the archeological data yielded by a rock art site during its scientific investigation, that is:

(a) The various motifs left on a rock surface as well as the natural features linked to them, such as a crack, a hole and any trace of calcite or silica deposit, altogether forming the iconography, that is the graphics *per se*.

(b) The material remains surrounding the natural support, such as the tools used in the making of an engraving, a painting or a drawing, but also any architectural structure built in the vicinity of a site, a hearth (or oven) or a garbage pit, or any other artefact abandoned on the site when visited in the past.

In addition to these different data one can consider the elements proper to the natural setting of a site, that is, the rock formation, its location, shape and orientation of its decorated surfaces, plus its specific environment. However, such conditions are not so easily fulfilled in the Canadian Shield rock art, because we are coping with open-air sites occurring mainly on the vertical

Fig. 3. Some of the figures depicted in the Canadian Shield rock art illustrate hybrid personages whose strange combination of human and animal attributes suggests some powerful skills. For example, one of the hybrid figures seen at the Nisula-Pepeshapissinikan site is seen with two bison-horns on his head: it can be the representation either of a manitou (a strong spirit) or of a powerful shaman. This peculiar figure stands just above a crack, as if he was coming out from the Innerworld (ph. D. Arsenault, PETRARQ project).

faces of various rock formations located on the lakes' or rivers' borderlines, always facing the water. Under such conditions, it means therefore that not only do we need a boat to reach the site during the summer (fig. 2), but when an excavation is possible, it can almost only be done underwater where the archeological evidence other than the graphic lies.

What is more, in the Canadian Shield rock art, and although a few petroglyph sites exist on horizontal rock outcrops (Vastokas and Vastokas 1973; Zawadzka 2011a), we usually analyse painted graphics made of red ochre rich in hematite usually applied with fingers and hands (Dewdney and Kidd 1967; Lemaitre 2013; Lemaitre and Arsenault 2011; Rajnovich 1994; Steinbring 1998). Because a painted graphic appears on the vertical surfaces of a rock formation bordering a body of water, one has to stand in a boat or a canoe, or otherwise go across the ice in winter, so as to carefully record its content or take samples. The motifs depicted are more often abstract, made of straight and curved lines, sometimes more or less interlaced in various patterns such as a grid. But there are also a series of figurative motifs representing either human or animal-like figures or hybrid forms (combining anthropomorphous and zoomorphous traits, see fig. 3), and material objects such as canoes, tents or bows and arrows. Some of those figurative motifs, and notably the illustration of animals and material objects, are usually depicted more naturalistically than any other figures. The best way to identify them is through their natural features, allowing us to distinguish for example a fish from a terrestrial mammal, or elsewhere a canoe from a tent, although for a hybrid personage or an abstract motif one has to refer to a second level of interpretation, usually when clues are given by Algonquian oral traditions. Anyhow, passing from the identification to the interpretation of a figure, natural or supernatural, as depicted in that rock art is obviously not enough if one wants to understand what this figure could have meant in the past, that is, from the original cultural perspective at the moment of its creation.

**Clues from Algonquian oral traditions and some printed sources**

To do so, the second set of data to be considered is therefore the Algonquian oral traditions. In many regions of the Canadian Shield, and despite the constant proselytism of Christian missionaries, there are still stories which can yield significant information either on the ancestral worldview of the Algonquian peoples, especially in relation to the sacred landscapes, to the kind of supernatural forces or entities who live, or used to live, in those specific locations, or even to

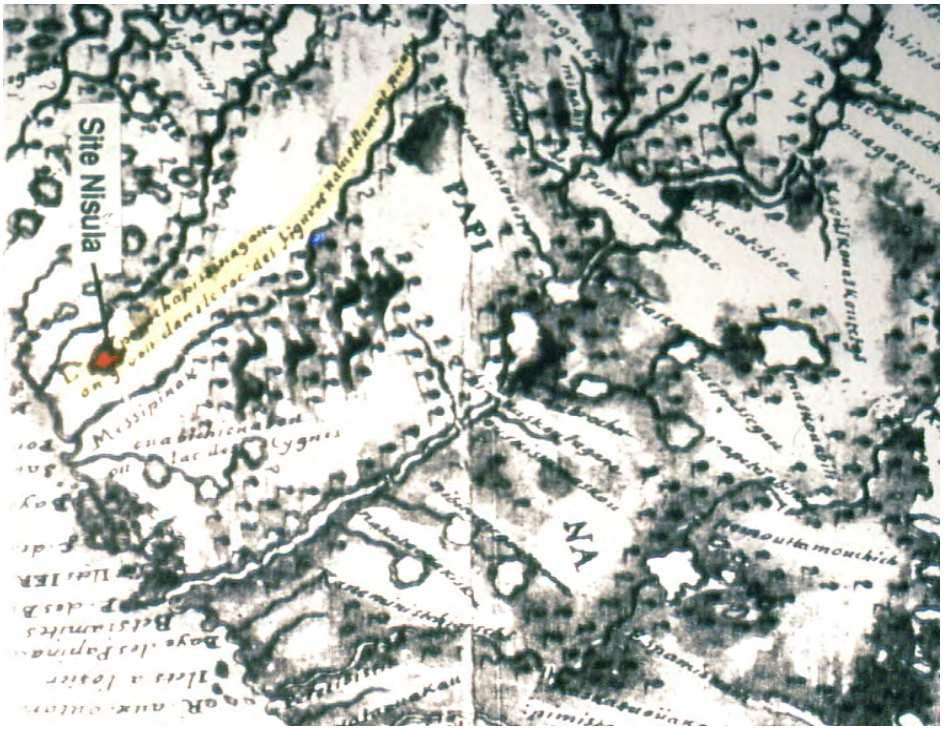


Fig. 4. Under the French regime in Canada, the Jesuit missionary, Father Pierre-Michel Laure, made a series of maps between 1731 and 1733 of what was then the Domain of the King. If usually most of the place-names were given in native languages, some of them were also accompanied by a French notice. Thus on the upper north shore of the St Lawrence River, there is a lake (marked in red) named Pepeshapissigan with a French inscription, both enhanced with a yellow trait: 'on y voit dans le roc des figures naturellement peintes' (and on one of the other Laure's maps, the word 'ineffaçables' has been added, suggesting that the paintings appearing on the rock cannot be erased). This is the oldest mention of a rock art site ever reported in an ethnohistorical document in Canada.

the nature or importance of a rock art site, which can be revealed for example from its toponym, its place-name (Arsenault 2004a, 2004b; Chamberlain 1891; Diamond, Cronk and von Rosen 1994; Fabvre 1970 [c. 1695]; Gatschet 1899; Hallowell 1975; Morisseau 1965; Norder 2003; Radin and Reagan 1928; White 2008; Zawadzka 2008). Thus, it is noticeable that Canadian Shield rock art has been mainly left on rock formations considered to be at the junction of the four layers of the universe in the Algonquian worldview, that is, the Upperworld, the Earth's plane, the Underwater and the Underworld (or subterranean world), and all these worlds are interconnected, the rock art site becoming in some way the interface between them. In particular, cliffs and mountains are significant for Algonquian-speaking peoples because they can act as cosmic settings endowed with portals to other worlds in the form of caves and crevices. There are many examples throughout the Canadian Shield of such structural elements associated with rock art sites where the shaman, or medicine-man, used to go for an encounter with spiritual entities.

As a matter of fact, if many rock art sites can be considered sacred locations nowadays, it is due to the fact that in Algonquian oral traditions they are often associated with important spirits, such as the Thunderbird, the strongest spirit of the sky, and its arch-enemy, the Mishipishew, who lives under water, or at least with specific entities related to the Algonquian worldview (Chamberlain 1890; Fox 2004). For example, many oral traditions present horn-head figures as the representation of a manitou, that is, a spirit. Accordingly, the head of an anthropomorph depicted with what looks like the horns of a wood-buffalo (fig. 3) or the long ears of a hare could in fact refer to the representation of a strong supernatural creature, or at least might be the illustration of a powerful shaman, or medicine-man, in contact with a strong spirit.

These various pieces of information can indeed be gathered nowadays from native elders, the ones who are the keepers of the sacred knowledge, but in some instances also from ethnohistorical accounts and from scientific reports, those produced by anthropologists, geologists, geographers and botanists, to name a few. For example, is it interesting to note that during the 1620s and 1630s, under the French regime in Canada, the Catholic missionaries reported through their writings named relations, that the so-called Indians, or savages as they were qualified at that time, used to stop their canoes at some rock formations for a short period of time, depositing there some kind of offerings — usually some leaves of tobacco — in order to pay respect to the local spirits and safely pursue thereafter


Fig. 5. One of the human-like figures (seen near the centre of the photograph) depicted in the rock art graphic at Nisula-Pepeshapissinikan. This personage with a triangular-shaped head and with his arms wide open is the biggest anthropomorph (22cm long) visible on that site. It looks as if he is walking towards the crack seen on the right. Due to his peculiar head and attitude, this human-like figure might be in fact the depiction of a Memegweshuk, a representative of the 'little people', usually described by the Algonquian oral traditions as a group on non-human terrestrial entities characterised by a smelly hairy body and a sharp face allowing them to penetrate easily into rock formations, their dwellings; in the past, the Algonquian shamen used to meet them at the foot of the cliffs where they could receive the sacred knowledge, notably for medicinal purposes (ph. D. Arsenault, PETRARQ project).

their journey.[2] It is worth mentioning here that the sacredness of those rock formations remains alive as places of remembrance till now in the Algonquian oral traditions, either in the form of toponyms, traditional tales or special stories which refer to their specific nature and historical context (Arsenault 2004c; Conway 1984; Diamond, Cronk and von Rosen 1994; Lemaitre 2013; Norder 2007).

Indeed when combined with oral traditions, this type of data allows us to define the sacred nature of a rock art site. Let us consider this first example. The Nisula-Pepeshapissinikan site[3] located on the upper north shore of the St Lawrence river, in the heart of the ancestral territory of the Innu people, is the first rock art site I have studied periodically since the beginning of the 1990s (Arsenault et al. 1995). This site has been dated through the AMS dating method, with two samples giving an age older than 2,000 years (Arsenault 2004c; Aubert et al. 2002). But still more interestingly, its specific location appears on a series of old maps produced by a Jesuit, Father Pierre-Michel Laure, between 1731 and 1733. On those maps, its ancient native place-name is given as Pepechapissinagan, but on a few of them Laure has added a mention in French appearing contiguous to native toponym: 'on a rock formation appearing of that lake one can see some natural painted figures that cannot be erased' (fig. 4). It is an obvious reference to a rock painting site, but also the oldest reported as such in an ethnohistorical document for a Canadian rock art site.

Elsewhere, at about 600 km northwest of Nisula, on the Nemiscau Lake, in the heartland of the James Bay area, the land of the Eeyou (or Cree) people, there is a dome-shaped rock formation where a small cavern can be seen at its base. A series of rock paintings have been left along the many faces of that geological structure, 13 different painted panels in all over 50 m long. The name given to that site by the Eeyou elders I interviewed in 1997 and 1998 is Kaapehpeshapischinikanuuch, a native toponym quite similar to the one given about 270 years before to the Nisula-Pepeshapissinikan site, and with approximately the same meaning when the word is translated into English. Moreover, it appears that some spiritual creatures, called the Memegweshuk, used to live on that site, the cavern being the entrance to their home. The Memegweshuk used to be the intercessors between the humans and the spiritual entities of the subterranean world, transmitting to the former the sacred knowledge of the latter (Flannery 1931; Norder 2007; Wheeler

2 Many examples of those rituals can be found in the Jesuit relations edited by Thwaites (1896–1901).

3 Nisula is the last name of a Finnish-born woman, Anne Nisula, who discovered that site in 1985, saying that the rock art graphic 'looked like the ones she used to see when she was a child in Finland' (A. Nisula, pers. comm.).

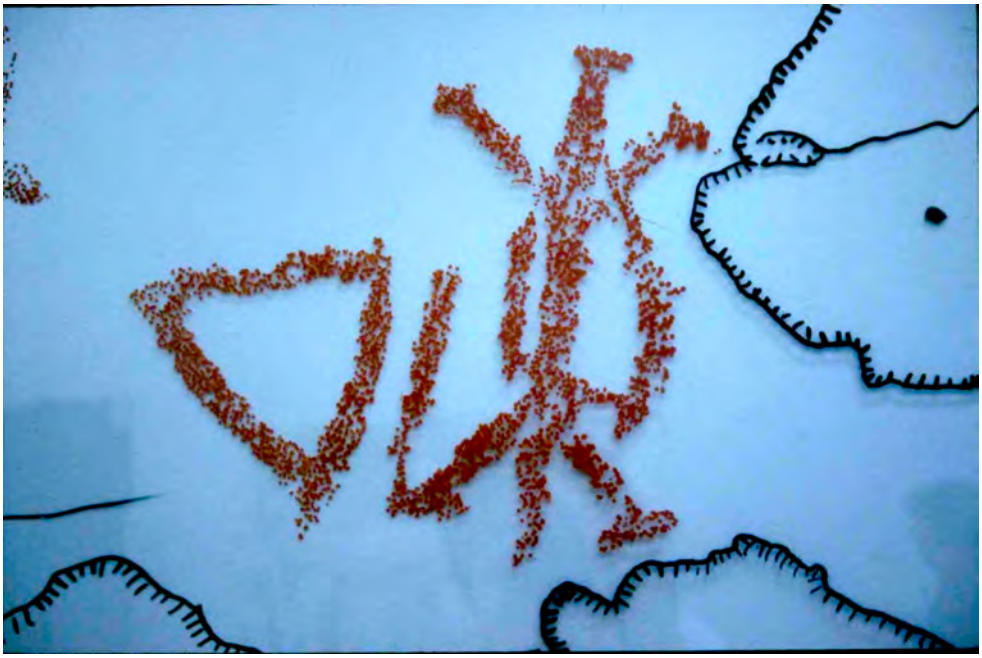

Fig. 6. A stencil of one of the painted panels seen on the Mikinak site, National Park of Mauricie, Québec. A triangle-like motif and a turtle are depicted side by side. According to the Algonquian oral traditions, the turtle is considered to be a mediator between the world of the humans and that of the spirits. The triangle-like motif might be the representation of the shaking tent, a small and fragile structure inside which the shaman sits for a while in order to be in close contact with some spirits, a sort of ancient telephone booth in some way. At Mikinak, it is possible that the artist wanted to express that relationship between the shaman in a shaking tent and the spirit of the turtle sent as a messenger to the Upperworld (ph. D. Arsenault, PETRARQ project).

1975). It is worth mentioning that such creatures, the Memegweshuk, can have been depicted in rock art in the form of human-like figures with triangle-shaped heads on the two aforementioned sites (fig. 5; see also Waller and Arsenault 2008). This relationship between two distinct locations referring to the same concepts and features reveals how important rock art may have been through centuries for Algonquian-speaking groups, and how the sanctity of their rock art has been expressed through names and designs.

Otherwise at Kaapehpeshapischinikanuuch, the graphic content is interesting in many respects, but at least for one thing: it can be intriguing to compare one of its geometric motifs with similar ones appearing on other rock art sites, especially in the Province of Québec, that is, the triangle-like motif. This motif can be seen also on an Anishinabe site, the Dashwa site on Lake Buies, located in the Abitibi region to the south of the James Bay area, and on another one in the Canadian National Park of Mauricie, the Mikinak site (fig. 6). On this latter site located on the Attikamekw ancestral land, the triangle-like motif is seen in association with a turtle (named Mikinak in the Algonquian languages), an important mediator between the Earth's plane and the Upperworld. This motif might have been a visual convention for the representation of the shaking tent, a small and fragile temporary structure in which the shaman used to be in touch with the spirits. So maybe that rock art site illustrates what may have been the sacred context where a shaman was in need of some medicine or other spiritual knowledge?

**Discussion: the sacred nature of the Canadian Shield rock art sites**

So what can we learn from these few examples here? For centuries, rock art sites of the Canadian Shield used to be an integral part of many Algonquian-speaking peoples' sacred landscape. But from the information I gathered among the First Peoples, a certain number of them are still visited and respected as active sacred sites because they remain inhabited by spirits. Furthermore, some religious ceremonies can even still be performed at those specific locations, including the deposit of special offerings.

As briefly shown with the rock art sites described above, for archeologists it is the material remains of a rock art site (including indeed its graphic content) and the intangible aspects directly associated with it (that is, the intangible as suggested by toponyms or place-names, by lore or by existing oral histories) which are the first to be considered when one thinks about construing those rock art sites as part of any ancient sacred landscape or identifying some of them as constituting the specific boundaries, material and symbolic, of a territory inhabited by one or more

Fig. 7. For the Algonquian communities, many rock art sites in the Canadian Shield are still a significant place to be in contact with the ancestors and the spirits of the place and receive traditional sacred knowledge linked to their ancient worldviews. Nowadays, individuals and groups can stop at a rock art site so as to be in touch with such an ancestral place and they may proceed with some rituals, including the giving of tobacco offerings (ph. D. Arsenault, PETRARQ project).

visible or invisible species (Arsenault 2004a, 2004b). Obviously it is not an easy task to carry out, especially when one considers that the sacred dimension of any rock art site in the Canadian Shield cannot be taken for granted.

The Algonquian-speaking peoples situate themselves within a landscape imbued with spiritual significance, and rock art locales along with other sacred venues, such as natural effigy formations, form the integral elements of that sacred landscape. I have shown elsewhere that the very location of the Shield rock art sites, the physical properties of their rock formations, the visual and acoustic phenomena which occur there all can reflect spiritual and cosmological beliefs linked to the Algonquian worldview (Arsenault 1998, 2004a; Waller and Arsenault 2008; Zawadzka 2011b).

If the First Nations peoples, such as the Ojibwa, the Anishnabe, the Eeyou, the Attikamekw and the Innu, currently acknowledge that all these criteria have spiritual connotations which enhanced the sacredness of the place and made it propitious for conducting ceremonies (fig. 7), archeologists have to look at the sites the same way. For researchers, such criteria are indeed just some of a series of data to be archeologically considered and recorded in the hope of better reconstructing the sacred landscapes of many First Nations peoples, with a certain amount of their tangible and intangible properties. Moreover, we have to look more carefully at a Shield rock art site as having been a potential interface between the various worlds of the Algonquian ancestral worldview, a spiritual universe where humans and other entities have been in contact and have exchanged material and symbolic resources. It is an ongoing interpretive process challenging all of us, and we should do that seriously but with great pleasure, experiencing the past as it may have been.

In this rather too brief a presentation I have referred to what I call a contextual approach to rock art sites in relation to what is known from Algonquian oral traditions and the ancestral ritual practices carried out on and toward this type of archeological site in the past. A contextual reading of rock art can therefore become a key approach for better integrating the intangible dimension specific to those sites as well as the evidence of ritual attitudes and performed actions as having occurred at them in the long term. In many cases, the archeological data yielded by specific rock art sites and the tales given by traditionalists, or any other information coming from eye-witnesses, about the Algonquian rock art history, the people who created their graphic content and those who made use of their settings as a theatrical stage in the past – in other words the perceptions, attitudes, and practices related to the frequentation of those sites – can help us nowadays to convincingly reconstruct the spiritual nature and religious context of some of the rock formations where paintings or engravings appear in the Canadian Shield. This is an archeological story to be continued indeed.

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# As Above, So Below: Unveiling the Truth About Stonehenge's Sacred Landscape

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## Introduction

Stonehenge has been the focus of study by historians, antiquarians and archeologists for well over 300 years, a rather short period compared with the length of time since the monument's first architectural elements were built, perhaps more than 5,000 years ago. We know very little of the people who designed, built and made use of this greatest of European megalithic monuments. We have no record of why observations of the sun and Moon were important to the populace of the time, and how the culture related those astronomical observations to human mortality.

Our purpose for studying the Neolithic Stonehenge landscape was to understand the relationship between the landscape's early stages of development and the people who conceived, designed and built it. Between 3500 BC and 2900 BC more than 50,000 tonnes of soil and chalk were excavated, transported, placed and compacted to build henges, long barrows and cursus located within a 3 km (2 miles) radius of Stonehenge. Excavation and mound building continued. Over 2,500 tonnes of megaliths were quarried, transported, shaped and installed at Stonehenge by 2400 BC.

Numerous ancient structures such as long barrows, round barrows, cursus and henges across the Stonehenge landscape were constructed between about 4000 BC and 1500 BC, some before and some after. An untold number of other structures appear only as crop marks on the ground surface or are buried and awaiting discovery beneath the surface. The Greater Cursus (also known as the Stonehenge or Amesbury Cursus) is located 800 m (2,600 ft) north of Stonehenge. It is nearly 3 km (1.7 miles) long and covers about 35 hectares (1.35 sq miles) of pasture. Although its great size makes it a prominent feature on the landscape, no one knows whether or not its purpose was for ritual or ceremony, or how it may relate to the purpose and functioning of other monuments on Salisbury Plain.

Social structure and a culture's sense of identity and territoriality of a landscape can emerge as they relate to ritual space[1]. This can be seen by analysis of constructions ranging from lithic monuments to simple arrangements of stones, topographical relationships, and locations of artworks, cemeteries or settlements within which a ritualized landscape may be defined. Many such landscapes have been developed by cultures in which archeologists can identify an archetypal package of Neolithic technologies. Examples are found in pre-dynastic Egypt, Brittany c. 3800 BC, and the pre-Columbian Americas.

There are numerous prehistoric sites throughout the UK and Ireland that are associated with astronomical alignments. They include Stonehenge, Avebury, Maeshowe, Newgrange, and many other passage tombs, long barrows, round barrows, henges, stone circles and so on. Through the work of archeologists and archeoastronomers we know that a number of those structures are associated with burial of the dead and observations of certain solar, lunar or planetary phenomena. People observed astronomical events and related them in some way to burial structures and remains of the dead. Some of those burial sites were of importance during the mid-Neolithic or earlier.

Archeological evidence suggests ceremonies and rituals took place at burial sites. Polished stone axe heads, pottery, disarticulated bones and other items were placed in burials, and there appears to have been a greater emphasis on alignment with the solstices in British passage graves. By about 3000 BC construction of causewayed enclosures had evolved to building henges that included alignments with solar and lunar events. Together the various Neolithic structures across the UK and Ireland are indicative of several important spatial and temporal relationships.

- In general, construction of monumental architecture in the British Isles began with the arrival of Neolithic technology from mainland Europe, including farming and the domestication of animals, and working megalithic stone.

1 Curton, R. P., Berónii, M. A. 2011 Percepción, Identidad y Sentido en la Construcción Social y Ritual del Paisaje: las Sierras de Lihue Calel, La Pampa, Argentina, ww*w.revistas.uchile.cl/index.php/RCA/article/download/18168/19025*. Accessed 22 Jan 2014

• There was an evolution in the location of monumental architecture across the British Isles throughout the Neolithic, early to mid-Neolithic structures often found on hill tops, with increasing use of plains and lowlands over time.
• Many of the burial structures were locatedd in the vicinity of, or within sight of water bodies.
• Many of the structures were circular or sub-circular, including cairns, mounded soil and henges.
• The complexity of monumental landscapes increased through time, beginning with the construction of individual structures and progressing to the development of large landscapes such as Stonehenge, Maeshowe and Newgrange, where structures of different types became components of a larger framework.
• Long barrow construction began by about 4000 BC, with many of the structures located in the south and east of England.
• Cursus appear in Scotland by about 3800 BC and the construction of the ditch and bank structures spreads southward to southern England within two to three centuries; most cursus are located in England (more than 100) and Scotland (50); only a few are in Wales and Ireland (12).
• Henge construction began by about 3000 BC.
• As the design of monuments increased in complexity over time, so did the complexity of monumental landscapes, the as type, size and location of individual monuments within the largest environmental context became part of the design process.

## Geography

Salisbury Plain is located in the south portion of Wiltshire County and adjoining Hampshire County in the central south of England (fig. 1). The Stonehenge monument is located in the north-central portion of Salisbury Plain. It sits on a rather level ground surface (elevation 102 m, 335 ft) of a less than prominent ridge (fig. 2). The ground surface dips gently east, towards a swale 500 m wide named Stonehenge Bottom. Coneybury Hill is located southeast of the bottom and overlooks the River Avon further east. Normanton Down is about 1 km south of Stonehenge. The ground surface west of Stonehenge slopes gently westwards into Stonehenge Down. Larkhill attains an elevation of 147 m (485 ft) above mean sea level about


Fig. 1. Location of Salisbury Plain, Wiltshire County, England.

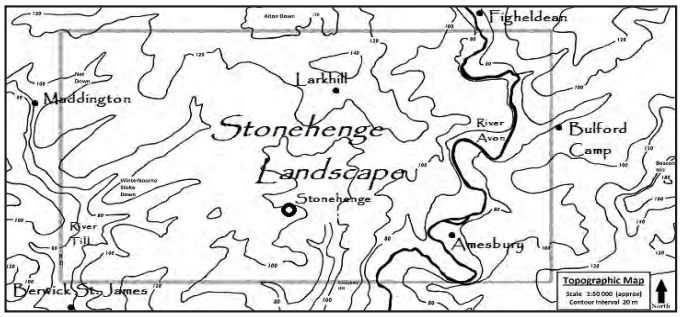



Fig. 2. General extent of the Stonehenge landscape located in the south portion of Salisbury Plain. Stonehenge is located in the central area of the landscape.

3 km north of Stonehenge, and is the most prominent topographic feature of the area. The hill slopes east to the River Avon, south to Stonehenge Bottom and Stonehenge Down, southwest to Winterbourne Stoke Down, and north to Alton Down.

The underlying bedrock of Salisbury Plain consists of a chalk plateau that has been dissected by various surface waters mentioned below. The rolling chalkland directs runoff rapidly off the hills and into the streams and rivers. This results in rather dry soil conditions.

Almost half of Britain's unimproved chalk downland is located on Salisbury Plain. Ninety-five percent of

the plain is dry grassland, some of which is used for grazing. During the 4th millennium BC Salisbury Plain was grassland with little if any woody vegetation. The numerous copses and extensive lines of woods (some of them planted) now seen on the slopes of Larkhill and other areas did not exist during the mid- to late Neolithic, when a number of significant henges, burial features and other structures were built.

**Symbolism**

A universal trait of humans is concern and care for the bodies of the dead. There is a great amount of evidence demonstrating that the loss of loved ones in Neolithic Britain was of great concern. Just as today, people during the Neolithic arranged appropriate means for burying the body, and conceived ways in which the spirit would continue living. Death is a natural and necessary part of human existence, indeed of all life. Prehistoric hunter-gatherers, farmers, and indigenous tribes recognized this reality. They knew death is not the end of life, but part of the cycle of birth, life, death and rebirth.

Architectural and archeological evidence suggests that the Stonehenge landscape expresses prehistoric concern for the dead. But that is only part of the story. Current theories about Stonehenge conclude that ancient ritual and ceremony pertained to the death of the body. However, they do not address an issue that has been and remains a central concern in all cultures: the continued life of the spirit.

There is much to be said about fundamental geometrical symbolism and its application to art and architecture. This includes symbols relating the concept of death as part of the natural and universal cycle of life. Plainly all evidence points to ancient and indigenous cultures understanding that the death of the body does not mean the death of the spirit. If for no other reason, the mere fact that the architecture of Stonehenge includes circles of stones of megalithic proportions should alert us that recognizing and understanding context – space and time is important to solving the riddle of what Stonehenge meant to the people who built it.

Throughout history people have not been as concerned with death as they were about the continuation of life. Universal sacred symbolism reflects the idea of the eternal cyclicity of all things[2]. One life is not as important as the whole. Each person strives to contribute for the benefit of all, and upon passing we honour him or her, we pay tribute through funerary ceremony and ritual, and remember and celebrate life. Honouring and celebrating the lives of the departed is a global phenomenon. It is evidence of human intent and action, gaining knowledge by observing and experiencing life in its broadest array of form, recognizing, appreciating and honouring the eternal cycle of life. And for many ancient and indigenous cultures this related to all things animate and inanimate.

In Irish mythology Lugh is skilled in the use of the sword, spear and sling. His sling rod is the Milky Way. He can throw lightning bolts. His dog is Failinis. He is *Lámhfhada* ("long arm" or "long hand"), *Ildánach* ("skilled in many arts"), *Samhildánach* ("Equally skilled in many arts"), *Lonnbeimnech* ("fierce striker") and and *Macnia* ("boy hero"). The Welsh call him Nudd or Lleu Llaw Gyffes, "The Bright One with the Strong Hand". The same characteristics and attributes of Lugh are seen in Nuada ('silver hand'), Dagda (Proto-Indo-European**Dhagho-deiwos*: shining divinity).

Thor, Týr, Apollo, Jupiter, Mercury, Osiris, Shiva, as well as many other gods, are also associated with bringing life, destroying and light. This is not to say that all of those gods have direct correspondence, as Lugh. However, all of them and many other deities represent various aspects of the masculine human being.

From perspectives of mythology and cosmology in many Indo-European cultures, the astronomical representation of Lugh and his various derivatives is the constellation Orion, his right arm reaching up into the Milky Way, his hand at the ecliptic, his weapons the spear, sword and sling. As he rises above the east horizon during the summer, he carries the orb of the sun in his right hand. He is the Bringer of Light. He is the Sky King. The form of the Orion constellation represents numerous male and female deities.

2 Burley, P. 2012 *The Sacred Sphere: exploring sacred concepts and cosmic consciousness through universal symbolism*, Edina (MN) (Beavers Pond Press), p. 6.


Fig. 3: Location and extent of individual prehistoric structures readily apparent on the ground surface of the landscape. Note the central locations of Stonehenge, the Avenue extending east and southeast from Stonehenge, and the Greater Cursus located north of Stonehenge.

**Greater Cursus**

In 1723 William Stukeley was observing the Stonehenge countryside about 1 km north of the monument when he noticed a shallow ditch oriented almost due east–west. A low bank adjoined the outside slope of the ditch. Upon further observation he discovered the ditch and bank system was about 2.7 km (1.71 miles) long. A similar ditch of equal length and approximate cross-section paralleled the first, the two separated by a distance of about 100–150 m. The west ends of the ditches were connected by another ditch oriented north–south. The east ends of the ditches were similarly connected. A long barrow oriented north–south extended along the east end of the cursus.

Stukeley thought the unusually lengthy ditch and bank structure might be some sort of ancient race course, rather similar to a hippodrome, an ancient, oblong course and stadium constructed for horse-racing and chariot-racing. He referred to it as a cursus (plural cursus or cursuses), a Latin word meaning 'course'.

The structure Stukeley discovered is the Greater (Stonehenge, Amesbury) Cursus (fig. 3). Simply, the Greater Cursus happens to be the largest single architectural feature in the Stonehenge sacred landscape. As for its monumental function, we should expect it to be related to the purpose and sacred meaning of its architectural form.

Dr Terence Meaden, a professional physicist, meteorologist and archeologist, has made significant contributions to the research and interpretation of Neolithic and Bronze Age archeology. His particular interests include unlocking the mysteries of Stonehenge and Avebury. In the 1990s Meaden noticed that each of nine long barrows within the site of the cursus has its long axis oriented in the direction of one end or the other of the cursus[3]. His measurements were accurate to within a range of 1–3 degrees, depending on the condition of the respective barrow. In total, the long axis orientation was measured for nine of sixteen

3 Meaden, T. 1997 *Stonehenge: The secret of the solstice*, London (Souvenir Press), pp. 52-73.

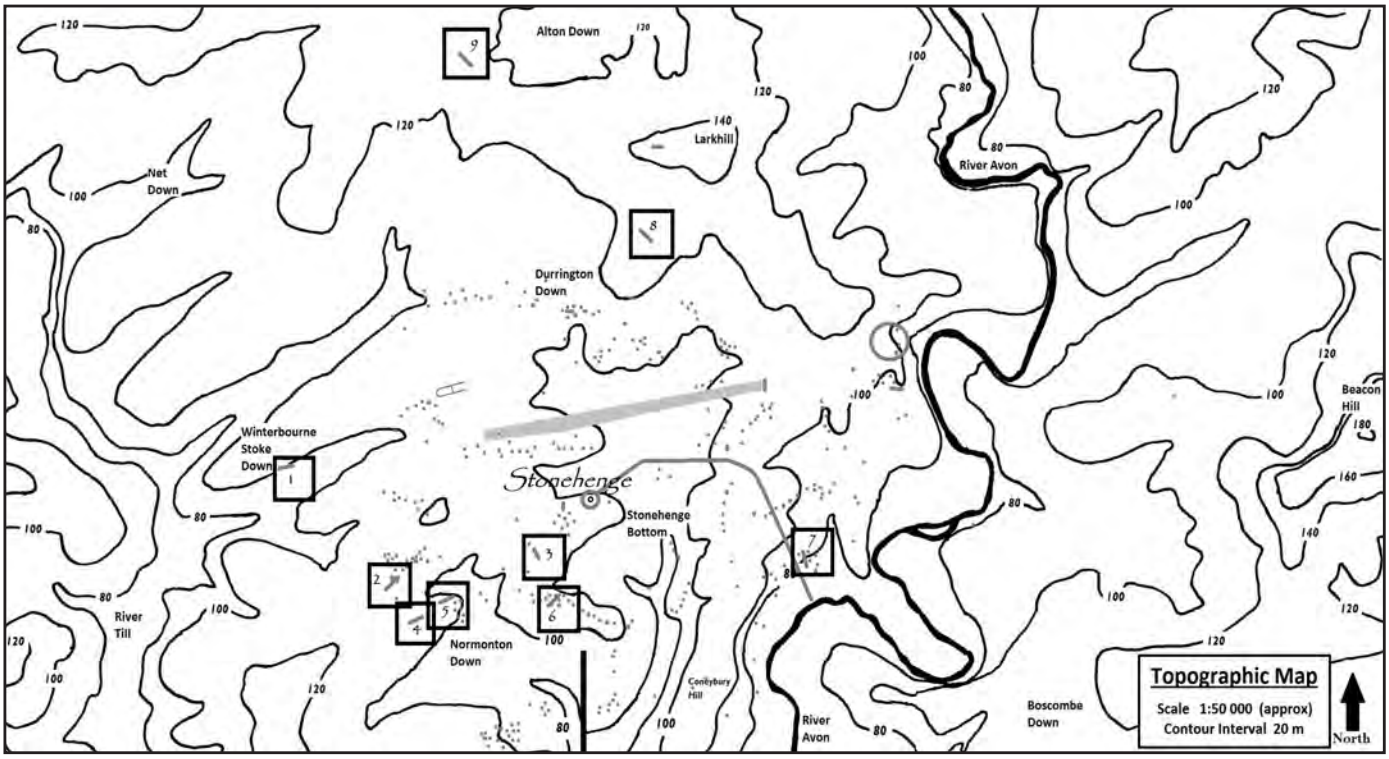



Fig. 4: Locations of the nine long barrows Terence Meaden discovered were oriented with each long axis directed towards (or away from) one end or the other of the Greater Cursus.

long barrows within 5 km of Stonehenge (fig. 4). The results of Meaden's alignment measurements of long barrows 1–9 are provided in Table I of his book[4].

Radiocarbon dating of a red deer antler pick discovered at the bottom of the western terminal ditch suggests that the Stonehenge Cursus was first constructed between 3630 and 3375 BC[5]. Each end is about 100 m wide. Nearly 700 m east of its west end the cursus widens to about 150 m. The azimuth of the north side ditch is approximately 84.9 degrees (measured clockwise from due north). The west 700 m of the south ditch has an azimuth of 90 degrees, but turns slightly northward at an azimuth of 83.3 degrees to the east end of the cursus.

About 550 m (0.34 miles) northwest of the west end of the Greater Cursus is the Lesser Cursus. With a length of about 400 m (0.25 miles) and width of nearly 60 m (200 ft), it is much smaller than the Greater Cursus and is little more than a cropmark located in an agricultural field that has been ploughed for many years, rendering the ground surface nearly level.

**Barrows and henges**

While not surprising, it is curious that people would align burial barrows with the Cursus, and the Greater Cursus in particular. There are literally dozens of alignments between two, three, even four of the sixteen barrows, two cursus termini, two henges and two hill tops. But beyond simple curiosity we should reasonably expect there was purpose to investing great time and effort accomplishing this network of alignments across Salisbury Plain. Alignments of three or more features are certainly of interest. Each feature has a specific location – a point or node – along an alignment. Alignments may be seen as links between nodes.

It was mentioned above that symbols communicating the cyclical nature of birth, life, death and rebirth are found across the Stonehenge landscape. Henges and round barrows are obvious examples of the symbolism. Most often greater than 20 m in diameter, a henge is a circular or sub-circular ditch and bank; it is typical for the ditch to be inside the bank[6]. Figure 5 includes

4 ibid.

5 Thomas, J., Marshall, P., Parker Pearson, M., Pollard, J., Richards, C., Tilley, C. & Welham, K. 2009 The date of the Greater Stonehenge Cursus, *Antiquity 83*, pp. 40-53.

6 Early Prehistoric Monuments – Henges, English Heritage,

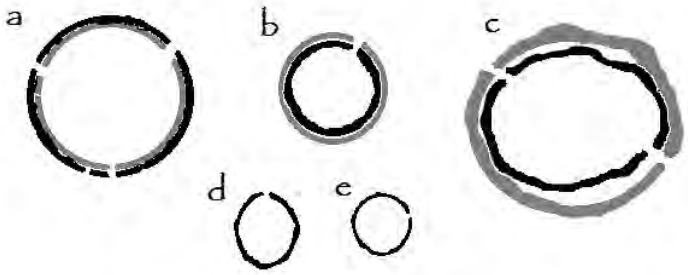



Fig. 5: Configuration of the henges at five locations at or nearby the Stonehenge landscape. (From Burley, P., 2014 based on a) Stonehenge (*based on Cleal et al, 1995)*, b) Woodhenge *(based on Cunnington, 1929, plate 3)*, c) Durrington Walls *(based on Wainwright and Longworth, 1971, figure 2)*, d) Coneybury (based on Richards, 1990, figure 97), e) Waterbourne Stoke *(based on David and Payne, 1997, figure 13).*

sample plans of several henges. Inspiration for creating these structures, some quite monumental in size, has been attributed to continental Europe, with the development of causewayed enclosures of various configurations[7].

For ancient and indigenous cultures circles (and spheres) separate interior space from exterior space, inner space of spirit from infinite space beyond. This may explain why there is scant evidence of henges being occupied, since their function is spiritual rather than corporeal.

We first learned of Terence Meaden's discovery of the nine long barrow-cursus alignments upon noticing map he included in his book 'Stonehenge: The Secret of the Solstice'. The map depicts locations and long axis orientations of the long barrows with respect to the ends of the Greater Cursus. It quickly appeared to us that we were looking at a map of specific locations and alignments that a land surveyor would make prior to and during a construction project. It isn't a map of pairs of points connected by a line, as has been assumed archaeologists who have sought the purpose of the apparent alignments. It is a map of triads of points creating triangles. Could the purpose of the various alignments between the cursus and long barrows be found by reconstructing the surveyor's map ca. 3500 BC?

**Triangulation**

When it is desired to determine a specific location on the ground surface by means of land survey, one of the easiest and most common ways is the method of 'triangulation' (fig. 6). Simply, if locations of two points of a triangle are known (surveyors call those

http://www.eng-h.gov.uk/mpp/mcd/sub/henges1.htm, Accessed 30 Dec 2013.

7 Whittle, A. 2005 The Neolithic Period, in Hunter, I., Ralston, J. (eds.), *The Archaeology of Britain*, London (Routledge); Malone, C. 2001 *Neolithic Britain and Ireland,* Stroud (Tempus).

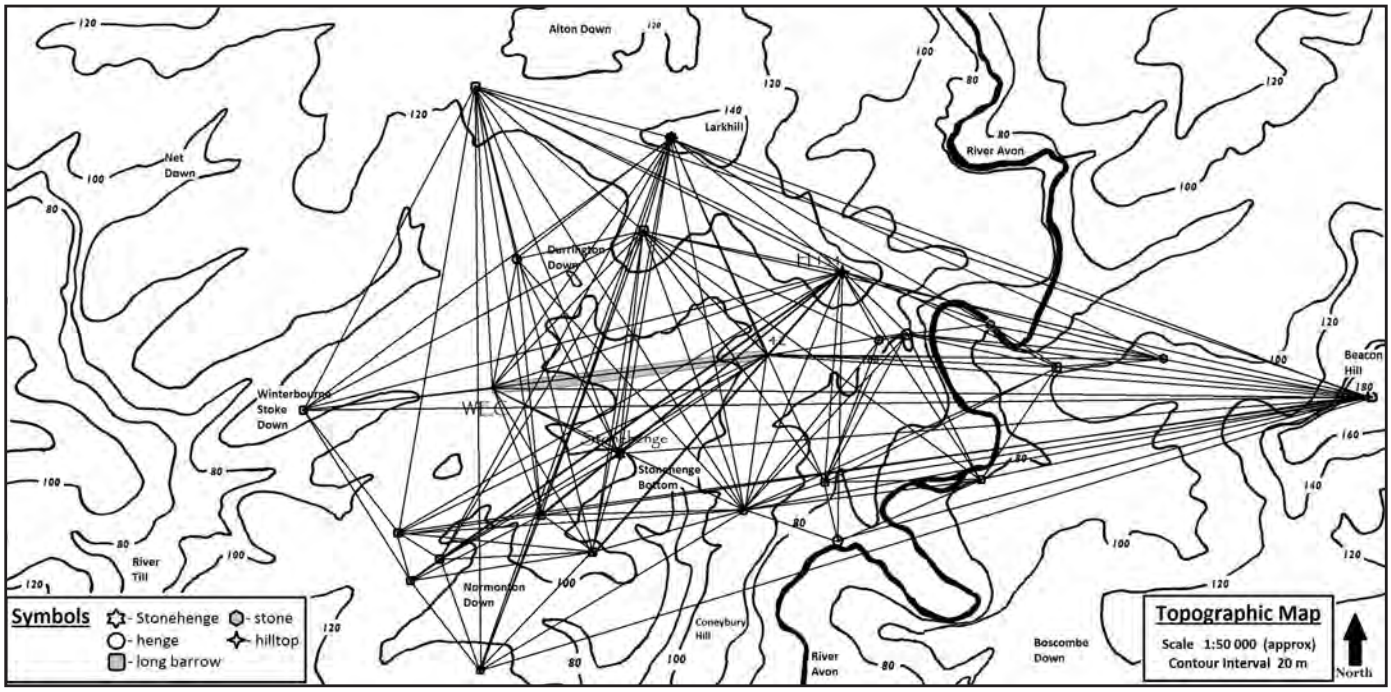



Fig. 6: Map of the Stonehenge landscape showing each alignment between cursus, long barrow, henge and/or hilltop location that could be seen by naked eye during the mid-Neolithic.

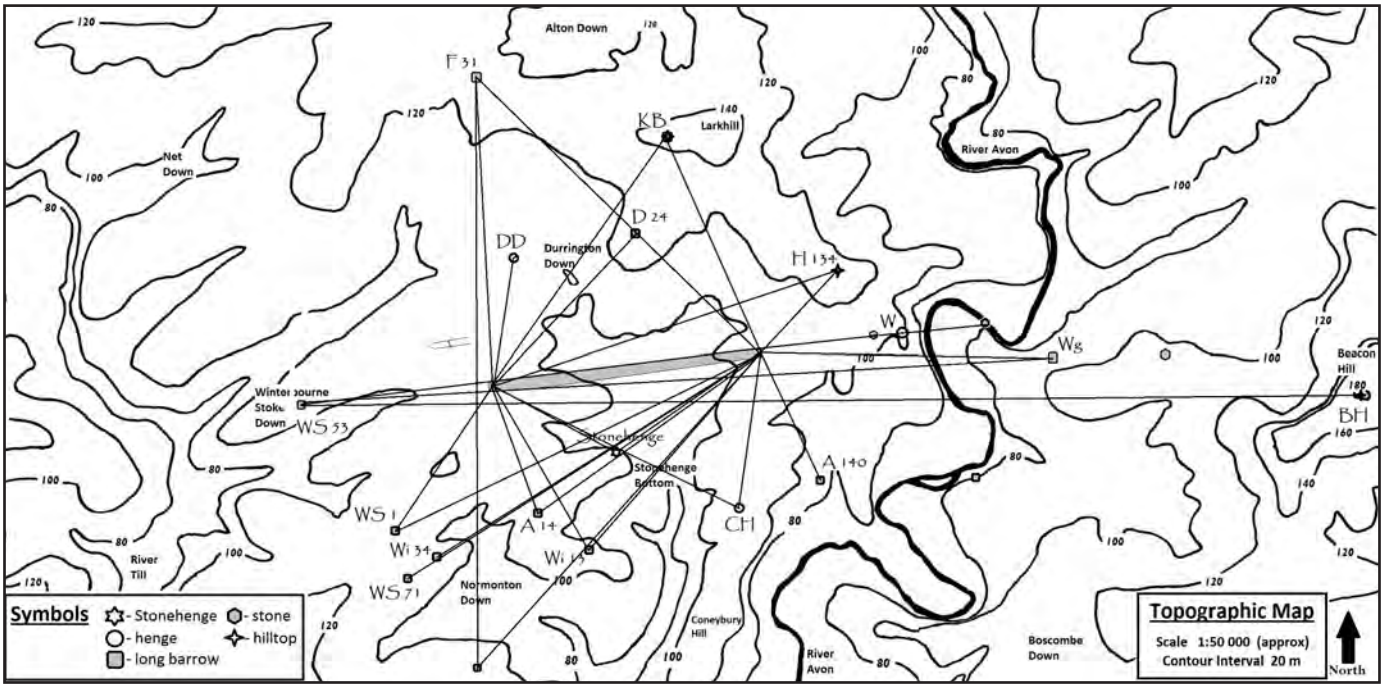



Fig. 7: This illustration removes naked alignments associated with nine long barrows where those locations appear to have served as control points during land surveying for the core structure. Note that bilateral symmetry remains. The north-south and west-east baselines are readily apparent. Each of the remaining points located in the central portion of the landscape appears placed to offer views of both ends of the cursus.

locations 'control points') and the angle from the line between those locations (the 'baseline') to a third point is known, then the location of the third point can be determined. Three points not in a straight line form corners of a triangle. They also define a planar surface or area.

Triangulation is a simple, quick and accurate method for plotting points, creating alignments, and defining areas. At its core it is an easy way to measure space, an exercise of fundamental geometry that does not require mathematics beyond adding and subtracting. The Neolithic agricultural package necessitated setting points and alignments, and delineating and mapping plots of land for cultivation. Egyptian records of surveying by triangulation go back 5000 years, to the beginning of ancient history[8]. It was used in ancient Sumeria, India and China.

Even today most map production is based on the setting of control points and baselines from which a series of triangles of known shape and size extend across the mapping surface. That network of triangles may then be subdivided into smaller triangles, increasing accuracy of the map with each subdivision.

The process begins with setting control points and baselines surrounding or extending through the area to be mapped.

We can imagine trianglulations surveyed for each of the twenty four cursus, long barrow, henge and hilltop locations listed within sight of the Greater Cursus. A complete list of those features and locations is provided in Burley 2014[9]. Figure 6 depicts the network of alignments listed in Table I. Only alignments that provide naked eye sighting from one point to another are shown.

Looking at the plan we see most of the alignments are located in the central portion of the network, specifically between the west and east termini of the Greater Cursus. We know we can set or reset any of the points using triangulation. Known angles and distances are all we need.

Network points outside the central area are not generally viewable from many of the locations within the interior of the plan. From a surveying perspective nine long barrows (and possibly the Lesser Cursus) likely served as control points for constructing the central network, or were extensions of triangulation beyond the core network. In either case we remove

8 Hong-Sen, Y., Ceccarelli, M. 2009 *International Symposium on History of Machines and Mechanisms: Proceedings of HMM 2008*, Springer, p. 107.

9 Burley, P. 2014 *Stonehenge: As Above, So Below*, London (New Generation Publishing).

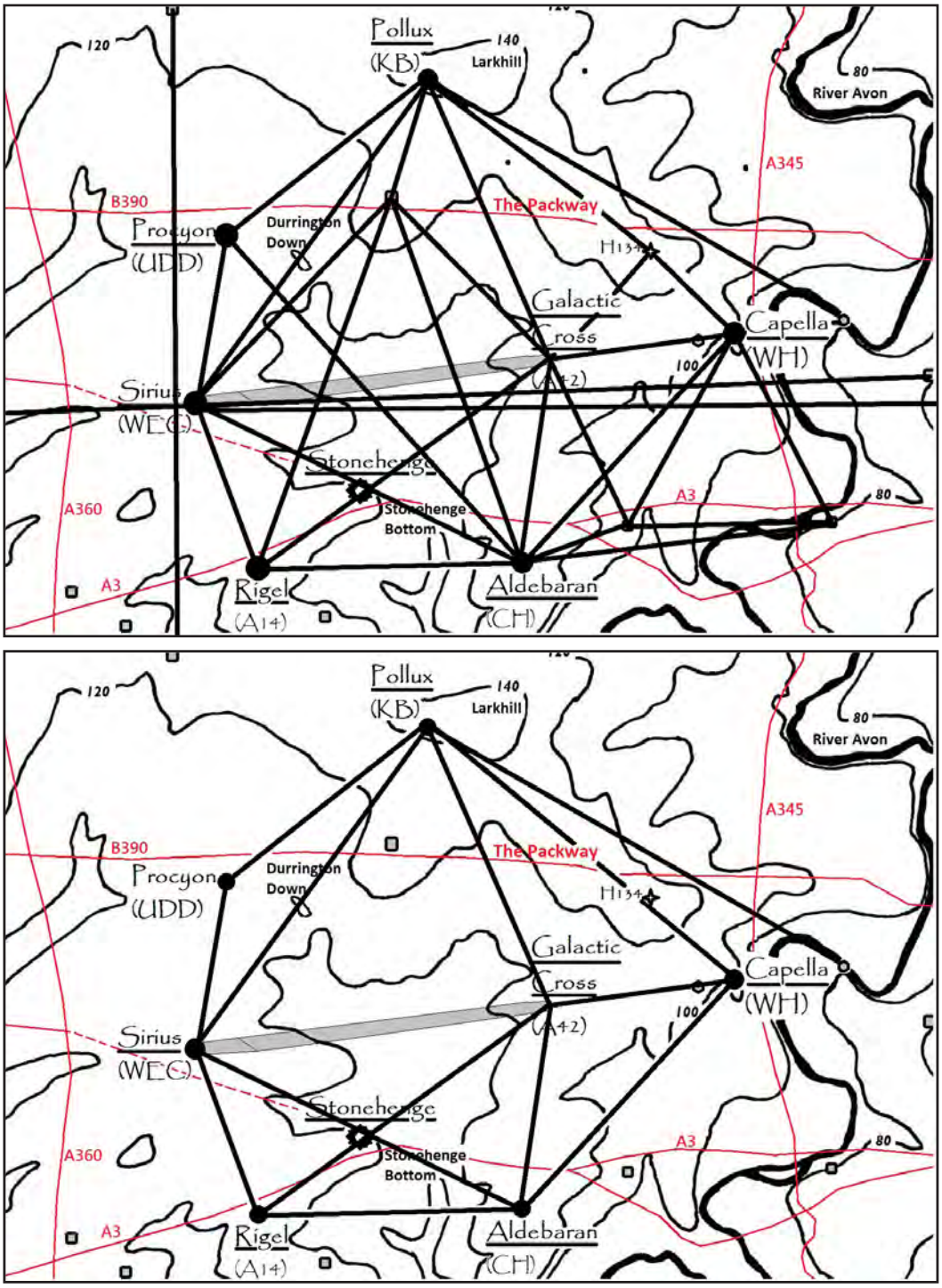



Fig. 8: a) Alignments associated with five additional monument locations are removed from the plan because they are beyond the core area and/or each does not provide naked eye sighting of the two ends of the Greater Cursus. The intended structure is beginning to become apparent. b) Additional alignments associated with monuments providing limited sighting of other monuments are removed, as are the two primary baselines. The resulting structure appears to be an irregularly shaped hexagon with the Greater Cursus extending approximately west-east across the west and central portions of the hexagon.

those eight points from the plan of alignments so that the core network and baselines are more readily apparent. The resulting network is shown in figure 7.
Five long barrows (and the Lesser Cursus) offer alignments to both Greater Cursus termini. Yet their importance for us in identifying the structure constructed on the landscape is of less concern now, since the core points of the network provide more than enough control for the plan. Those five barrows and cursus may have been placed to take advantage of, or to create alignments that relate the respective barrow or cursus to the network. In other words they were located by triangulation after control points, baselines and the first set of triangles were set.
The order in which the barrows were located is unknown. However we set our sights on the central

part of the plan, knowing that barrow WS53 (extreme west side) and barrow Wg (east of the River Avon) are providing an extremely precise baseline for control of the network of alignments between them. We then remove baselines and few remaining locations that offer limited alignments peripheral to the core network. The result is shown in Figure 8.

The network of alignments now concerns eight locations in the core of the network: the west and east ends of the cursus (WEC and Amesbury 42 (A42)), and counterclockwise from the west terminus: Amesbury 14 (A14), Coneybury Henge (CH), Woodhenge WH), Larkhill at Knighton Barrow (KB), and DD. The many alignments associated with each of those points suggests not only the import of those locations and features, but more so an important relationship amongst all of the surveyed locations (refer to Figure 6).

Very accurate alignments (measured to within two to three degrees or less) can be visually set between two or more points with the aid of intermediary points at key topographical locations. West-East baseline WS53-Wg is evidence that a complex, well thought out plan related to the Greater Cursus and nine long barrows was put into effect 5500 years ago. There is every reason to assume the network was intended, conceptualized, planned and constructed. Its purpose must have been to create an effect – perhaps vital in nature - that people would understand and relate 5500 years ago.

Leaving aside the two ends of the cursus, of the remaining five nodes in the alignment network one is located at a long barrow on top of a prominent hill, one is at a henge, and three are additional barrow locations. From a surveying standpoint (identifying specific locations on the ground surface) topographically high points are most valuable. The highest elevation in this area of Salisbury Plain is the top of Larkhill. At the hilltop much of the ground surface to the south can be seen other than some stretches of valley bottoms such as along the River Avon. Most of the network alignments can be observed from Larkhill. For this reason it is highly probable that the hilltop served as a critically important control point for the entire network. Each of the other centrally located nodes of the network (including the two cursus termini) is visible from that location. It is a first rate location for using triangulation across the Stonehenge sacred landscape.

Similarly, barrow Durrington 24 is well located for observing the network area since it is high up on the south flank of Larkhill, about 1 km (0.6 mi) from the summit. About 1.3 km (0.8 mi) southwest and 40 m (130 ft) below Knighton Barrow is DD. This area has been under cultivation for perhaps thousands of years. Barrows and other structures in the area are little more than crop marks, if apparent at all. Yet the location was ideal for setting alignments across much of the plain to the south, from the west terminus to Coneybury Hill.

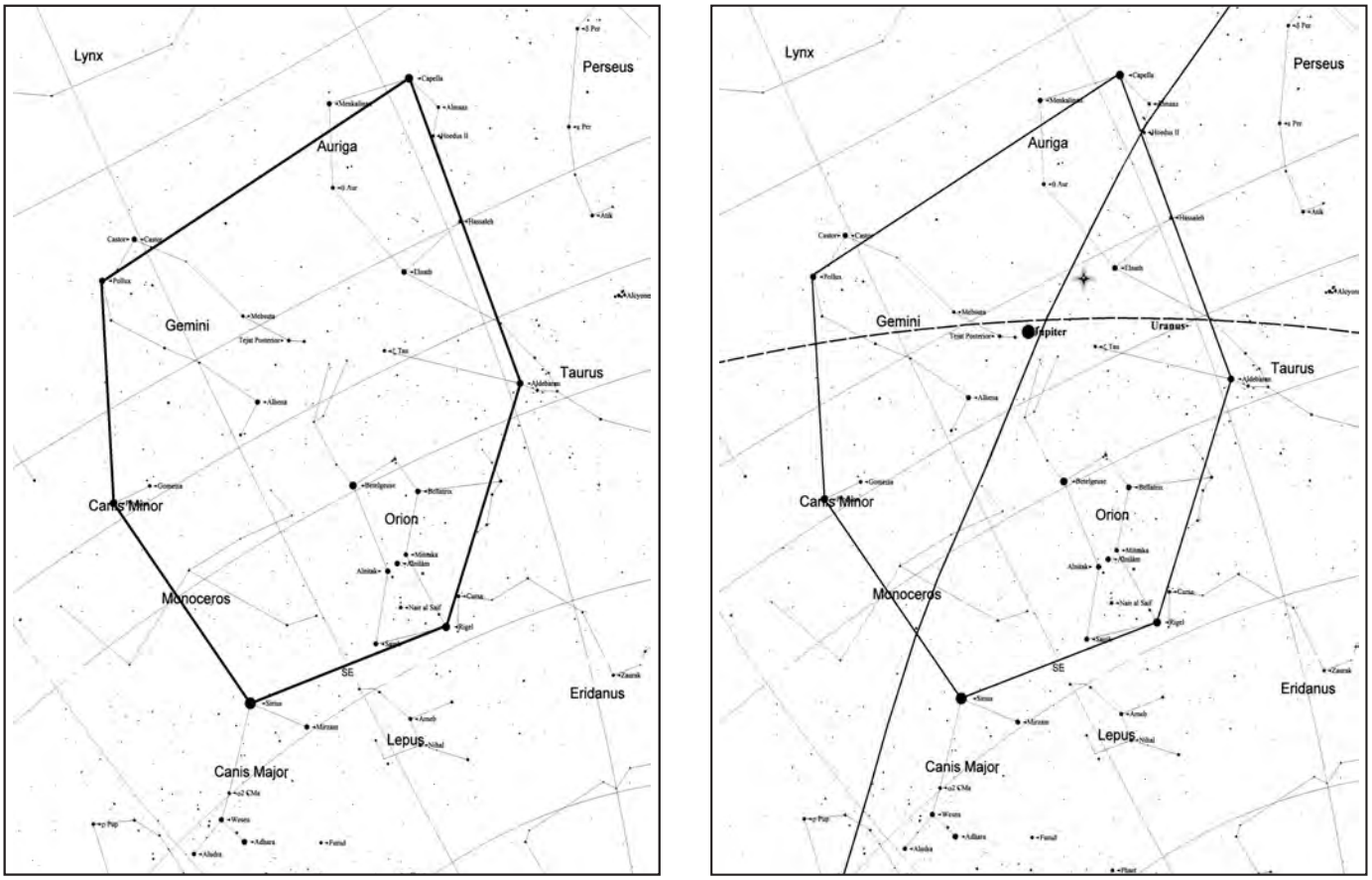
The physical geography of Salisbury Plain would play a key role in siting the cursus, barrows and henges upon the landscape. Yet the various nodes of the alignment network were located with relative ease using triangulation given the local topography. Perhaps the entire ground surface within the central network of alignments could be seen from one location or another of the central plan.

The numerous alignments available at each location tie together the plan of cursus, barrows, henges and hilltops into a unified structure. Both Amesbury 14 and Coneybury Henge were located to take advantage of the view shed toward the north, from Winterbourne 53 to Woodhenge and the overlapping view shed shared between them.

**A Grand Plan**

What is that structure, and what does it represent in this Neolithic sacred landscape? The area is an architectural landscape, designed, surveyed and engineered. Geometry and the sacred were understood here, as it was by numerous prehistoric, ancient and indigenous cultures around the world. Geometry and sacred knowledge common to the Neolithic can help us identify and understand the symbolism expressed on Salisbury Plain.

The network of points (nodes) and lengths between nodes (links) were constructed by a series of triangulations. In other words locations and orientations of the long barrows about the cursus are evidence of triangulation used for the purpose of constructing monuments at specific locations on the Stonehenge Landscape. The engineers used triangulation to place long barrows and possibly other monuments according to a plan. Our




Figs. 9: A) The asterism of the Winter Hexagon located in the vicinity of constellations Canis Major, Canis minor, Gemini, Auriga, Taurus and Orion. Sirius, brightest star in the shy, represents the low end of the hexagon, while Capella is located opposite, at the top. B) The Milky Way extends across and beyond the line between Sirius and Capella; the line drawn from bottom to top represents the galactic plane. The dashed line is the ecliptic. Jupiter is seen in this view near the centre of the crossing point of the galactic plane and ecliptic. The four-pointed star up and left of the crossing point is the location of the galactic anti-centre.

analysis included use of known monument locations to identify triangulations that form the core geometry – the intended geometry – from which further triangulations were based. The plan of the Stonehenge Landscape is revealed when we discover that core geometry.

Referring to figure 8b, it is evident that A14, CH, WH, KB and D provide a unified plan of points related to each other and the cursus. With the addition of WEC they form a hexagon of somewhat irregular shape surrounding the cursus. The polygon exhibits bi-lateral symmetry about the cursus. Stonehenge and EEC are located within the ring of other monuments. Several important facts are associated with these locations. Stonehenge, A14, CH, KB and DD have lines of sight to both ends of the cursus. KB has a most prominent location at the top of Larkhill. Henges are located at Stonehenge and CH. While WH does not benefit from triangulation with both ends of the cursus, it is located along the longitudinal axis of the cursus, is seen from A42, and is the location of a henge.

The design is certainly uncomplicated and was relatively easily achieved. Undoubtedly its simplicity of form was beneficial to achieving the intent of the designers and builders. However, it is not the design that is so important, but the symbolism it offers to anyone familiar with ancient and indigenous cultures, including that of central south England during the Neolithic.

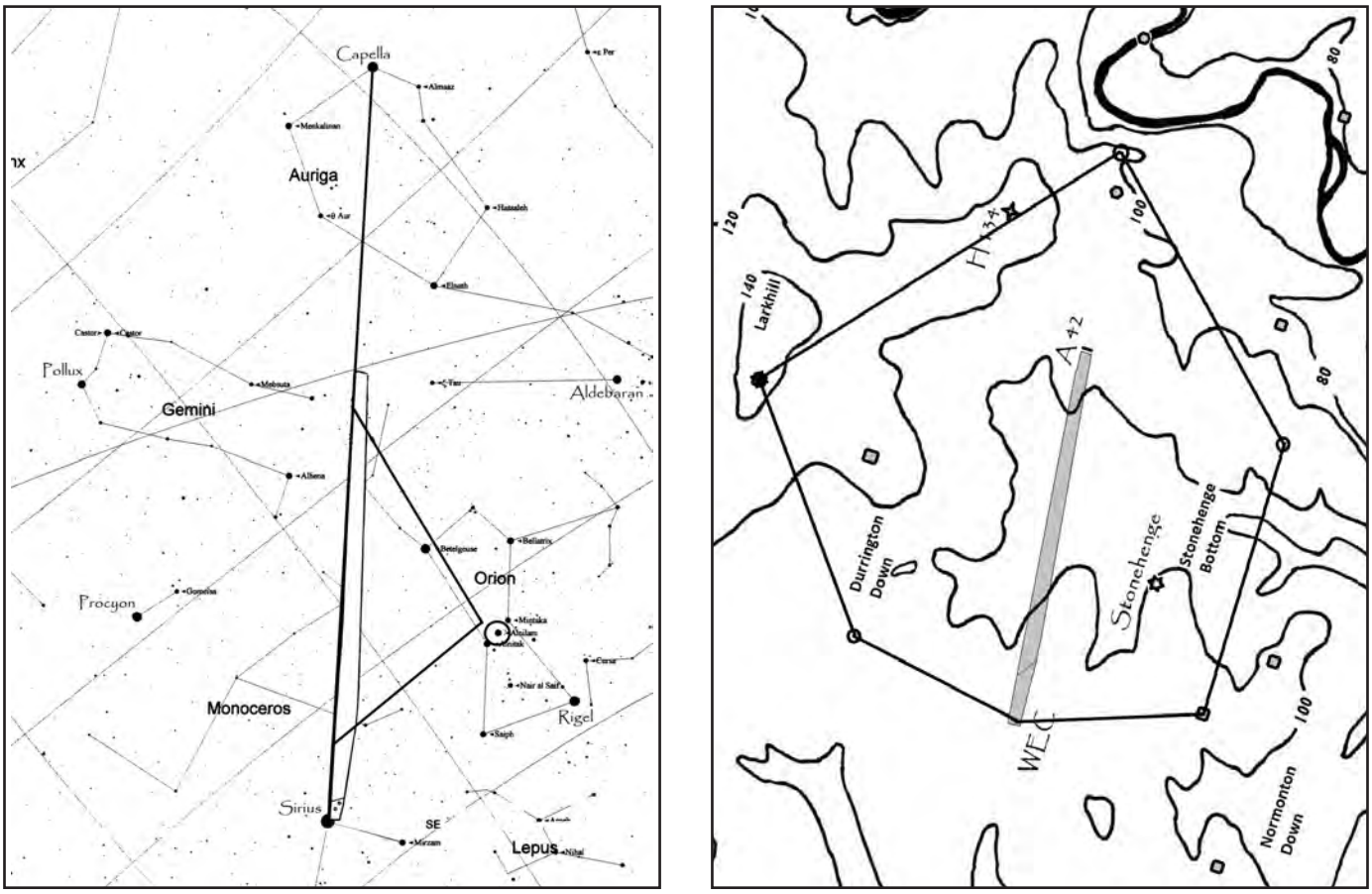



Fig. 10: a) Star map of the Stonehenge Landscape showing the galactic plane, ecliptic, Orion and the six star locations forming the hexagon. Stonehenge plots accurately onto Alnilam, middle star of Orion's belt. The Greater Cursus plots precisely between Sirius and the ecliptic. b) Scaling the distance from the west end of the Greater Cursus to Woodhenge, and plotting that distance onto a star map with the west end of the cursus at Sirius and Woodhenge at Capella, the east end of the cursus with adjoining Amesbury 42 long barrow plot precisely at the ecliptic.

**Table I**

**Features of the Stonehenge Landscape Corresponding to Elements of the Cosmic Dome**

| Landscape Feature | Corresponding Element of the Cosmic Dome |
|---|---|
| West end of Greater Cursus | Sirius |
| Amesbury 42 | Intersection of ecliptic and galactic plane |
| Greater Cursus | Milky Way between Sirius and ecliptic |
| Amesbury 14 | Rigel |
| Coneybury Henge | Aldebaran |
| Lost Stone (LS) | Capella |
| Knighton Barrow (Figheldean 27) | Pollux |
| UDD | Procyon |
| Stonehenge | Alnilam |
| Orion Nebula | Long barrow 330 m west of Stonehenge |

Figure 9a is a star map of the southern sky at Stonehenge at 3:19 AM on 21 September, 3500 BC. The map was made using Starry Night Enthusiast 4.5. The base map depicts configurations of modern day constellations including Canis Major, Canis Minor, Gemini, Auriga, Taurus and Orion. Stars generally do not appear to move relative to each other. The second column of Table I lists notable constellations and stars shown on the map.

Sirius is the brightest star in the sky. Nine of the stars listed in Table I make up half of the eighteen brightest stars in the northern celestial sphere. The other ten stars include a fourth of brightest stars in the southern celestial sphere. Together they form one of the brightest parts of the night sky today, the same as it was during the Neolithic.

That area of the cosmos is found in an asterism known as the Winter Hexagon. It can be observed from

almost any location on Earth. There are additional unique features of this area of the sky. The Milky Way extends across the constellations from Canis Major to Auriga.

Figure 10a shows several important astronomical features in the same area of sky. These include the galactic plane, ecliptic and galactic anti-centre.

Neolithic cultures in Babylonia, Egypt, India, Europe, the Americas and other locations across Earth recognized this area of the cosmic dome as vital to all life across time and space. They perceived something special where the ecliptic crosses galactic plane, near the galactic anti-centre and surrounded by constellations.

Figure 10b is a map centred on the Stonehenge Sacred Landscape depicting locations of the Greater Curse, Stonehenge and the six Neolithic sites that make up the trans-located Winter Hexagon on Salisbury Plain. Comparing the Figure 10a and figure 10b we can see immediately that the spatial relationships between elements of the Stonehenge Landscape correspond to specific features of and inside the Winter Hexagon. Table I lists correspondences between cosmos and landscape.

This correspondence between landscape and astronomical features represents a Neolithic trans-location of the Winter Hexagon onto the Stonehenge. This is the original Grand Plan of the Stonehenge Sacred Landscape. The area centres on the intersection of the ecliptic and the galactic plane, the corresponding feature on the landscape being long barrow Amesbury 42 (A42), oriented perpendicular to the cursus.

The Grand Plan on the Stonehenge Landscape is the Winter Hexagon, Milky Way, ecliptic and Orion trans-located onto Salisbury Plane. This is clear from the correspondence between locations of long barrows, henges and the Greater Cursus, and the configuration of the Milky Way, galactic plane, ecliptic and stars. It is one of the greatest examples, and possibly the oldest example, of prehistoric hierotopy to be found anywhere, at anytime. It symbolizes the Milky Way, Winter Hexagon, Orion, and path of the Sun. Each point surveyed onto Salisbury Plain represented a star. This is the larger context within which ritual and ceremony would take place at individual locations such as Stonehenge and Woodhenge. Each monument was a microcosm of the universe, built as a more intimate context for communication with the Sun and Moon.

**Conclusion**

The Stonehenge Sacred Landscape remains symbolic of human relationships with the cosmos and source of life. It demonstrates the strength of relationship between people and Earth. It was a means of communicating human understanding of the never ending cycle of life as spirit, and a place where both the body and spirit could begin their journey back to where they came. It relates mortality of the body with eternal life of the spirit. It connects life on Earth with life of the spirit. Since about 3500 BC it has represented the end of life of the body, and return of life as spirit to the Netherworld and the care of Orion. The Winter Hexagon is where spirits came from, and where spirits return. Upon death the body was interred to Earth, while the spirit took to the spirit path – the Milky Way beginning at Sirius – on its return journey from Earth to the centre of the Winter Hexagon. During the mid-Neolithic the Winter Hexagon of the spirit was symbolically replicated on Salisbury Plain - *As above, so below*. The sacred symbolism and underlying 'knowing' of the cosmic source of the spirit in all things are common to many Neolithic cultures through time. Mid-Neolithic Britain may now be placed with those cultures which expressed the universal symbolism on the face of Earth in the most grand of ways.

# Pre-literate art in India: a source of indigenous knowledge, ethno-history and collective wisdom

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Indigenous knowledge is an acquired set of ideas collected spontaneously by a trial and error method in a society through generations. Such ideas help the society for better subsistence through the adjustment of a community in a locality that gradually evolved by the utilization of local resources. In a pre-literate society, such acquired knowledge is shared and transmitted through a learning process of oral interactions and practices. Sometimes refinement of ideas and new breakthroughs in the form of innovation are initiated by individuals which are successively selected and shared by the others. Indigenous knowledge is also a culmination of new ideas, technology and methods that are nurtured and applied when found successful for suitable adjustment and which harness the nature, habitat and society in its totality. Rock art sometimes provide visual information to identify such use of indigenous knowledge shared and practised by a group. Indigenous knowledge is more appropriate and suitable for its application, limited to a particular topographic and cultural zone where it has developed in successive generations (figs. 12 A, B , C).

Rock art in central India mostly projects elaborate visual narratives, whereas other representations are mostly single individual and separate images. Combinations of several images are rarely available in other zones which can suitably portray an episode or distinct message as meaningful pictographic evidence. Therefore, pictographic evidence of central Indian sites is primarily selected for further study of its imagery to ascertain the expression of indigenous knowledge and its views through rock art imagery developed in different chronocultural periods. Rock art imagery is a more direct, dependable and tangible form of cultural evidence of the past, which may reveal the life opportunities, world view, belief patterns, norms and aspirations of the society involved in its creation. Such a tangible form of evidence is unique as it may also be a source to determine the non-tangible aspects, such as values and norms acting as the basic guiding force of the community concerned. The visual narrative may explain both overt and covert aspects, natural and supernatural means of their livelihood. Such interpretations revealing their society and culture are uncomplicated, decipherable when the rock art imagery is realistic or naturalistic. Such sites portray panels containing visual narratives and episodes with combinations of various figures arranged on a common theme. But non-figurative motifs, abstraction of forms, signs and symbols also coexist in rock art. The interpretation of such symbolic forms and icons is another challenging hurdle for deciphering rock art. A general pan-human methodology is to be worked out, beginning with a site-wise consideration.

A work of art on a rock surface was not only restricted during prehistoric past. Rock art itself is a blanket term in which art of any form and of any period executed on the rock wall enables study and discussion. In the Indian context, during ancient and medieval periods rock-cut caves and natural rock shelters were transformed into monasteries and became part of religious complexes where both murals and intricate carvings are evident. Ritualistic practices of art in different pre-literate communities are also evident and could be analyzed from the ethnographic records. Such records reveal that the rock surface is still being selected among several pre-literate communities for carving and preparing other forms of expression for traditional ethnic art imagery, which follows a definite form of expression of their inherent ideas.

A thorough study of the rock art depictions to identify each of the forms of the imagery, its detailed documentation and cataloguing is essential to trace the overall technological level of the society represented in the imagery. The prepared data repository is then compared cross-culturally. The comparison with other similar sites as well as contemporary ethnographic data is a meaningful effort to trace the affiliation and identical forms, if any.

In the Indian context, the primordial art tradition in refined rock art under the fold of a great tradition coexists. Therefore, comprehensive identification of the prehistoric and primordial art is essential. Two

distinct traditions have developed in the course of time, almost parallel with the patronage of different level of societies. The primordial rock art in India is essentially a cultural expression of pre-literate societies. Rock art may be defined on the basis of its inherent and essential features.

It may be recapitulated that in the central region four successive and partly overlapping cultural phases are noticeable in rock art imagery. The stages are:

I. Earliest level of figurines representing hunting-gathering, foraging groups with large figures of wildlife.

II. Intermediate phase indicating marginal stage of food collection, group hunting by improved technological means and the beginning of pastoral economy.

III. Fully fledged pastoral society with magical beliefs and aspirations for the breeding of domesticates. This phase illustrates a wide range of group activities and life opportunities.

IV. Presence of extensive battle scenes and use of metal weapons by rival groups confronting each other in varied contexts.

In rock art, at least in Central Indian rock shelters, each of the illustrations are either with a single motif or in combinations of several different types connected with a same central theme or episode ( Mathpal, 1984; Neumayer,1983, 1993; Wakankar and Brooks, 1976). In the rock art of central India, a distinct but overlapped phase is marked by the presence of pastorals in rock art. With the display of essential activities for animal domestication, providing suitable security for domesticates against threats indicates the major issues for concern for the community. As is revealed from the images, the threat from wild carnivores was in its initial period. The pastoralists had to remain prepared to combat attacks from other rival groups, particularly plunderers who raided their herds.

Such periodic insecurity and conflict both seem to be the prime motivating factors for the creation of rock art. In the rock art of the early historic period, descriptive accounts of various battle scenes, mostly feuds, influenced the artists. Rather, such theme or view had turned to an obsession affecting the mental imagery of its creators (Chakraverty, 2003). Sometimes, intimate visual records in association with more realistic contextual assemblages convincingly support the view that possibly the painters had witnessed such conflict and genocide themselves directly. No distortion of tool and weapons are observed in art compositions illustrating such battle scenes. Use of wheel and chariots are illustrated, signifying organized effort by urban influences.

The art of tribal communities and other indigenous populations, due to its simplicity in representation, provides us with certain indications to understand the aspirations and obsessions in the mindset of the artist and their community. The tribal artist is conditioned in his social cultural matrix. Thus the work of an individual tribal artist largely represents the ideas, beliefs and sentiments of the group or society (Chakraverty, 2009).

The majority of the rock art imagery, particularly in India, has close ethnographic parallels and this study, being based on visual imagery, ultimately reveals the validity.

Among pre-literate tribal communities, the oral tradition including myths and legends is the major source for reconstruction of ethno-history. In order to understand the culture continuum, the comparison between rock art and the ethnographic account of relevant tribal societies from the same region may be attempted for a more rational approach to deciphering rock art. In addition to the study of tribal art, different aspects of material culture, social organization and the cultural expressions as reflected in rock art could be a useful source to trace the ethnic milieu in rock art.

It may be mentioned that similarities are often observed between rock art and tribal art with regard to theme, forms, styles and motifs. In addition, there is a significant overlapping of the distribution pattern between the two sets. Based on the above argument, it may be hypothesized that tribal art is a continuity of the total tradition of rock art.

In central India, the early rock art represents a community which was closely similar to contemporary tribal societies, especially the pastorals and marginal cultivators. Both similarities and differences are important for reconstruction of the early society and understanding their art as an integral cultural element. The basic similarity between the arts of two different chronological periods may be explained in terms of

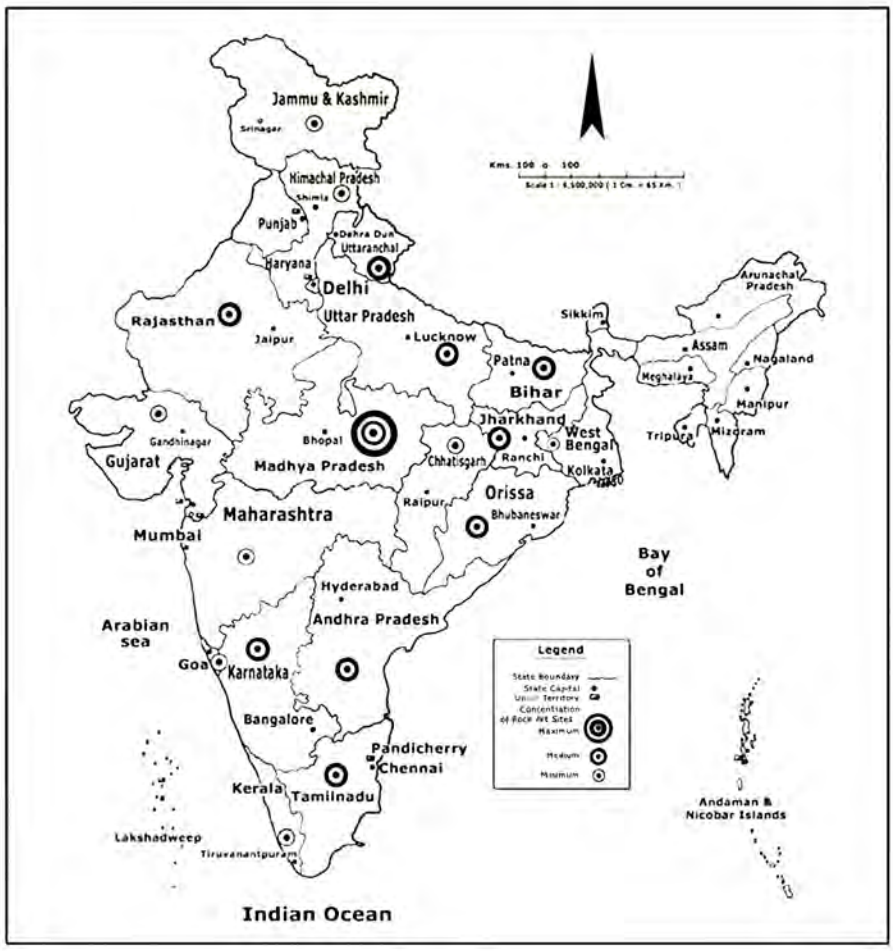



Fig 1. Map of India showing the state-wise concentration of rock art sites.

common economic pursuits, social organization and material culture. The cultural continuity of certain elements is prevalent in the cultural area under consideration.

**Rock art in India: its distribution and content**

The distribution pattern of rock art sites in India reveals that it has maximum concentration in the central region, particularly in Vindhyas and in the Satpura hills region, in the states of Madhya Pradesh, Chhatisgarh, parts of Rajasthan and in the Mirzapur region of Uttar Pradesh and in its adjoining Kaimur range of Bihar, which is further extended up to the plateau region of Jharkhand in the east and up to Sambalpur and the Sundargarh region of Orissa on the southeast border of Chhatisgarh (fig. 1). The vast stretch of sandstone hills comprises the majority of rock art sites in India, where there are more painted motifs than other forms of representation such as petroglyphs or rock carvings, engravings, etc. In the same locales, the prevalence of natural or realistic forms of motifs is numerically dominant and signs, symbols and abstract forms of non-figurative motifs are less represented. In the entire region, the rock art is mostly associated with archeological remains of microlithic and Chalcolithic tools, with both ceramic and aceramic assemblages. Both stylistic as well as thematically the imagery of rock art signifies a periodic development from Upper Paleolithic hunting, gathering, foraging conditions during the Pleistocene epoch which continued in successive Mesolithic times, the Chalcolithic phase and on to early and later historic periods.

The presence of rock art sites in the Chhotanagpur plateau region comprising the state of Jharkhand and the recently found site from the Purulia District of West Bengal reveal that gradually towards the eastern valley areas, engravings are more common. In Subarnarekha river and Kangsabati river valleys the rock art sites are possibly more related to megalithic burial traditions. Both the rivers are considered as ritually sacred to the

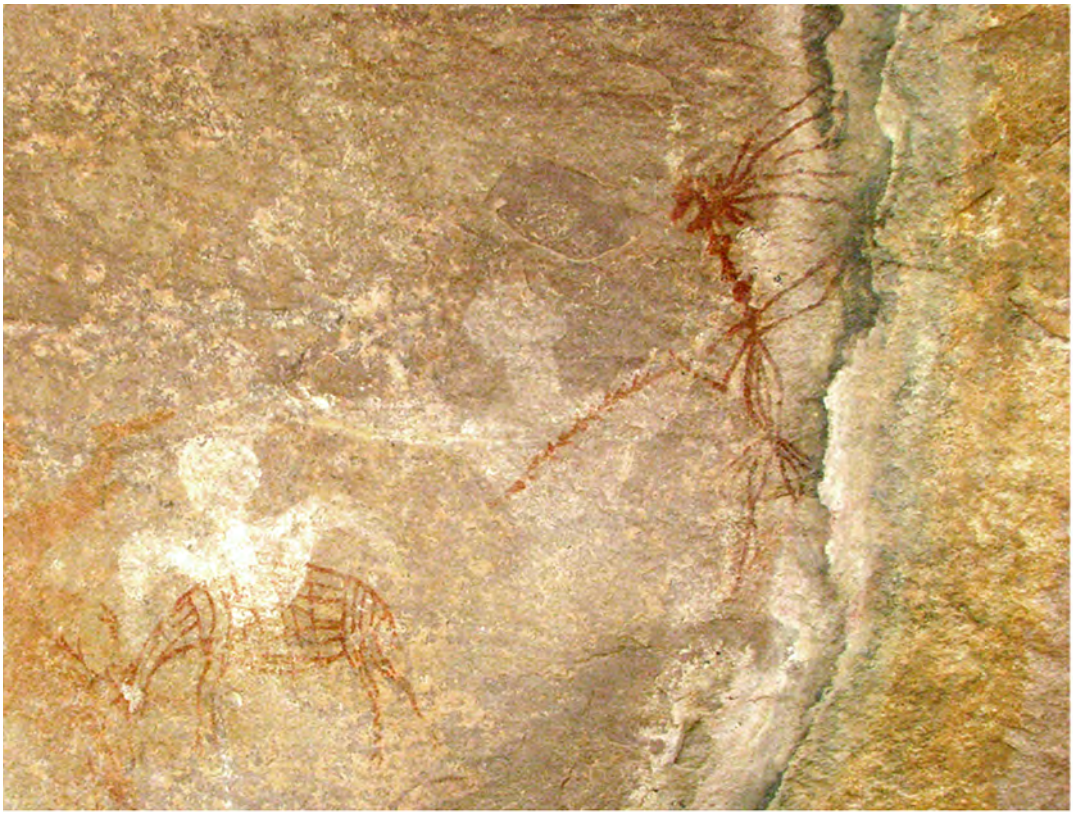


Fig 2. Hunting of deer by using harpoon. Site: Lakhajore; Madhya Pradesh.

local Mundari-speaking tribal communities and other indigenous people in the area.

In the extreme west, particularly in Gujarat, rock art sites are few and rock art imagery represents much later periods. In the Deccan region, particularly in the states of Maharashtra and Karnataka, rock art sites represent a combination of both petroglyphs and painted motifs, with greater number of realistic depictions, but signs and symbols are not rare. In Karnataka, Andhra, Tamil Nadu and Kerala region, rock art imagery is distinguished by some common features such as the presence of a maximum number of figures of bulls, sometimes with prominent humps; engraved figures of individual or single type are exclusively present in sites. In the rock art imagery of the entire peninsular region larger panels comprising several figures representing a detail narrative is uncommon. Rather, such wider and intricate visual accounts are more prevalent only in the central India region. In Pansaimal and other sites of southern Goa, on the bank of a narrow hill stream, the lateritic bed rock is carved with figures of animals and labyrinths, etc. In the southern peninsular region of India, in general, rock art is mostly associated with Iron-Age antiquities and megalithic burial practices.

In the northern region, rock engravings are common in Jammu and Kashmir, Uttarakhand and Himachal Pradesh. In the Himalayan region, figurines represent an individual archaic type of basic motifs only. Use of polychrome and bichrome is entirely absent. In the Ladakh area engravings on the surface of boulders represent animals, anthropomorphs of rudimentary form and a wider range of Buddhist epigraphy, and Buddhist signs and symbols.

In Chhotanagpur plateau region in Jharkhand and West Bengal, rock art is represented as engravings on open-air boulders. In the Chhotanagpur region, particularly in Ranchi, Hazaribagh and its adjacent areas, rock art sites are located near the sacred Munda burial grounds. In Chhotanagpur region, the rock art sites are locally identified as related to *Kohbar* or marriage booths. The local tribal communities, including Oraons, Munda and Cheros, relate the rock art sites with a folk story. The folk story points to a historical episode shared by locals in their oral literature, where a king or a tribal chieftain marry a local tribal girl and they spend the first night of conjugal life in a cave or rock shelter. Then on the next morning, the newly wed bride is found dead and her body is floating in the hill stream

Fig 3. Engraved Foot marks of wild animals. Site: Tongo; Sundargarh District; Odisha.

nearby the cave. Thus, the rock art site of the region is associated with the cult of dead and is also related to megalithic burials still practised by tribal communities in the Karanpura forest region.

In the northeast, particularly in the state of Assam, Manipur, Meghalaya and in Nagaland, rock art is also a part of similar cultural traditions among a number of tribal and other indigenous societies. Following ancient Kirata social tradition, among Bodo-speaking groups, Khasi, Garo and Naga, s such practices have continued for generations. In the entire northeast, there are megalithic monuments in different structural forms such as menhirs, dolmens, cromlechs, stone circles, cists, cairns, stone henges, clan ossuaries and sarcophagi. The Bodo-speaking people and the Mon Khemer-speaking population of the northeast part of India had maintained and evolved a distinctive tradition of megalithic culture which is still being practised by their successors. It may be relevant to mention that in the southern peninsular part of India, a similar megalithic culture is also a predominant culture, contemporary with antiquities of the Iron Age. But in major parts of south India, the megalithic culture represents past cultures, except for some reminiscences of the practising tribal population, whereas in the northeast, the megalith monument is still a surviving tradition, where material aspects and visual art are essentially integrated into belief, social norms and ritual practices with folklore, dance and musical performances.

**Indigenous knowledge as represented in rock art and tribal art**

In rock art sites of India, as represent particularly in the central region where visual narratives are particularly concentrated, the earliest strata contain images of large wild animals, with overlapping scenes and various metaphors of hunter-gatherers and foragers. The most significant examples of indigenous views and accumulated knowledge are certain secrets of hunting (fig. 2) that that are essential for success. The artists shared their knowledge and experiences to detect the type of animal, the age and size of the game, gender and its other habits to trace their movement and direction and to locate its possible presence. Footmarks of various species of wild animals are drawn on rock shelters. Such images of footmarks (fig. 3) are common in Sambalpur and Sundargarh districts of North Odisha, where rock art sites in clusters further extend towards the east from the central Indian zone of concentration. Among hunter-gatherers, footmarks on sand or clay, excreta of wild animals and such other marks are always important clues to trace the game during hunting expeditions.

The technique for manufacture and use of specific weapons suitable for success in hunting various types of animal are skilfully narrated in rock art imagery covering the entire central zone. The harpoons fitted

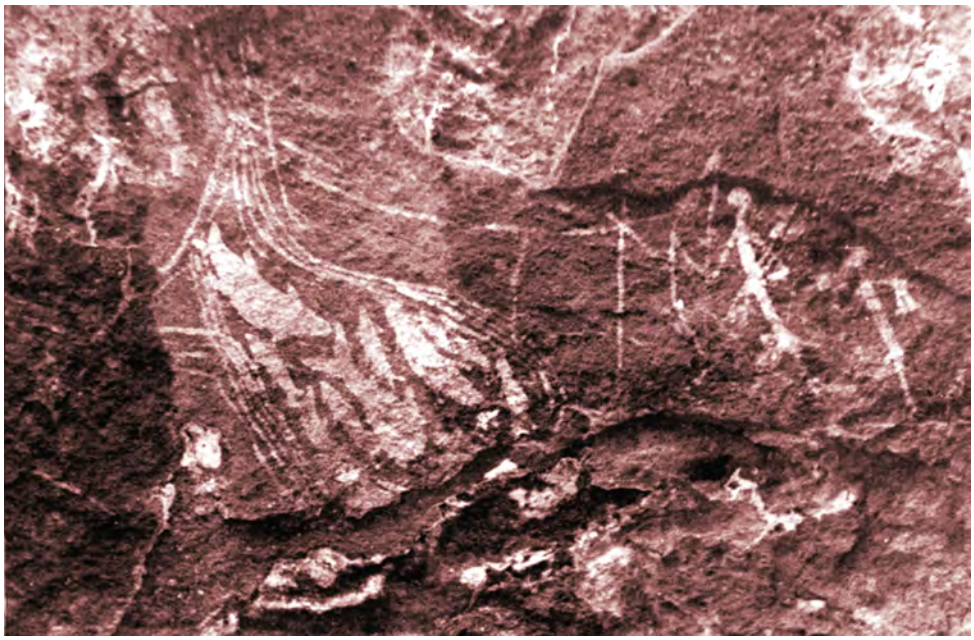
Fig 4. Group hunting Site: Lakhajore; Madhya Pradesh.

with microlithic blades as barbs are largely depicted in the rock art of Madhya Prasesh (fig. 4), Rajasthan and Bihar states. In such areas where painted rock shelters are plenty, tribal concentration is also predominated. In such forested areas hunting is still being practised by villagers as a source of food during seasons when scarcity of food becomes more acute. Hunting of wild animals is generally prohibited by contemporary law but tribal communities perform it as their ritual and sport. The indigenous knowledge of hunting and finding an animal is inculcated by a tribal sorcerer, medicine-man or a village elder through practical training imparted to youths during hunting rituals.

Setting of various types of traps, nets and other methods employed for both groups and individuals are well illustrated in rock art imagery. The type of bait for hunting specific animals in traps is displayed in rock art. Scenes of fishing (fig. 5), catching crocodile and other aquatic fauna are also mentioned in rock art galleries. In Rajat Prapat, a rock art site in Pachmarhi, such traps and nets are shown in rock art where men are engaged in catching fish. The site is located adjacent to a waterfall.

The collection of honey (fig. 8) is another most popular theme in rock art of central India. Particular techniques were adopted for it, where usually in the beginning trained monkeys were employed in inaccessible parts of the forest and on the peaks of rocks to eradicate the bees and wasps from beehives. Then men used long ladders to collect the honeycombs and then honey was

Fig 5. Fishing by using a trap. Site: Pachmarhi. Madhya Pradesh.



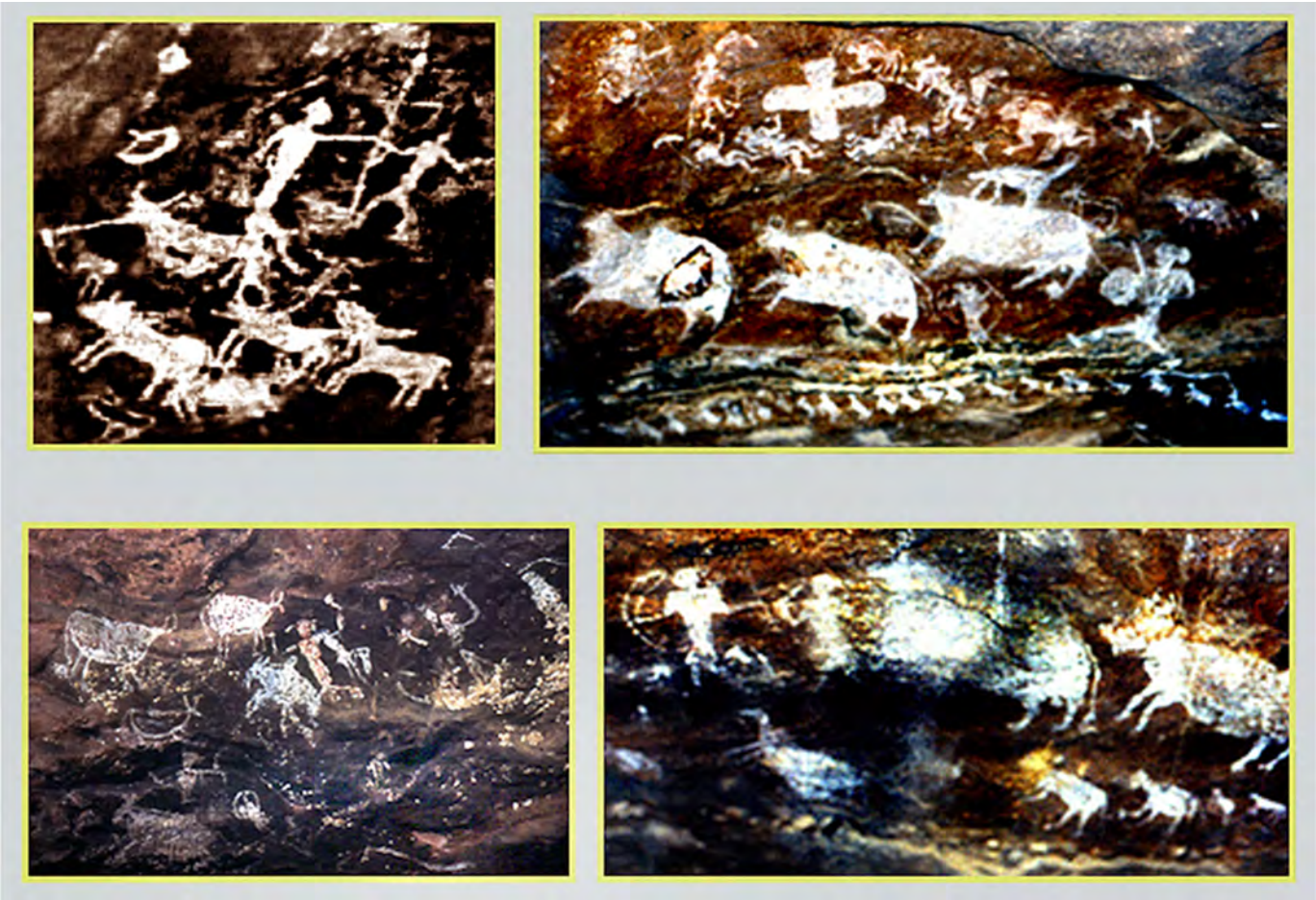


Fig 6. Pastoral community and their domesticates. Site: Pachmarhi; Madhya Pradesh.

extracted. Similar techniques are still being used by several forest dwelling tribal communities living in the same habitat.

In the hunting-gathering phase, wild animals are often shown in figurative details with their internal organs or a schematic symbolic abbreviation of them. Sometimes, on such compositions, the arrow or any such weapons are indicated as striking particular delicate and vulnerable points in their body. Such figures point to the transmission of codified images from their own knowledge-base to communicate instruction to future generations. Similar figures of animals with internal organs or X-ray painting (fig. 6) is also conspicuous in the subsequent stage of pastoral subsistence.

The earliest phase of pastoral economy is marked with the view of eliminating or killing carnivores to protect and multiply suitable domesticates and other wild varieties such as deer and wild pigs. In the beginning of domestication the attempts to eliminate predators were essential to protect them for easy breeding and uninterrupted multiplication to ensure sole human consumption. In rock art imagery, a significant number of metaphors are evident, where the security of domesticates is shown by groups of guards holding offensive and defensive weapons. Scenes of battle between two groups on the issue of the ownership of herds are also common. Domesticated varieties of certain animals are shown as arranged in line with their small progeny and even sometimes cubs are shown within their mothers' wombs to represent the social belief in the fertility cult. Methods and techniques of propagation and rearing of various domesticates and their use as resources are all narrated in rock art imagery as a source of indigenous knowledge and views. Rock art imagery is also a source for a visual data repository for understanding measures for treatment of diseases for domesticates, care techniques and how to protect the herds from plunderers and other wild carnivores. Dogs are shown as essential for hunting expeditions

Fig. 7. Battle Scenes. Site: Pachmarhi; Madhya Pradesh.

and also to protect each individual household or temporary camp. The use of dogs during fowling or hunting of birds and other aquatic creatures is not rare.

In the third successive phase of rock art battle scenes are major themes. Any glimpse of cultivation is rarely traced in a few selected sites only. In battle scenes, two similar groups in appearance, at least in their dress and ornaments, are combating each other. Use of horses and elephants in the battlefields, signifying different rank and files, groups accompanying with musical instruments, and the use of flags and umbrellas all signify the presence of a hierarchical order and an organized form of battle, where the participation of the king or nobles with ordinary hired forces are all recorded in the imagery. In battle scenes, different tactical arrangements of warriors, the use of varied weapons (no use of firearms), the figure of a leader shown as demon-king, the use of the chariot in the battlefield, incidents of head-hunting and the norm of fighting between soldiers of equal rank (figs. 7, 9) are all well illustrated as acquired knowledge through possibly direct participation and experiences.

In a rock shelter of Pachmarhi, Madhya Pradesh, in the middle part of an extensive battle scene, where slain bodies of warriors are shown as scattered all around, two vultures are shown seated on the trees as if they are waiting for a grand feast. The painted panel and its arrangement of figures indicate the ultimate lesson of what may result from rivalry and bloodbath. Such a view promotes the concept of peaceful coexistence which is definitely a valuable intellectual achievement for that pre-literate community.

One such example on contemporary votive figurines and its link with early rock art coexists in Kathotia Karad rock shelters near Bhopal, the capital of the state of Madhya Pradesh in central India. In the Kathotia Karad site, more than ten rock shelters have extensive painted galleries. In the same site, a particular rock shelter is considered as the abode of a

Fig 8. Household scenes and monkeys with honey bees and honeycomb. Site: Pachmarhi; Madhya Pradesh.

tribal deity, which is believed to cure pains and other various ailments of both hands and legs. For such diseases the local tribal villagers pray in this shrine for mystic cure. On fulfilment of their wishes, they again visit the shrine and then offer a pair of life-sized wooden replicas of both hands and legs (fig. 10) with other essentials and perform a ritual with the help of the tribal shaman or priest. In that particular site, dominant items of rock art imagery illustrate horse-riding warriors and battle scenes. During combats in battles, the possibility of losing hands and legs, or even death, is usual. From such a trauma of battle as reflected in rock art, mythical realities had emerged which encroach on the minds and beliefs of the indigenous pre-literate population. The tribal communities encounter the visual messages from the rock art most frequently and repeatedly during their regular collection of forest products, which is also a

Fig. 9. Battle Scenes. Site: Pachmarhi; Madhya Pradesh.


Fig 10. Wooden models of hand and feet as votive offerings in a rock art site. Site: Kathotia Karad near Bhopal; Madhya Pradesh.

substantial source of their sustenance. In this event, the narrative elements of folklore depicted in rock art motivate and are transmitted through generations as a living tradition. which is not lost in the passage of time and events.

The figures of horses or horse-riders are prevalent in tribal and folk art of central and western parts of India. Various votive figurines representing horses or horse-riders are an integral part of rituals, beliefs and practices among tribal societies like the Gond, Muria, Bison-horn Maria, Korku and Baigas, living in similar eco-cultural areas in the state. Among these tribal societies, the horse is considered as the most suitable seat for an honourable person and so it is the symbol of might, authority, power and prestige.

Community dance scenes and further expressions of ideal community life, household scenes, following animistic religious faith and participation in rites and rituals, building strength and solidarity among the members in different ways – all are thoroughly disseminated in the rock art imagery.

Compared with animal and human activities, in rock art imagery the representation of plants and their uses are relatively rare. It is revealed from the data that to rock artists, crisis had inspired them to perform the art activities. The plants, at least in such climatic conditions as prevail in India, during the entire Pleistocene and Holocene periods, had sufficient rainfall to influence plenty of vegetation growth. Therefore, plants were perpetual sources for food and resources for living. Therefore, human–plant interactions were least represented in rock art.

In tribal India, certain artifacts are usually identified by outsiders as art objects whereas for tribal societies they are considered as objects of utility rather than any aesthetic significance. Among Bhil and Banjara and other nomadic communities of western and central India, women essentially wear large and heavy metal bangles on both hands and feet. The design of such heavy bangles and anklets contains sharp spine-like projections as decoration all around their surfaces. This is sometimes identified as the sharp teeth of venomous snakes like cobra. Beside these ornaments for personal adoration, heavy metal pieces with sharp bristles are used by nomadic tribal women as weapons for their personal protection, security and safety. They are advised by senior women how to use them for their personal protection from attacks of forest animals or any hostile man who may attack suddenly. Thus an object which is apparently known as jewellery or an object of art may have another significance and use for the pre-literate tribal community.

Fig 11. Painted icon in a household of Lanjhia Saora tribe. District: Rayagada; Odisha.

Another example is the tattoo designs among several tribal groups from almost all parts of India, which apparently show body designs as personal adornments. Sometimes, such decorations serve as supplementary or alternatives for wearing jewellery. In actual practice, such tattooing is intimately related to tribal custom and ritual practices during the puberty rites of girls. Another use of such tattoos is for curing certain pains and other ailments that are usually recommended by witch doctors. The tribal belief is that the insertion of needles into the skin mixed with turmeric paste and extracts from margosa (neem) leaves and often the use of breast milk have the capacity to cure some diseases. Therefore, in visual embellishments popularly known as art, tradition has an apparent role, whereas its actual significance remains as a dormant or vestigial expression of an actual cognitive role influenced by indigenous knowledge.

The usual or overt form of culture is different from the actual, cognitive or covert form of behaviour common among pre-literates. The apparent significance, identified as art or aesthetic expressions, is nomenclature and ideas, ordinarily conceived and imposed by outsiders.

Another example of the dual process and expressions is more common among the Lanjhia Saora, Bondo and Khond tribal women of Odisha. Odisha state is located near the eastern coastal region. To outsiders, women maintaining the traditional customs of the three tribal groups decorate their faces with permanent marks, scars, by tattooing and the arrangement of burn-marks (sika) before the attainment of a certain age before their puberty rites. According to their tribal folklore, faces of women are deliberately given an ugly look so that no outsider men become attracted to the pretty face of their women and do not molest them. The tribal priests and shamans narrate a folk legend in which it is mentioned that the powerful raiders, a king and his soldiers of the royal army, had previously conquered the tribal region, massacred all men and continued atrocities upon women. Experiencing this, and to avoid further brutal force, the tribal elders decided to initiate the custom of making the faces of each woman ugly, frightening and repulsive to all outsiders.

In tribal art, particularly in art practices among 13 different tribal societies in parts of India, some relevant observations (Chakraverty, 2009) may be mentioned. The tribal wall paintings, more common among Lanjhia Saoras of Orissa (fig. 11), Rathvas and Warlis in western India, are ritualistic drawings depicting the sacred seats of a series of deities, departed ancestors and their souls, myths of creation, icons and their praises to fulfil their aspirations in mortal life. Such murals, in very many households are painted in the rooms and are usually not visible from outside the courtyards. Among the Saora tribe, such icons are protected in dark areas and covered by hanging seeds, pots containing water, weapons, etc. The Saora icons (fig. 11) are secret visual narratives and prayers to their propitiating deities that are strictly maintained only by the family members. All outsiders, including the neighbours, are not allowed to locate the exact deity. The idea behind such practices is that if any evil force from outsiders could identify the deity, then it might divert the deity which may ultimately be harmful for

Figs. 12a, b, c. Three views of landscape.

the family. Therefore, the inner walls of rooms and the protective coverings are essential for painting of covert icons for magico-religious purposes. Among Santals, a numerically dominant tribe in eastern India, wall paintings, with mostly decorative motifs, are more commonly found on the outside walls of their huts, signifying their prosperity, wealth and happiness, that they prepare or renovate during their annual autumn festival. Traditional Santal society maintains several customs and taboos related to witchcraft and sorcery. But wall paintings have no immediate connection with such magico-religious practices (Chakraverty, 1987). Therefore, their art is more communicative and open to all viewers. In addition to that, in eastern India, Santal art practices sometimes visually narrate their symbols of tribal identity, myths of creation, their glorious past and historical episodes of their battle for freedom against the forces of the British imperial army.

It is also relevant that in tribal sacred groves in India, terracotta or metal votive figurines are placed as offerings after the fulfilment of expectations and hopes. The figures of horses and elephants are the most common votive figurines present throughout the entire length and breadth of India. The uniqueness of village sacred groves is that a particular type of figure is repetitively found in clusters within a limited space where the range of variation of form is least. Sometimes, in rock art sites, such an overwhelming presence of a particular type of figure within a distinct locality or region is very common.

For a proper understanding of the views on indigenous societies and their acquired knowledge through generations, both verbal and non-verbal evidence must be accumulated. These studies in totality may reveal the significance and continuity in art tradition,

if any. Therefore, evidence of early rock art and similar performing traditions of ethnic art are both to be conceptually considered as the polar ends of a unique uninterrupted tradition.

Compared with other archeological evidence, rock art imagery is more direct, dependable evidence of the past, which may reveal the life opportunities, world views, belief pattern, norms and aspirations of society. The visual narrative may explain both overt and covert aspects, natural and supernatural means for their livelihood. Such interpretations revealing their society and culture are less complicated and more decipherable when the rock art imagery is realistic or naturalistic. Such sites portray the arrangement of panels containing visual narratives and episodes containing combinations of various figures based on a common theme. But non-figurative motifs and abstraction of forms, signs and symbols also coexist in rock art. The interpretation of such symbolic forms and icons is another challenge for deciphering rock art. A general pan-human methodology should be evolved based on site considerations.

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# The intellectual and spiritual expressions of a nomadic tribe, the Birhor (of Hazaribagh, Jharkhand, Eastern India)

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The Birhor are the most primitive tribe in India. Interestingly, they associate themselves with Lord Rama and his sojourn in the forest (Ramayana), and I have recorded their version of the epic. Their physical aspect is primitive, with long arms and bent bow-shaped short legs prominent in the men, but less so in the women. Older men and women have a pronounced stoop, probably due to carrying heavy hunting nets and string bags of forest produce on their daily trapping and foraging expeditions. H. Paddington compared them to the Orang-Hutan ape of the Malay peninsula (*Journal of the Asiatic Society of Bengal* 34, 1855, pp. 207–10). The name Birhor comes from the Mundaric words *bir* for forest and *hor* for man.

I have personally made a long and deep study of the primitive art of this tribe and find in it forms remarkably similar to our region's Mesolithic rock art (frogs, nets, magical human figures, animals and birds but no fish; trees with monkeys, enigmatic symbols such as concentric circles, land and plant forms in iconic capsules, etc). The Birhor claim their ancestors painted our region's rock art. Today they draw in the dust of the earth with sticks, or with charcoal on the walls of whitewashed government housing. They believe the frog or toad has magical powers and it is recorded that people having connections with toads have an unusual power over animals. That this remarkable jungle people are still living a Stone-Age lifestyle in the jungles of Hazaribagh is a unique opportunity to study them and their beliefs, which I have done in a monograph on their lifestyle, sacred beliefs, hunting and gathering techniques, art and songs, dances, and an in-depth study of their ethnobotany, which is based on the roots of plants on the forest floor, barks and epiphytes, charms and medicines from ground bones of certain small animals and birds, and the significance of black and white fowls for sacrifice by a medicine-man (*mati*).

They worship land forms. There is a recumbent landscape figure (RLF) in the form of a female lying on her back on the hill of Sitagarha, called Jul-jul by the Birhor, not far from Hazaribagh town, a settlement once surrounded by forests. Jul-jul means

Fig. 1. Birhors with their catch (Old photo 1970s).

Fig. 2. Building the Kumba or leaf house (Danua Tanda).

to light a fire, and at certain times of the year like the spring during April they gather to worship it. Birhor worship has very little ritual. On the south side of this hill on which the figure reclines due east to due west with the head in the west, on the south side of what would be the stomach or abdomen there is a 70-ft tall stone distinctly resembling a male human face which they worship as Mahadeva or Shiva. Once I met one of the old medicine women of a nearby Birhor settlement, under whom for many years I studied their ethnobotany. It was in the afternoon and there was no one else on the jungle road when she folded her hands and pointed to this stone face solemn in the light of the evening sun and told me with a voice full of awe, 'Mahadeva', as if the stone would come to life. During the first full moon of the month of May the Buddha-Purnima is celebrated by the Santals and other non Buddhist tribes, and at this time the local people at the foot of the hill go to the top of this stone head and offer rice milk to the rising moon. This is a forest through which the Buddha passed and Buddhist relics are to be found in every part of the hill. The memory of the forest god Shiva Mahadeva and the Buddha merges.

Today the Birhor are increasingly exposed to highways being built through their forested territory. A couple of years ago I visited a settlement (*tanda*) not far from the highway where the government was trying to resettle them in cement houses. Looking about the settlement for the worship site I found it in a small cleared space amidst the dense lantana bushes *(lantana camera)* and to my great surprise in the centre of this cleared patch was a huge nut and bolt smeared with red vermilion. Upon my questioning one of the men told me they had found it on the side of the highway and had brought it to worship it. An unknown power is a god!

I am fortunate in having spent most of my life on and off in intimacy with this tribe, of which I am very fond for their great knowledge of animal and bird ways and forest plants, and whose songs which I have recorded are among the simplest and most direct examples of expression. The Birhor sleep on the bare earth in leaf huts, or *kumba* as it is called. Their visual perspective is always from the ground up and in the middle of the circle is a pit where a fire is always burning, with the family including the dogs and may be a goat or pet forest animal sleeping around it. Most *kumbas* contain

a bamboo cage with a parrot or a partridge used to decoy other partridges when trapping.

When a Birhor child is born the afterbirth is taken out of the *kumba* from a hole in the rear. The same sort of thing happens when a man or woman dies. There is no clear idea of a belief in rebirth, but it strikes someone now and then if a child is born about the time an old man dies that the old man's spirit has entered the child. But there is no set religious belief in these matters. They believe that life is breath and that when breath ceases life ceases, but that wherever the breath goes life goes with it, and this is shown in the creation legend in which the first man and woman are made by the creator Singbonga (sun god) out of clay and he blows breath into their faces and so they become alive and continue to raise progeny. This first man and woman were Nanga Baiga and Nanga Baigin. *Nanga* means naked, and *baiga* is a term used for a medicine man, also a well-known tribe of central India; but above all it means 'man'.

The Birhor are not particularly given to decorative bodily tattoos which are an expensive luxury their more affluent agricultural neighbours indulge in conspicuously, but the belief exists among these people that the tattoo can identify a person in the after-life, which means they must have some concept of an astral life. I think this is very important, because the idea of an astral life is an advanced Hindu idea, and very likely they heard about it from their Hindu neighbours. The Birhor do believe that there is life and soul in all things, in plants, trees, water, etc, and that in the stone lies the eternal, the deity all must worship. The worship of the spring flowers at the Sarjom festival (Sarhul) and the bathing in the sacred springs where a stream starts, and the deep caves where some markings of the ancestors may be found are for them places of worship. And who would not worship here?

Their knowledge of ethnobotany is vast and I spent 20 years understanding its principles in a rudimentary manner, but I could make out certain principles such as the sickness and the shape of the root or the nature of the bird or animal whose bone or hair was used in the treatment having an esoteric connection. The black or white birds sacrificed, the number of peppercorns or quantity of rock sugar added might have been mere indulgences. But there is some connection physically in shape or substance between sickness and medicine, for example anti-venom roots are snake-like; medicine

Fig. 4. Sultana Tanda-Birhor women making plam leaf mats.

Fig. 3. Hunting Scene showing animals trapped in the net (crayons on art paper).

of hydrocile are yams resembling testicles; the root for arthritis is arthritic in shape, and so on. But the fact of the medicines working is proved by the large number of clients a Birhor medicine-man or medicine-woman has in the marketplace where they sell their dried roots on market days.

I have not found a common tradition between the soul and a bird such as between the soul and the peacock among the Marias of Chhatisgarh. They make no memorials to their dead. They cremate if possible, when not possible they bury. There is no hard and fast rule. No memorials are erected. I do not think they believe in an individual soul. These people live a very hard subsistence foraging life and have absolutely no luxuries except shade from sun and rain, food, warm clothing and clean drinking water. Their lives are elemental, so elemental that the sacred itself can be considered a luxury. And here we come to the bottom line of man's existence from earliest times and the most urgent duty to sustain life itself, and from which all later civilized social manners, customs and beliefs followed.

Because of the very rareness of such primitive societies vulnerable to the sweeping industrialization and changed environment, we are on the point of losing one of the last living indicators about the past of our race. With regard to the transmigration of the soul not a single Western authority to my knowledge has commented on it in such primitive tribes. There is a lack of mention of beliefs in the transmigration of the soul in primitive societies by Western theosophists of the 19th and 20th centuries with regard to primitive Indian tribes, nor is there any mention of the religions of these people which are basically forms of animism, and ancestor and nature worship. Their beliefs have been suppressed under the tide of vedic and brahmanical religious teachings which allow no place for tribal beliefs. However, Buddhism did not deny the primitive tribal beliefs which lie at the roots of Buddha's teachings. Although denying the existence of the personal soul or ego, the belief in karma was seen as an existential human phenomenon of the race rather than the individual in the Buddha's own words. This has been altered and adapted by the different schools which appeared in Buddhism. There is a story of the Buddha one day when as a wild hare he met

a hungry Brahmin to whom he offered his body as food, saying, 'Collect wood and light a fire and I will roast myself and you may eat me.' Does this then not bring to mind the old Birhor tradition of an old dying Birhor offering his body as food to his hungry family? Once when I was speaking to an old Birhor medicine-man, I brought up the matter of this old tradition which the Birhor still remember and I told him the above story about the Buddha, to which he replied 'Then what is wrong with it? Mahadeva understood the ways of animal and man and that the body has to one day die and it will make no difference.' The jungle in which we were speaking was not far from the great centre of Bodhgaya where the Buddha experienced his realization or nirvana. As I have noted earlier, the Birhor call Buddha Mahadeva. The teaching of the Buddha is that there is no personal soul and that it is but a part of the world soul which is the animate force of nature. The songs which I recorded of the Birhor in Hazaribagh include a ritual mortuary song sung when a person dies which tells of the return of the soul to the over-soul,

Without It I cannot live,
Without It I have to die;
Both of us are one – Body and Breath,
In life It is in me, in death with It I fly.

The foundations of the Indian spiritual culture have their sources in the primitive societies of the subcontinent. Buddhism and perhaps Jainism of all India's religious sects have drawn most heavily upon these original sources of Indian culture. Buddhist spiritual culture was moulded on the nomadic system of seasonal settlements or shifting of abodes of the monks carried on in the Sramana tradition of wandering mendicants. Attachment to material things, even the body, was denied as a requirement for finding the truth, self was denied and the life of the mind was idealized. All attachments were rejected as untruth. This view of the world and the natural events of a mortal existence were accepted.

The intellectual and spiritual expressions of pre-literate societies express these truths in their recorded traditions and their way of life is the highest expression of adherence to these fundamental beliefs. The idea of karma or reward or punishment for personal actions among the Birhor is not related to rebirth, but is expressed in the idea of the good or evil that will affect the tribe as a whole because of their actions. This is the highest teaching of Buddha and he could only have found it among these simple people. With regard to their idea of life I will recount a talk I had now over 35 years ago with a wise old medicine-man named Babulal who was teaching me their ethnobotany. Babulal Birhor told me that the breath we inhale and exhale mixes with the breeze that mixes with all the winds of the world and gives life to everything which lives. He said that when breathing ceases in death it returns to the great soul of the world *(anima mundi),* the whirlwind which the Birhor call *baliman.* This idea of the wind being the soul prompted me to ask this wise old man what connection there might be between the breath of life which he so eloquently spoke of and the breath which forms itself into words through which we express our thoughts. He told me that as the breath flows in the spring season from the throats of songbirds in the mating season or of young animals seeking their mothers or of mothers seeking their lost offspring, they were all natural expulsions of breath through emotional sounds and that in this way people first heard the animals and birds begin to use words and those sounds they left as signs. Later they learned to make signs which the eyes could see and so they began making marks on the earth or on stone which they associated with expressions of their feelings, and these developed into what we now call rock art so that others seeing them could understand what had been spoken. Rock art is spoken visual sound. This observation for me was to be taken literally, since the Birhor, like the Bushmen, associate rock art with the works of their ancestors. They place great significance on markings, be they the tracks of creatures or their own markings, and this is important to note in a people who still do not read or write. These words of Babulal Birhor made me wonder at his deep understanding of the development of speech into physically visible forms in rock art or elsewhere made by primitive people. We know the importance of rock art, in conveying to us even thousands of years after the breath of the artist ceased, what he was trying to express.

# Colonization of the upper Miera and Asón Valleys (Cantabria, Spain) in the Late Pleistocene and the Early Holocene.

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## Introduction

This paper describes the colonization of the upper parts of the Miera and Asón valleys in the centre of Cantabria in the Late Pleistocene and Holocene. These high valleys were glaciated in the Ice Age (with glaciers in the Upper Miera, Valdició and Bustalveinte). The terminal moraines are located at altitudes of 500 m in the Miera valley and 300m in the Asón valley.

Here, the chronological sequence of the occupation at altitudes of 300–800 m is discussed. Although these are not especially high altitudes, the relief is characteristic of a high mountain area, owing to the geomorphology of the area, with its rugged peaks, steep slopes and karst landforms.

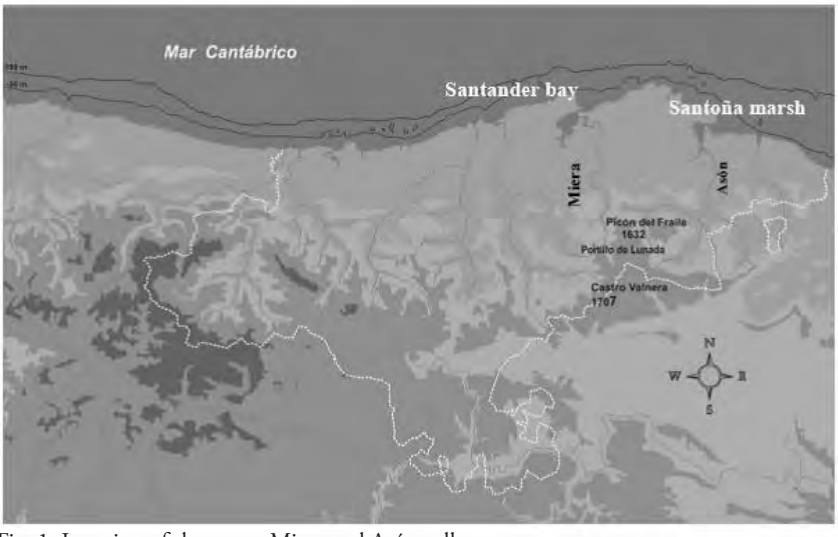
The settlement patterns are analysed by taking into account the variables of absolute altitude, distance from the coast and local topography. The settlement types, their relation with the landscape and the resources available in the different biotopes are also assessed.

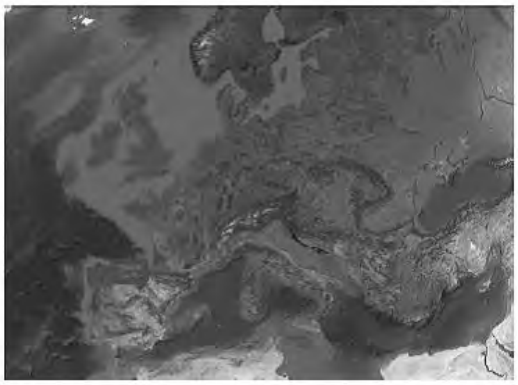
## 1. The geographical setting

The heads of the Asón and Miera valleys are located in the centre and east of the region of Cantabria, in the north of the Iberian Peninsula. This region is characterized by a narrow coastal strip bounded to the south by the Cantabrian Mountains and divided by valleys generally orientated at right angles to the coast. The Cantabrian Mountains form a range uplifted in the Alpine orogeny, and can be regarded as the continuation of the Pyrenees (Marquínez, 1992). In the area of the Miera and Asón rivers it is a very rugged area, although the highest peaks only reach moderate altitudes: Castro Valnera (1,718 m), Picón del Fraile (1,625 m) and Porracolina (1,414 m).

The mountain range is on an east-west orientation, as both the mountains and the pre-littoral hills generally run parallel to the coast, conditioned by 'the alpine tectonic movements that divided them into blocks' (Cearreta et al., 1992).

On their northern side, the mountains form a massive barrier at over 1,200 m altitude, only 25 km from the coast. These geomorphologic conditions, differences in altitude and the proximity to the sea influence the local climate, which is an Atlantic mountain climate with heavy precipitation totalling over 2,500 mm/year. Some indicators of even higher rainfall on the summits include the peat bogs (on slopes, summits and cols) which need precipitations of over 3,000



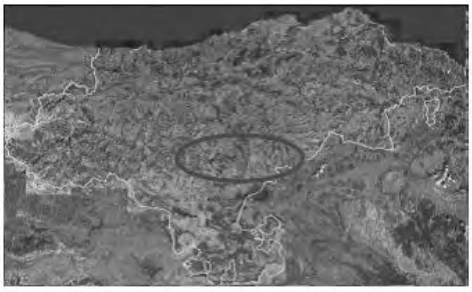


Fig. 1. Location of the upper Miera and Asón valleys.

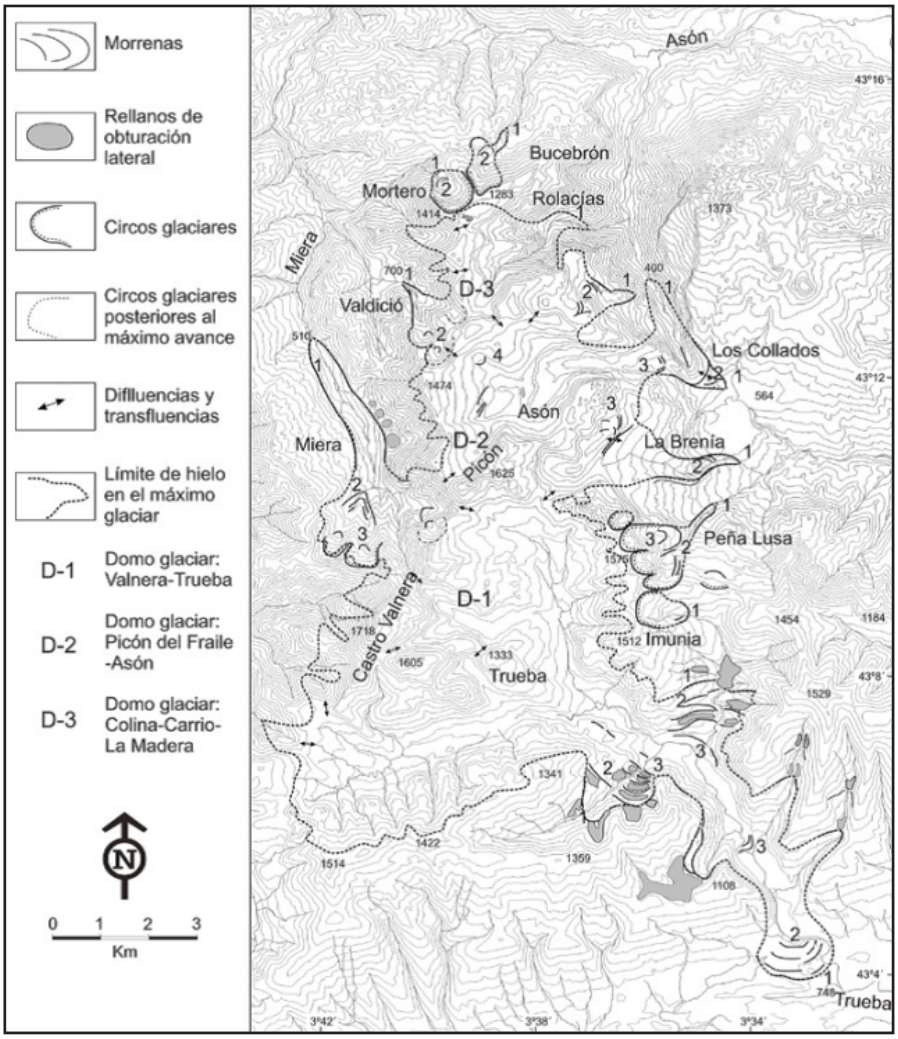



Fig. 2. Glaciers and the extension of the ice (after Serrano et al., 2103).

mm/year to develop (Martínez-Cortizas and García Rodeja, 2001). Horizontal precipitation is guaranteed by the frequency of low clouds. These conditions also existed in the Pleistocene, with intense cold due to the altitudes and extreme humidity owing to the effect of the mountain barrier near the sea (Serrano et al., 2013).

The whole area is within the Aptian-Albian Urgonian structural region (Lower and Middle Cretaceous), with beds more than 1,000 m thick over the Wealden detritic series consisting of clays and sands, which act as the impermeable base to the karst landforms in the higher strata. The presence of limestone in the whole Urgonian series has resulted in karst development (dolines, poljes, extensive lapiaz, pot-holes and caves), together with outcrops of high limestone escarpments. The direction of the strata and faulting has caused the transfer of water from the Mediterranean basin to the Atlantic (Ruiz García, 2006).

On this substrate, glacial erosion has created very abrupt landforms, with steep slopes and narrow secondary valleys, shaping a mountain landscape, despite the moderate altitude.

## 2. Glacial morphology

In the geographical area of the present study, the largest glaciers were located in the massif forming the heads of the Miera and Asón rivers, culminating in the peak of Castro Valnera (1,718 m). They left the evidence of glaciation at the lowest altitudes in the whole Cantabrian Mountains.

The central sector consisted of a large icefield on a SW-NE axis (fig. 3) consisting of three coalescent sectors or domes (Valnera-Trueba, Picón del Fraile-Asón and Colina-Carrio-La Madera), out of which several glaciers developed (Trueba, Miera, Asón, Brenía, Saco, Rolacías and Valdició, among the largest). In addition to these three domes, four individual glaciers formed

| Glaciation | Valnera-Miera 1717 masl | Picón del Fraile-Asón 1625 masl | Colina-Carrio-La Madera 1414-1434 masl | Chronology |
|---|---|---|---|---|
| Local Last Glacial Maximun (LLGM) **76,5 km2** | **Glacier Miera**<br>Length: 5 km<br>Thicknesh: 70 m<br>Altitud: 650 masl<br>(El Toral)<br>**Glacier Valdició**<br>Altitude: 680 masl | **Glaciers Asón**<br>**Collados, Gándara**<br>Altitude: 300 m (Lower in P. Ibérica)<br>**Glacier de Brenia**:<br>Length: 5,3 km<br>Altitude: 500 masl<br>( Quintana)<br>**Bustalveinte.**<br>Length 9 km<br>Altitude: 340 masl | Glacier Rolacías<br>Thickness: 100 masl<br>Altitude: 450 masl<br><br>Glacier Hoyón de Saco | 78.54 ±7.1 ka to 40.42±5.1 ka,<br><br>Early Würm MIS5-MIS 4 (Frochoso, *et al*, 2013) |
| Isolated Glaciers | **Mortero** | **Inmunia**<br>**Lusa** | **Porracolina** | Soba: 44,978±2,365-37.5 ka<br>Heinrich IV event. MIS 3<br>(Frochoso, *et al*, 2013) |
| Tongue Disjunction Phase (TDP1) | Ice fields | Ice fields | Ice fields<br>**Carrio- La Madera Colina** | 27 ka- 25 ka<br>(Frochoso, *et al*, 2013) |
| Tongue Disjunction Phase TDP2 | Cirque glaciers<br>**Valdició** | Cirque glaciers<br>**Rolacías** | Cirque glaciers<br>**Asón** | 21 ka- 18 ka.<br>(Frochoso, *et al*, 2013) |
| Late Glacial Phase (LGP) | | | | 14.5ka-10 ka. MIS 2<br>(Frochoso, *et al*, 2013) |

Fig. 3. Glaciation phases in Castro Valnera: heads of the Asón and Miera valleys.

around the icefield, beneath certain sheltered crests, resulting in small glaciers of the alpine type (Peña Lusa) or in cirques (Mortero, Bucebrón and Imunia). The ice covered an approximate area of 76.5 km$^2$, one of the largest extensions in the Cantabrian Mountains (Serrano et al., 2013).

The exceptional glaciation of Castro Valnera can be explained by the conjunction of particularly favourable climate and geomorphologic conditions. Its northern slope formed as many as seven glaciers of different sizes during the glacial maximum. Some of them were very simple, on summits below 1,500 m above sea level (Alto de la Mina, 1,414 m, Cerro de las Pizarras, 1,472 m, Alto de la Colina, 1,458 m) which did not develop glaciers longer than about 2 km. Others, formed at altitudes of over 1,500 m, formed glaciers in the valleys. Among these, the upper Miera valley was occupied by a simple glacier that descended to 580 m above sea level over a distance of a little less than 6 km. However, the development of the Bustalveinte glacier complex is even more surprising; turned clearly towards the east, its ice was joined by the glacier in La Canal, and after partially overflowing towards Soba, it fell into the Asón Gorge, with its terminus at a very low altitude (300 m), 9 km from its head (Frochoso Sánchez and Castañón Álvarez, 1998: 124).

### *2.1. Evolution and chronology of the glaciation*

Four phases can be differentiated. The first and oldest of these took place in the glacial maximum, when a single glacier about 5 km long and 80 m thick would have existed, with its ablation or melting zone at an altitude of about 620 m or 630 m above modern sea level. This is dated between 78.54 ± 7.1 and 40.42 ±

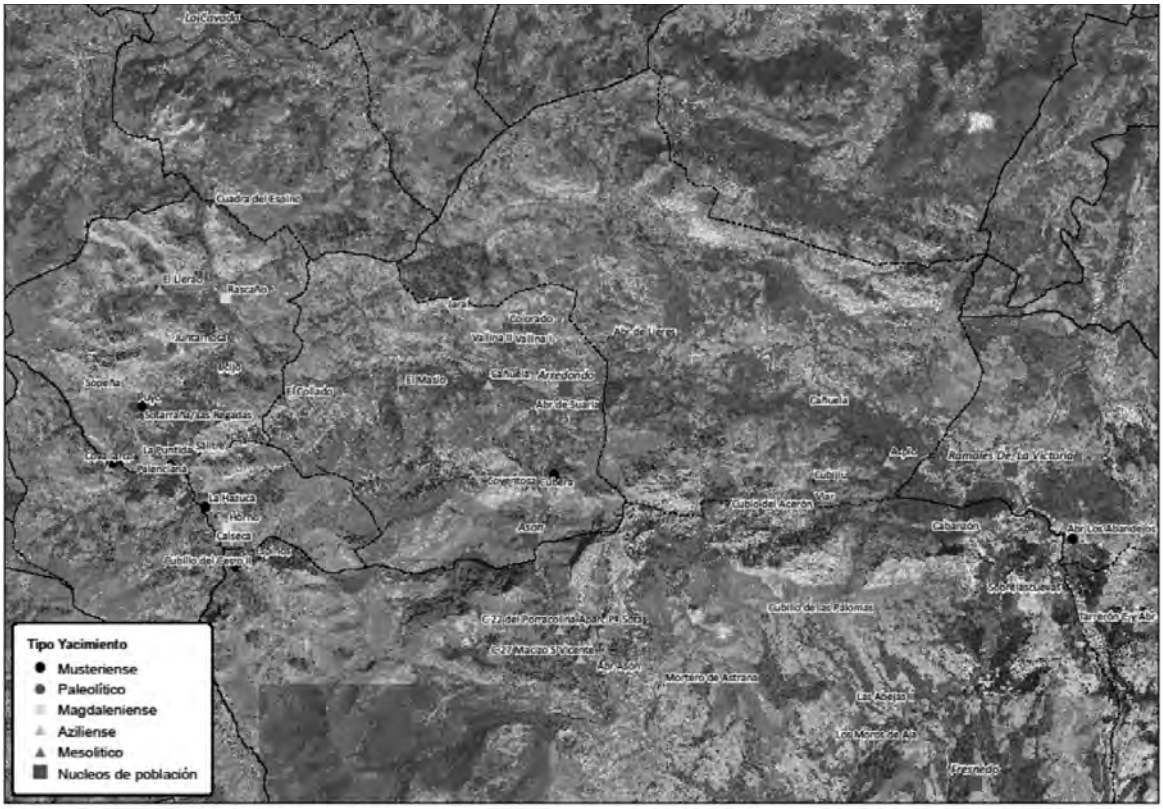



Fig. 4. Spatial distribution of sites in the upper Miera and Asón valleys.

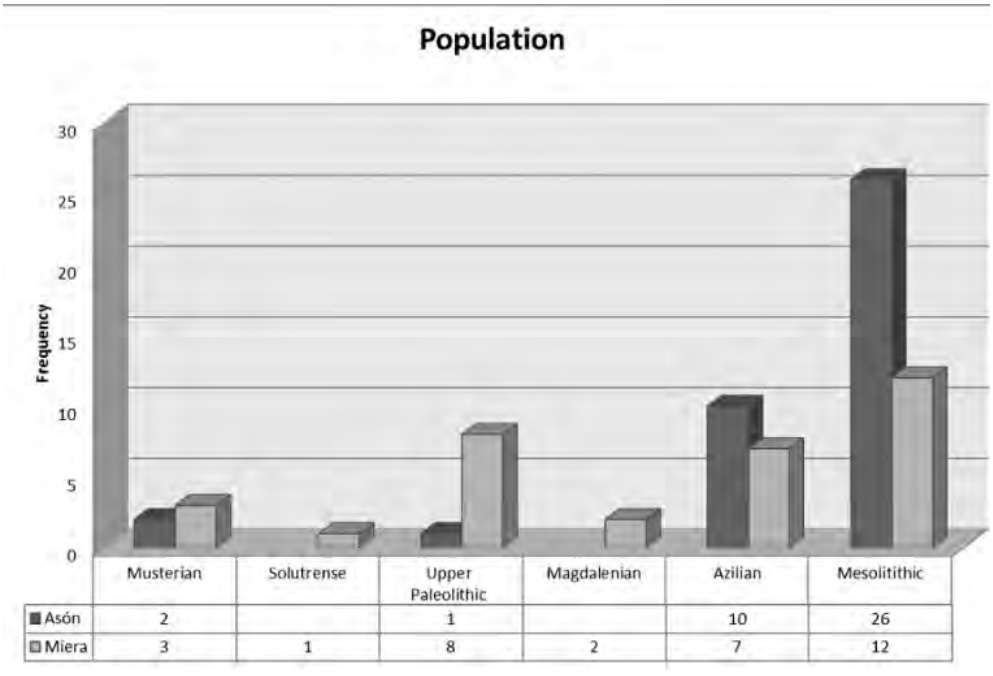



Fig. 5. Frequencies of settlement types.

5.1 ka (Frochoso et al., 2013). During the intermediate phase, the surface covered by the ice would have been limited to the heads of the valleys, the glacier would be reduced to a length of 1 km and the zone of ablation would be at about 850–900 m altitude. It is dated to between 44,978 ± 2,365 and 37.5 ka (Frochoso et al., 2013). the lateral moraines visible at the head of the valley formed probably in the second phase. In the final, most recent phase (about 10,000 years ago), the ice was limited to the cirques that can still be seen at the head of the valley with their corresponding terminal moraines, the result of the last cold periods.

| Levels | Dates BP | Climatic phases | Adscription | References |
|---|---|---|---|---|
| 9-7 | 27.000/27.240± 950 | Cold Pfase bef. Interestadio Tursac ISO2 | Aurignacian | González Echegaray y Barandiarán Maestu (1981) |
| 6 | | Interstadial Lascaux: Temperate and humid | Sterile (10.000 años) | González Echegaray y Barandiarán Maestu (1981) |
| 5 | 16.433 ± 131 BP | Interstadial. Lascaux: Temperate and humid | Low Magdalenian Cantábrico | González Echegaray y Barandiarán Maestu (1981) |
| 4 | 15.988 ± 193 | Dryas I. Cold and dry | Low Magdalenian Cantábrico | González Echegaray y Barandiarán Maestu (1981) |
| 3 | 15.173 ±160 y | Dryas I/Prebölling: Humid and cool | Upper Magdalenian | González Echegaray y Barandiarán Maestu (1981) |
| 2.2 | 12.896 ± 137 BP | Interstadial Bölling: Cold and humid | Upper Magdalenian | González Echegaray y Barandiarán Maestu (1981) |
| 2.1 | 12.282 ± 164 BP | Dryas II: Cold and humid | Magdalenian End | González Echegaray y Barandiarán Maestu (1981) |

Fig. 6. Upper Palaeolithic settelement: chronology, climate and cultural attribution.

## 3. Settlement

The settlement at the heads of these valleys was undoubtedly influenced by the paleo-environment resulting from the glacial and peri-glacial conditions. The large icefield maintained low temperatures in the surrounding area. No Lower Paleolithic sites have been documented in the upper valleys. The earliest evidence of occupation to be found is in Avandejos rock shelter (Ramales de la Victoria) at 345 m above sea level in the Asón valley. It contains a Mousterian deposit with an abundant lithic assemblage displaying Levallois debitage. It is located near Cueva del Mirón, where a radiocarbon date of 41,280 BP has been obtained (Straus et al., 2002), corresponding to the Hengelo Interstadial. Deposits in other sites have been considered Mousterian: at Cerizal (Arredondo, Asón valley) and at La Hazuca (425 m), Sotarraña (571 m) and Cueva Vieja rock shelter in the Miera valley. They display the characteristic industries and fauna (*Bos-Bisón, Capra pyrenaica* and *Equus caballus*).

### *3.1. Settlement in the Upper Paleolithic*

Evidence of occupations of this age is concentrated in the Miera valley. Cueva de Salitre (Ajanedo) on the eastern side of the valley, at 480 m above sea level and 80 m above the river, was discovered by L. Sierra in 1903, when the deposit and parietal art were found. Alcalde del Río, Breuil and Sierra (1911: 24) identified lithic implements belonging to the Solutrean and 'other Upper Palaeolithic periods'. Obermaier (1925: 173) cites evidence for the Aurignacian, Solutrean, Magdalenian, Azilian and 'other Upper Palaeolithic periods'. In 1979, Bernaldo de Quirós and V. Cabrera performed a test excavation (unpublished), in which they revealed a thick stratigraphy with a Solutrean point and fauna (*Capra ibex* and *Equus caballus*).

In Cueva del Rascaño (Mirones, 275 m altitude), the scientific study of the stratigraphy, including palynological and sedimentological data and radiocarbon dating (Echegaray and Barandiarán, 1981), succeeded in determining the climate fluctuations during the Upper Paleolithic. Although located at a moderate altitude, the cave is on a very

| | Altitude | Dates BP | Cal. BP | Estadio | Adscripc. | Bibliografía |
|---|---|---|---|---|---|---|
| Sopeña L. 3.2 Miera | 684 | 11730 ± 70 | 13611 ± 140 | Alleröd | Azilian | Pérez Bartolomé, M. (2011) |
| Sopeña L. 3.1 Miera | 684 | 11630 ± 70 | 13521 ± 141 | Alleröd | Azilian | Pérez Bartolomé, M. (2011) |
| Llerao L. 1 Miera | 395 | 11120 ± 60 | 13020 ± 126 | Alleröd | Azilian | Pérez Bartolomé, M. (2011) |
| Rascaño De L. 1.3 Miera | 275 | 10.486 ± 90 BP | 12399 ± 199 | Dryas: Humid and cold | Azilian | González Echegaray; Barandiarán Maestu (1981) |
| Rascaño L. 1.2 Miera | 275 | 10.558 ± 244 | 12339 ± 346 | Dryas III: Cold and dry | Azilian | González Echegaray; Barandiarán Maestu (1981) |

Fig. 7. Azilian settlement: chronology and climate.

steep slope in an area of quite rugged relief. It was occupied in the Aurignacian about the Tursac interstadial, and in the Magdalenian, mainly in the Lascaux and Bølling interstadials.

Evidence of indeterminate Upper Paleolithic occupations has been found in the caves of Ucijo in the Miera valley (360 m altitude), and Sobrelascuevas (341 m) and Cerizal (420 m) in the Asón valley. Levels attributed to the late Magdalenian were excavated in El Puyo rock shelter (Miera, 575 m).

*3.2. Azilian occupations*

About 11,800 BP, climatic amelioration in the Allerød oscillation signalled the end of the Ice Age with milder and more humid conditions. The rise in temperature, following the cold dry phase of the Older Dryas, caused a rapid spread of tree cover. These changes in the paleo-environment had immediate consequences in human settlement. The highest areas and secondary valleys, remote from the main valley, began to be colonized. A total of 17 sites have been documented with evidence of Azilian occupation, although only five radiocarbon dates are available, two from Cueva del Rascaño (Echegaray and Barandiarán, 1981) and three obtained in the Project 'Radiocarbon dating in the Miera valley' (Pérez Bartolomé, 2011).

*3.3. Occupations in the early Holocene*

The Holocene began around 10,200 BP, in the pre-boreal period, with a rapid rise in temperature, which produced major changes in the landscape, biotopes and sea level, which reached a height of -20 m in 8500 BP and a level higher than at the present time about 6800 BP. The modern estuaries began to form about 8900 cal BP. This meant that a strip of land about 2 km wide was lost along the coast. In contrast, land was gained as it became free of ice, as this disappeared about 10,000 BP, which explains the human expansion towards the upper valleys, attracted by the resources of hunting, fishing and gathering plants in the new biotopes.

Archaeological surveys in the Upper Asón and Miera (Ruiz Cobo et al., 2007 and 2013) have located 26 sites in the Asón and nine in the Miera attributed to the Mesolithic. The criteria used have been the presence of levels with accumulations of terrestrial molluscs or Holocene marine molluscs, associated with fauna, charcoal and lithic artefacts, the stratigraphic position and sedimentology (Ruiz Cobo et al., 2007).

Of these sites, the most precise data have been obtained for two deposits in the Asón valley: the excavation in Cueva de Tarrerón (Apellániz, 1971) documented a lithic assemblage and radiocarbon dates, while a further date was obtained at Cubera rock shelter (Pérez Bartolomé, 2006).

In the Miera, the only test excavation was carried out in Cueva de Sopeña (Pérez Bartolomé, 2011) when three AMS radiocarbon dates were obtained. The anthracological and malacological remains found have been studied by P. Uzquiano and J. Ruiz Cobo, respectively, while the fauna is in the process of being studied by A. Morales (UAM). No lithic artefacts were

| Sites/Levels | Altitude | Dates BP | Cal. BP | Estadio | Adscripc. | References |
|---|---|---|---|---|---|---|
| Cubera L. 1 Asón | 175 | 9190 ± 60 | 10372 ± 86 | Preboreal | Mesolithic | Pérez Bartolomé, M. (2006) |
| Sopeña L.2 Miera | 684 | 8460 ± 100 | 9431 ± 94 | Boreal | Mesolithic | Pérez Bartolomé, M. (2011) |
| Tarrerón L. 3 | 345 | 5780 ± 120 | 6590 ± 130 | Atlántico | Mesolithic | Apellániz, 1971 |

Fig. 8. Mesolithic occupations: chronology and climate phases.

found in the stratigraphic levels, owing to the erosion suffered by the site, as the cave has acted as a sink-hole at certain times, causing the removal of sediment.

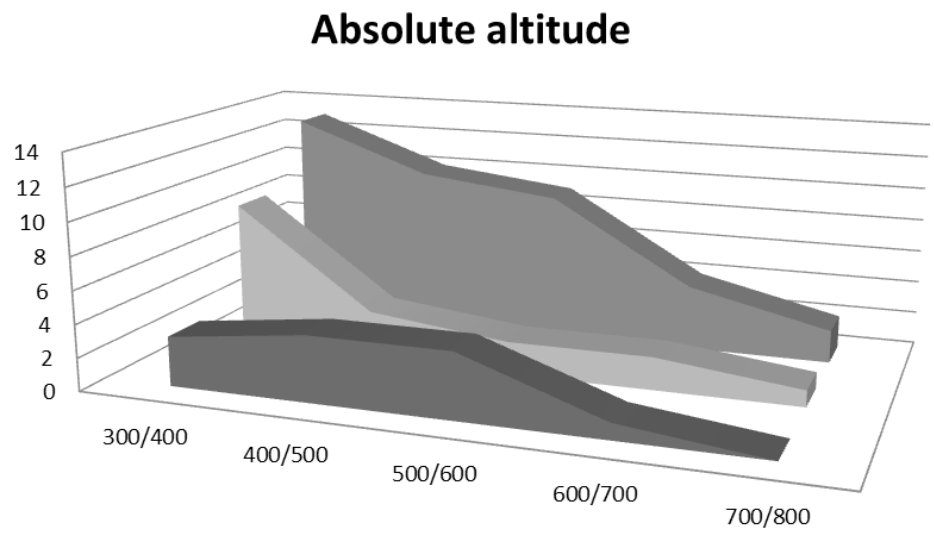
Cubera rock shelter (Arredondo, Asón valley), located above the Cubera resurgence next to the River Asón, is included despite its low altitude (175 m) because it is situated in a rugged area, where the river crosses a series of bluffs, and it is therefore an area of cliffs and escarpment. It has also yielded the only radiocarbon date near the Asón Col, the furthest point the glaciers reached. The site was identified by Chaline (1961). A review of the stratigraphy and sampling for the determination has been able to show the following levels:

Upper level, about 15–20 cm thick formed by a calcited shell-midden layer with *Cepaea nemoralis* and faunal remains (*Capra pyrenaica* incisor). It has been dated to 9190 ± 60, a more recent date than one obtained in Cueva del Mirón of 9550 ± 50 (Straus and González Morales, 2003) attributed to the Mesolithic.

Lower level, the continuation of the previous level, about 20 cm thick, calcited but with no evidence of a shell-midden, with abundant osseous remains and rounded limestone scree.

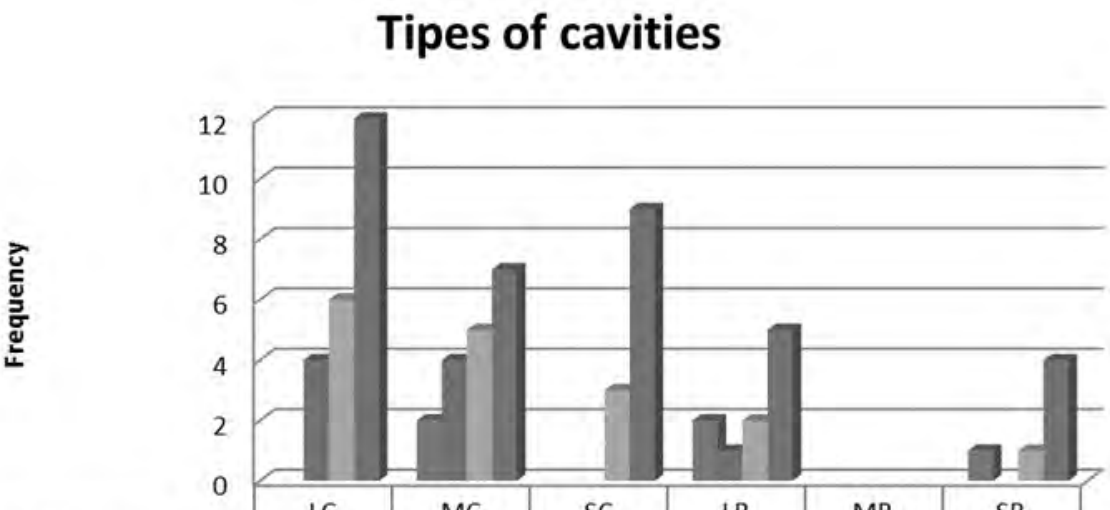
Base level, a fluvial terrace level, with limestone and sandstone cobbles in a sandy substrate.

Chaline identified two layers with molluscs. It is possible that the later erosion suffered by the rock shelter has removed part of the stratigraphy. This would be coherent with the Azilian objects found on the surface and deposited in the Museo de Prehistoria y Arqueología de Cantabria: a carenated endscraper in radiolarite, and a backed bladelet and Azilian point, both in flint.




| | 300/400 | 400/500 | 500/600 | 600/700 | 700/800 |
|---|---|---|---|---|---|
| Paleolithic | 3 | 4 | 4 | 1 | |
| Azilian | 9 | 3 | 2 | 2 | 1 |
| Mesolithic | 13 | 10 | 9 | 4 | 2 |

Fig. 9. Distribution of the sites according to their altitude.




| | LC | MC | SC | LR | MR | SR |
|---|---|---|---|---|---|---|
| Mousterian | | 2 | | 2 | | 1 |
| Upper Paleolithic | 4 | 4 | | 1 | | |
| Azilian | 6 | 5 | 3 | 2 | | 1 |
| Mesolithic | 12 | 7 | 9 | 5 | | 4 |

Fig. 10. Frequencies of cave typology.

The date obtained in Sopeña Level 2 (8460 ± 100) situates the occupation in the middle of the Mesolithic. The one for Tarrerón Level 3 (5780 ± 120) (Apellániz, 1971) corresponds to a very late phase.

**4. Settlement: variables**

The position of the sites is analysed by taking into account the variables of altitude, distance from the coast in connection with the use of resources, type of cave and orientation.

*4.1. Absolute altitude*

It can be seen that Paleolithic sites are located mostly at low and medium altitudes. In the Azilian, settlements reached higher altitudes in the Upper Asón valley, following the climate amelioration and melting of the glaciers. The highest areas with the most difficult access were colonized, such as the caves of Cubillo de las Palomas (770 m) and Mortero de Astrana (720 m). Also, in the more rugged areas, El Masío (485 m), Cueva 22 de Porracolina (484 m and scarcely inhabitable), Cueva 27 in San Vicente Massif (484 m) are considered temporary hunting sites because of their position and isolation.

Mesolithic deposits sometimes overlie Azilian occupations (Sopeña, Cubera, Cañuela), but a gradually advance is seen in the occupation of new habitats in all altitudes, more intensely at the head of the Asón valley, whereas in the Miera, the occupations spread to secondary valleys to the west of the main valley (Juntarnosa, La Veguilla, La Palenciana).

*4.2. Distance from the coast*

All the sites are over 20 km from the shoreline. Paleolithic sites are 21–28 km away, except for Vallina I (Asón valley, 30 km). Azilian and Mesolithic sites are concentrated in distances of between 26 km and 30 km. Only two Azilian and seven Mesolithic sites are further than 30 km away. It should be borne in mind that the mountain range is about 25 km from the coast, so the distances depend on the abruptness of the relief, which implies following the winding routes with the gentlest slopes. The scarcity of marine mollusc shells at the sites is undoubtedly a consequence of the distances and the rugged geomorphology. Transporting this resource would not be efficient if the energy cost is considered.

*4.3. Types of caves*

All types of caves were used, especially large caves and rock shelters located on hillsides with a good view over the terrain and a good orientation.

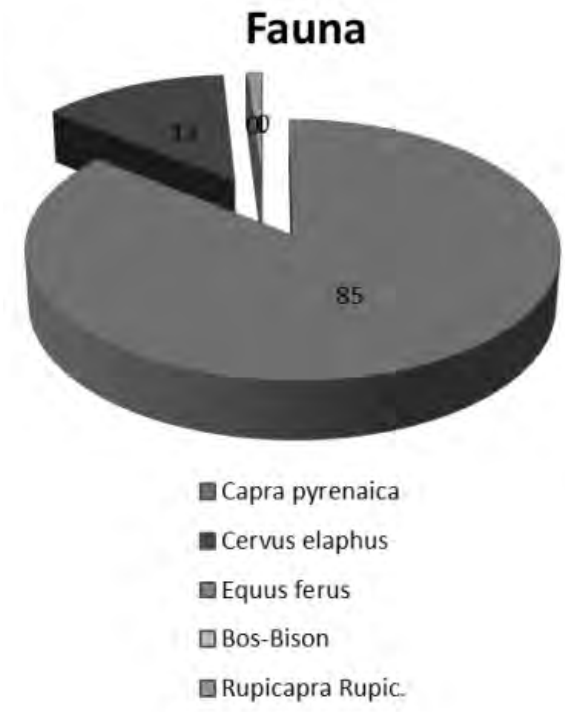



Fig. 11. Frequencies of fauna.

Mousterian sites are located particularly in large rock shelters (Abandejos, Asón valley; Hazuca, Miera valley). In the Upper Paleolithic, the most usual types of sites are medium-sized and large caves: Salitre and Rascaño (Miera) and Sobrelascuevas (Asón), and a large rock shelter, El Puyo (Miera). Their use seems to have been temporary but it has not been possible to determine whether it was seasonal, as in Rascaño hunting was carried out at all times of the year.

In the Azilian, there was continuity with the Paleolithic in the type of habitat, as medium-sized and large caves on steep slopes suitable for hunting ibex and chamois were still preferred.

In the Mesolithic the type of habitat and site appears to have been the outer platform in the shelter of cave entrances, and in large entrance chambers with good living conditions: Sopeña and La Puntida in the Miera valley, and Cañuela and El Masío in the Asón.

## 5. Paleo-environment

Little information is available, owing to the paucity of archeological excavations. The only data come from palynological studies carried out in Rascaño (Boyer-Klien, 1981) and Salitre (López García, 1981).

The occupation in Rascaño, in the archaic Magdalenian III, began at the end of a quite mild and wet period, the Lascaux interstadial. The percentage of arboreal pollen was 17%, with a predominance of *Pinus sylvestris* in the whole sequence and *Juniperus* (juniper) and *Corylus* (hazel) in Level 5, with an absence of mixed oak forest.

Ferns reach their maximum percentage, accompanied by water plants and Cyperaceae. Gramineae represent 20%.

The climate began to change in Level 4, in Magdalenian III. Hazel disappears and the percentage of *Juniperus* decreases significantly, while *Pinus* survives for a time before disappearing, attesting very cold dry conditions. The herbaceous layer consists of Chicoriaceae accompanied by some Carduaceae and Caryophyllaceae.

In the late Magdalenian III, Level 3, a new climate amelioration began with the presence of *Corylus* and *Quercus* (oak), interrupted by a hiatus, which might correspond to the Bølling oscillation.

In the Azilian, Levels 1–2, humidity increased, in a time corresponding to the Allerød. Hazel dominated over *Pinus*. The herbaceous layer was represented by Anthemideae and Caryophyllaceae.

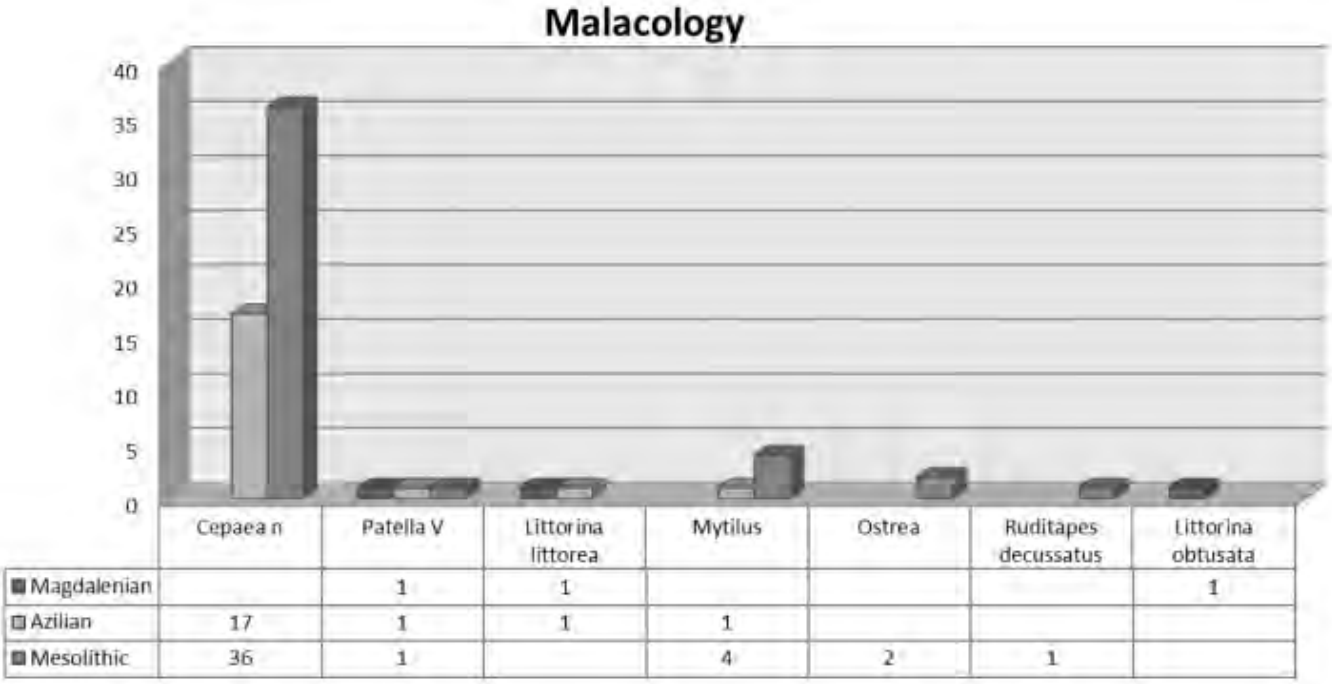
The pollen diagram for Salitre indicates a predominance of *Corylus* over *Pinus* in the Azilian level, as well as the presence of *Quercus* and *Alnus* (alder), suggesting the spread of deciduous forest.

For the Holocene, only the anthracological study carried out by Paloma Uzquiano of the Mesolithic Level 2 at Sopeña is available.

Tree cover was represented by *Quercus robur*, as at other Cantabrian sites in the early Holocene, and *Corylus*. Oak was used as fuel, as well as hazel, although the use of the latter may have been related more to gathering and consuming the nuts. The branches would have been thrown on the fire after the nuts had been picked off them.

## 6. Subsistence strategies

In the Late Pleistocene, in the Magdalenian at Rascaño, the economic resources were mainly the specialized hunting of ungulates throughout the year (Altuna, 1981) and to a lesser extent fishing, with the presence of salmon (Ortea Rato, 1981). Malacology only appears for utilitarian purposes, as adornments (Álvarez and Madariaga, 1981).




| | Cepaea n | Patella V | Littorina littorea | Mytilus | Ostrea | Ruditapes decussatus | Littorina obtusata |
|---|---|---|---|---|---|---|---|
| Magdalenian | | 1 | 1 | | | | 1 |
| Azilian | 17 | 1 | 1 | 1 | | | |
| Mesolithic | 36 | 1 | | 4 | 2 | 1 | |

Fig. 11. Frequencies of fauna.

*6.1. Hunting*

The change in biotopes caused by climate amelioration resulted in two new environments:

Open areas covered with shrubs, the habitat of red deer, roe deer and other smaller animals

The limestone massifs, whose rugged relief was occupied by ibex and chamois.

The Azilian hunters at Rascaño and Sopeña continued the hunting strategies established in the Magdalenian, based on the specialized hunting of ibex and red deer throughout the year, complemented by chamois and roe deer. In Sopeña, remains of horse have been found in the lower Azilian level (cold climate).

In the Mesolithic, the frequencies changed as, although ibex and red deer continued to be hunted, the proportions of roe deer and wild boar increased. A change in hunting strategies is also noted in that smaller animals were caught. This may suggest different techniques, with more indiscriminate hunting perhaps with traps, which is not coherent with a sustainable economy.

*6.2. Malacology*

The terrestrial snail, *Cepaea nemoralis*, is virtually the only species found at sites in the area. It would have been collected in the immediate surroundings of the caves, in areas of forest. Marine species are very rare at sites in the upper valleys. A few *Patella* and *Littorina littorea* specimens are found in the Magdalenian.

In the Azilian, marine species have been found at the caves of Horno, Salitre and Rascaño *(Patella* and *Littorina littorea*).

At Mesolithic sites, marine malacology has been identified at sites in the Asón valley: Cubera and Sobrelascuevas *(Patella)* Cañuela and Suaria *(Patella* and *Ostrea),* Tarrerón, Asón rock shelter and Cubijiu *(Patella)* and Asón Rock-Shelter *(Mytilus).* In the Miera valley, remains have only been found at Sopeña: *Mytilus* fragments, a *Venerupis* fragment and an *Ostrea* shell.

All these sites are over 25 km from the shore. Marine shells are frequent as far as the middle courses of the rivers, about 20 km from the shore. The frequency of this resource drops drastically at greater distances, surely because it was not efficient to take such products to higher areas, because of the difficulty of transport in such abrupt relief, while hunting was much more effective as game was abundant in those areas and contributed more calories to the diet.

*6.3. Material culture*

Paleolithic industries were found in the excavation in Cueva del Rascaño, with information published in Echegaray and Barandiarán Maestu (1981). As

the mountain areas were colonized in the Mesolithic, industries have also been found in the excavation at El Tarrerón (Apellániz, 1971). In the trial excavation at Sopeña, the Mesolithic level did not yield any industry, owing to the erosion the sediment has suffered, and only a few parts of the calcited level have been conserved.

The Mesolithic assemblage at El Tarrerón consists of 20 tools and some knapping waste. Blades dominate over flake blanks. The tools include sidescrapers, endscrapers, denticulates and notches. The most significant piece is a circle segment with semi-abrupt retouching. The raw material used is flint, with local flint of the coastal chalcedonite and the black Aptian types. This type of industry and the presence of geometric microliths display similarities with the assemblage at Cubío Redondo (230 m), a mountain hunting site, in Matienzo in the middle Asón valley. In the excavation performed by Ruiz Cobo and Smith (2001), a small assemblage consisting of 304 artefacts was recovered, mostly in flint (96.7%), especially the local variety (645). The retouched tools formed 9.5% of the assemblage, and they include an atypical trapezium with double-bevelled simple retouching.

The lithic remains noted on the surface of other sites in the area are of little significance, consisting mainly of flakes and knapping waste, with a predominance of the use of local flint types.

**7. Conclusions**

The colonization of the upper Miera and Asón valleys began in the Mousterian, with five sites known in the region, three in the Miera valley and two in Asón valley, at altitudes of 345–675 m above sea level.

Occupation continued in the Upper Paleolithic with eight sites documented in the Miera valley (66.66%) and four in the Asón valley (33.34%). The conditions were worse in the Asón, where glaciers reached lower altitudes (300 m). In the Miera, caves were occupied at higher altitudes (410–684 m) than in the Asón valley (341–475 m).

Occupation increased significantly in the Pre-boreal, about 11,700 BP, in the Azilian, when 18 sites are known, reaching higher altitudes (720–770 m) in Mortero de Astrana and Cubillo de las Palomas, Asón). In the Miera valley, El Puyo and Sopeña were occupied (575–680 m).

With the rise in temperature in the Holocene, about 9,500 BP, populations moved upwards towards secondary valleys, occupying 36 new habitats: 24 of them in the Asón valley at altitudes of 345-709 m (Tarrerón and Cubillo del Acerón).

The colonization of the highlands, in valleys freed of the ice caps, compensated for the land lost on the coast because of marine transgression, also a consequence of Holocene climate change. After 11,000 cal BP, the sea level began to rise and reached a height of about -40 m. A large amount of land was lost and the coastline came to within about 2 km of the present shore. This surface area gradually decreased as the sea level continued to rise, until 8,500 cal BP, when some episodes of marine transgression took place and the estuaries began to form.

The occupation was based on the availability of resources resulting from the new mountain biotopes, with the specialized hunting of animals adapted to rocky environments (ibex, chamois), forests (red deer, roe deer and wild boar), and the gathering of plants and land snails.

The molluscs found at the shell-middens in the upper valleys are almost exclusively terrestrial (*Cepaea nemoralis*). Marine species have only been found at eight sites. All these sites are over 25 km from the coast and it seems that it was not worthwhile transporting the marine resource over this distance in such abrupt terrain.

Little can be said about the Mesolithic industries due to the small samples that have been documented. However, flint was the predominant raw material, especially the local varieties. This suggests an intensive use of the resources in the immediate surroundings of the sites, and possible sedentarization.

Insufficient information is available to establish the times of the occupations. In the highest zones, the sites are probably hunting or temporary camps in the Azilian and Mesolithic, whereas at Sopeña (Miera) the type of Mesolithic shell-midden and the good living conditions in the cave attest more prolonged stays.

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# The Portrait in Prehistory

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All portraits place a cultural filter between the model and the representation, including modern self-portraits in which the artist moves the soul and creates a spiritual reality rather than recreating a lost reality.
Portraits express the form of harmony between a society and the universe. But the human face is privileged in this metamorphosis because it holds all the meaning of the mind, reduced to the most powerful part of the body, the face, through which humans communicate via their eyes, smiles and expressions (fig. 1).
Strength, directly borrowed from reality, is intensified by the artistic talent that gives an image a greater presence than reality, because it emerges from a world of mystery in which its presence alone brings out the unusual: here it is possessed by the hand of the human mind that exerts its indirect power via the representation of a reality that is thus overcome.
In contrast, at the same place during the same period, the human face is limited to a mask, barely outlined on a rocky protuberance by typical black lines.
Regardless of the magical relationship between the image and the animal, such a hold would fatally escape the allusion given by a human figure, with barely perceptible traits and a systematically restrained control.

Fig. 1. Rembrandt, Large Self-portrait (detail), 1652; oil on canvas, 112.1 x 65.5 cm; Kunsthistorisches Museum, Vienna, Austria – Head of a figurine, 2800–2300 BC (Early Cycladic); marble; Museum of Cycladic Art, Syros, Cyclades, Greece.

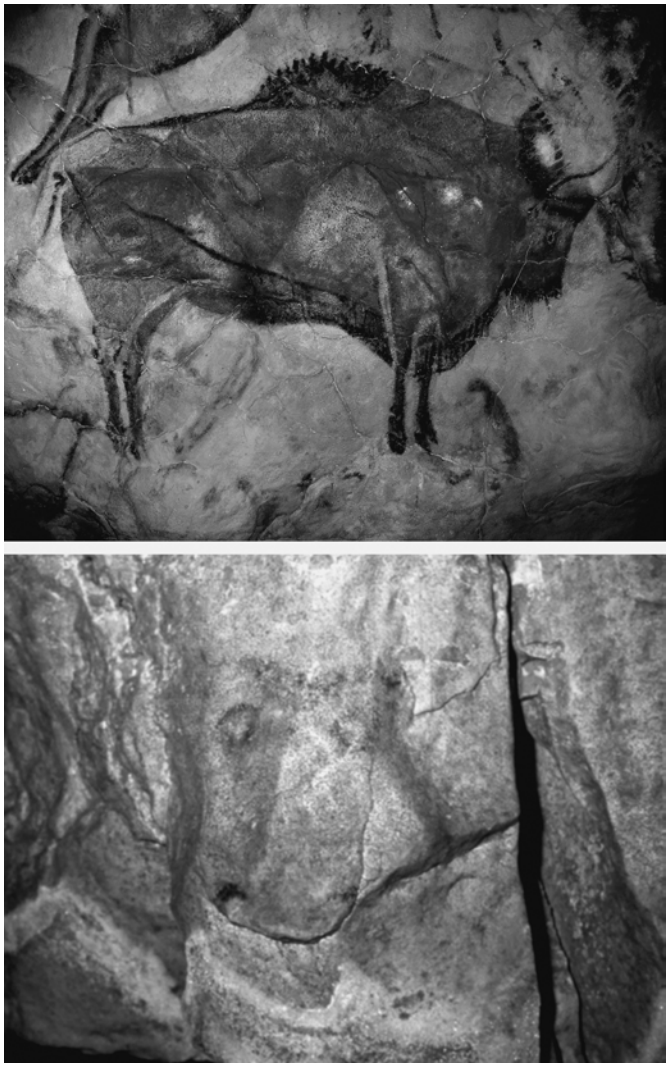

Fig. 2. Polychrome bison; Altamira Cave, Cantabria, Spain – Mask; Altamira Cave, Cantabria, Spain.

The human mask has a strength that must avoid the realistic animal representation even if this takes away from the representation (fig. 2).
The extraordinary realism of the lion prides, presented in cascade, supports the perspective, volume and anatomical details of the Aurignacian paintings at Chauvet.
Conversely, in the same cultural context, men and women are found concealed, specifically their faces, by the lions and the bison. The volumes themselves, extracted in three dimensions, escape from the flat surfaces on which the false reliefs of the animal images are found. Renderings in both cases form part of a radically opposed distancing from the cave wall to the artificial figures and the relief, similar to human

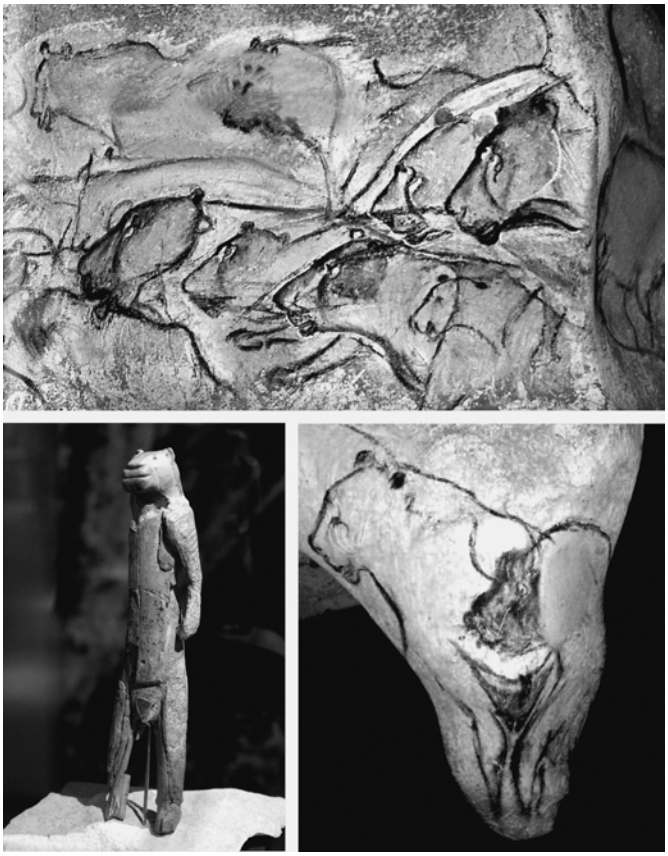

Fig. 3. Lions; Grotte de Chauvet, France – Lion-man ; mammoth ivory, 26.6 cm; Hohlenstein-Stadel, Bade-Wurtemberg, Germany – Woman; Grotte de Chauvet, France.

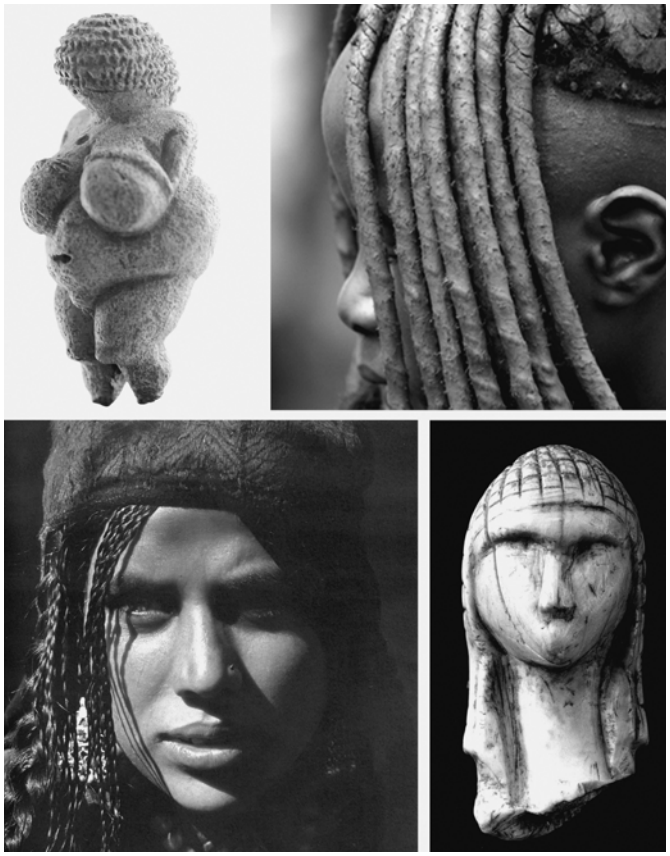

Fig. 4. Vénus de Willendorf ; Calcaire, 11 cm; Musée d'Histoire naturelle, Vienne, Autriche – Jeune fille Himbas – Vénus de Brassempouy (Dame à la capuche); ivory, 3.65 cm; Musée des Antiquité Nationales, Saint-Germain-en-Laye, France.

silhouettes, that suggests rather than overly represents them (fig. 3).

**Hair styles, social situation**

Among the highly ritualistic and social decorative elements, hair style is the most dominant, braided and coloured, a true intermediary between anatomy and culture. This is applied to the decoration of young girls of different ethnicities in East Africa. The red colour of the clay added to braids is a natural reflection of that created biologically during puberty, but immediately requires concealment of the anatomical traits represented, because puberty is a highly invested social period: the person comes among the individuals who can now pursue and revitalize the life itself of the ethnicity in which she is recognized and to which she belongs. The figured facial function thus takes on a vital collective value, further accentuated by the curves of the body, these clearly explicit. Once again, the function of the portrait is as much concealed as sacred (fig. 4).

**Toward abstraction**

A plastic derivative imbues all prehistoric images, proceeding from analogical representation and then losing its plastic substance to shift to a schema beyond the force of a real sign, while retaining the same meaning, not unlike our alphabetic signs. So, the figurative, the first support for the relationship between reality and image, moves slowly toward an abstraction with a single phonetic (Western writing) or semiotic value (Eastern writing), losing nothing during this process of the plastic combinations that give writing its beauty (fig. 5).

**Hyperrealism**

Everything changes with the mythical mastery of humanity over nature, and is spectacularly embodied by the real human skulls on which the flesh was reconstructed using plaster or clay. The image of humans is thus imposed on ordinary natural reality, and it is this that reconstructs a fixed and mythical

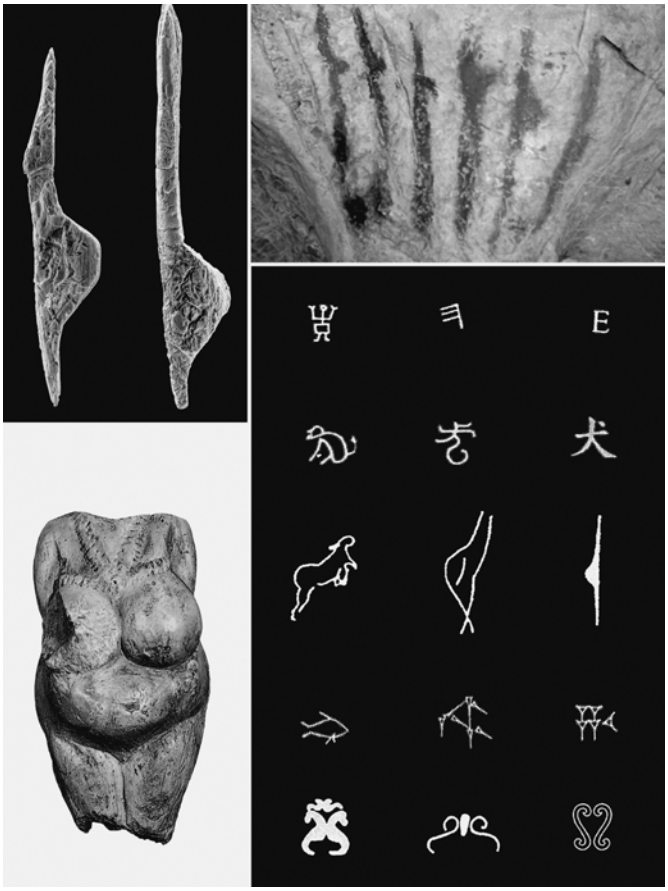

Fig. 5. Venus from Kostenki XIV – Claviform Venus, Nebra – Venus, Cueva del Pintal, Cantabria, Spain – Lines 1 and 2, Chinese signs; Line 3, Paleolithic; Lines 4 and 5, Celtic signs.

figure. Their representations, identical, demonstrate that these are not portraits in the analogical sense, but still a prototype, rigorously set, because the least deviation from the model would cause the image to lose its sacred force and its power. From now on, regardless of the forces guiding our destinies, they are similar to ourselves, if not identical (fig. 6).

**The importance of eyes**

In so far as the human image is imposed as code, its different essential components open generations to different values. The eyes in particular, mirrors to the soul, are enlarged, embellished, distinguished and animated to give them an extremely powerful communicative capacity (fig. 7).

**Transposition**

During the Neolithic, the strength of the feminine image and its symbols (fecundity, maternity, personal decoration) is so powerful that it transposes all of its components into vases, at first view non-figurative, such as vases in which the contours suggest feminine components: face, stomach, skirt. Spiral decorations accentuate the value of the liquid contents carried by these combined elements (fig. 8).

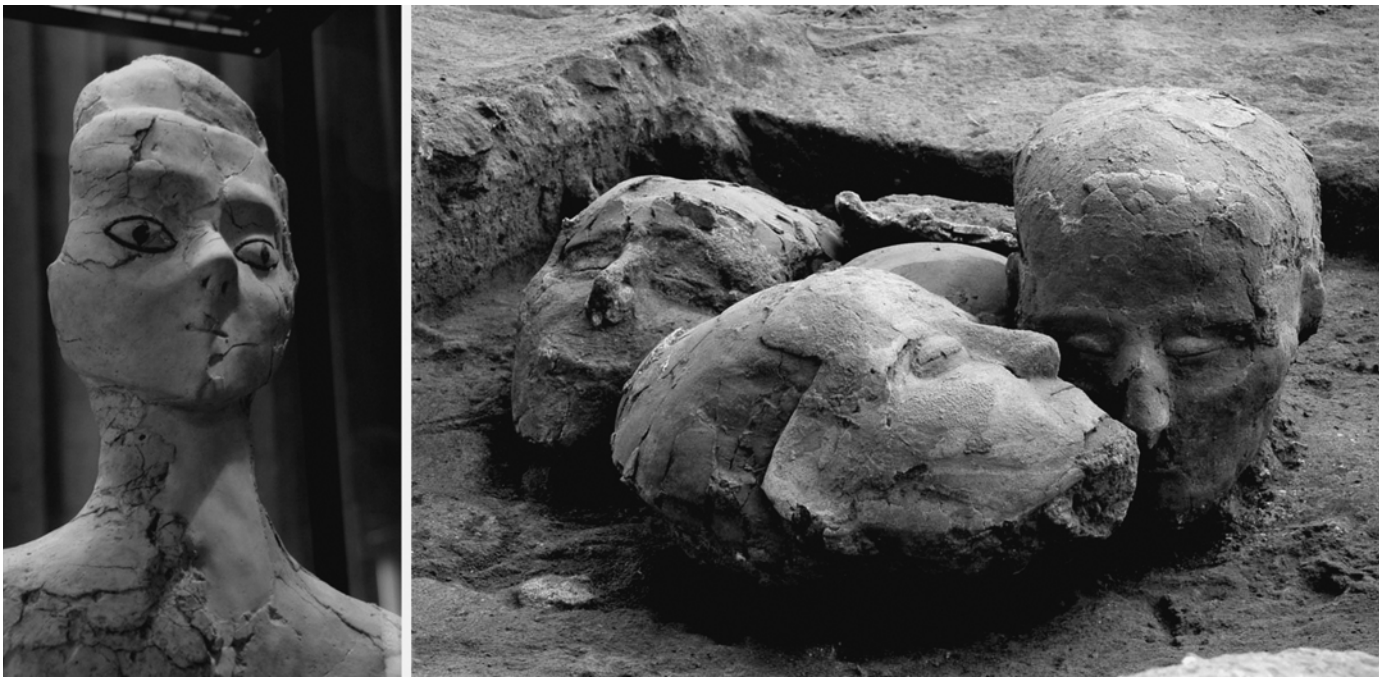

Fig. 6. Aïn Ghazal – plastered skulls, Jericho.

Fig. 7. Statuette from Vinča – young Papuan boy.

Fig. 8. Vase and statuette from Cucuteni.

**Styles**

The most obvious demonstration of the relationships between materials and metaphysics is provided by portraits on stone, honoured and made sacred in all civilizations. The transformation of the most human facial expression changes, in the same material, to reach the perfection of plastic thought, where it is joined to the soul of a people and its model, first dreamed and then become reality. So, we can easily read and describe what was certainly not spoken before, or not even known by the peoples themselves, but which can be seen in their plastic expressions (fig. 9).

Fig. 9. Janus, Roquepertuse, Bouches du Rhône, France – Lady of Elche.

## The dinamycs of mental movements as a base for the intellectual and spiritual expressions of non-literate people and the origin of development of the human being

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I would like to thank Professor Anati for his kind invitation to this conference. The more our friendship grows, the deeper my knowledge of humankind becomes, the more elements I find which are both invariant and common to all disciplines, regardless of the matter at hand.
To him goes the merit of promoting a transaction well-known to Greek philosophers aimed at ontological and non-specialist studies as the ones present in this civilization, among the many which have preceded ours, thus leading us to specialize more and more in a specific area, with the risk of losing sight of the whole of which each element is part of.
For this reason, the study of prehistoric archeology can help us learn about the prehistory of mental life which has always been present in the mind of modern man. Furthermore, I believe that prehistoric studies cannot avoid dealing with the psychological and subjective elements involved.
Such elements open scenarios of great interest to us psychologists as well as other professionals, such as doctors, who can make an appropriate diagnosis by just looking at the images of MRIs or ultrasounds. We therefore believe that the knowledge and meaning of man's expressions can be found in the human and interpretative and non-interpretative factors, in the efficacy of the instrument, with increasingly advanced technological features.
Throughout the expeditions to Har Karkom I have taken part in, I have come to realize how key the psychological aspect is to each scientific discovery, due to the fact that man himself is the one to develop the data which he collects together with all the constraints resulting from the subjective experience.
Professor Emmanuel Anati captures distinctive elements together with relationships between them precisely where the artifacts seem to be both equal and uniform, in the Negev desert. The ability to observe details and recognize associations that link the significant elements together leads to discovery.
The most important news that Freud introduced was not the interpretation of dreams, which the ancient Egyptians already were well aware of, but the method of free association, under which there is no element of communication that is not connected with interpretable elements, from which derives the fact that the human being finds it impossible not to communicate. Thus, if there are subjective elements interfering with the researcher, the said researcher will find meanings, connections and sense among the elements in combination with each other. The rule that we observe during the sessions, in which we invite the patient to describe with total neutrality and absence of judgement all that comes to his mind without changing the content, also applies in other research fields such as prehistoric science.
Despite the fact that Mount Sinai is a real place and not an imaginary one and the fact that in Har Karkom you will find a very high concentration of rock art, representing what we call removal in psychology. This psychological mechanism is defined as an attempt to repel or keep the known information unconscious but whose existence we refuse to admit.
It comes as no surprise that because of this defensive phenomenon hidden in the Negev desert, in all probability we can find the place from which all modern religions hail, considered to be sacred well before the passage of Moses.
Even the sites, as happens for the bad memories of our patients, do not exist if you do not want to see them. Har Karkom acts on the rules of collective removal in the same manner in which the study of prehistory does not rise the public attention appropriately, except of course for the fact that general opinion is shocked by contemporary man's primitive instincts, which are not supposed to be repeated but are, however, not promptly processed and are dramatically shown in crimes committed today. Those who reveal our origins remind us of our limitations and modern man does not like having to cope with his own limitations. A person will discover as many things as he is willing to observe. Thus, doing research means helping modern

humans understand how the ego, which is identified as only a small part of his memory, is not as far from prehistoric man as we may think. The unconscious in fact, that most archaic part of the mind, is both spaceless and timeless and makes Neanderthal man no different from a modern New Yorker.

As interesting as the scientific method can be, we are not here to discuss it further. To conclude this introduction, I would like to point out that not only in prehistoric sciences but also in each discipline, the value of discovery has not only to do with the mere retrieval of information, but also with the researcher's ability to relate with what is present but from a different level of representation. To use a metaphor, a finding gives the sand that covers it a specific shape but it is up to us to recognize it. From a psychological point of view the possibility of gathering or finding new information is functional to the ability not to oppose what is on the inside to what is perceived on the outside.

Therefore, scientific discovery depends on the transference that occurs with an external element. The researcher is a medium that, like the analyst, contacts the unconscious content of a patient with the outside world through his own unconscious. If the researcher is studying the intentions, needs and psychology of ancestors who spontaneously left traces, the researcher effectively interprets the found data. It is unthinkable for psychology not to deal with the prehistoric elements of a symptom, in the same way as I think it is impossible to deal with prehistoric science without considering the psychological and subjective elements.

Transfer is decisive in humans not only for psychoanalysis but also because it can be considered to be the original mechanism of human development. During psychoanalytical sessions, transfer is defined as the special feeling that is created between patient and psychoanalyst at the time of the session and it entails moving emotions and feelings stemming from the past. At a session, we can observe how the mental content of a subject is transformed into the interaction with the analyst.

In more general terms, transfer can be considered as moving elements from the inside of the psyche towards the outside, through art or other means of expression.

The mechanism of transference demonstrates the primacy of the relationship between people and shows how life is originated and can only be maintained if there is this relationship.

The birth and evolution of man were possible thanks to his adaptation to the environment and the improvement of communication between peers. This process has established itself due to man's ability to transfer parts of himself to the outside and the assimilation of external stimuli from the outside world. Language and art have increased the degrees of freedom of expression of man through the shift mechanism of transference, which is precisely the sine qua non condition for the emancipation of man from his origins and for the creation of his own destiny.

And it is precisely the ability to narrate the description of his experiences which has allowed humans to master them, to free themselves from the forces of nature amidst which they find themselves.

When an artist creates, he loses the part of himself expressed in his work. But it is no longer in the work itself which in turn becomes a transfer object, thus partially freeing the artist from the initial emotional contents.

The ability to transfer in the human race is the most important of its genetic heritage, which differs only slightly from that of primates. Chimpanzees, despite being provided with a similar biological structure, are incapable of mental processes like humans through culture, which makes them able to transmit memory from one generation to another.

The refinement of communication was therefore essential to the creation of a community that was able to improve the conditions of life and adaptation in the course of history.

The evolution of man thus comes from the recognition of emotions and the creation of codes of expression through art and language. Art throughout history has been a window on the origin and destiny of man. In particular, rock art is the materialization of the first attempt to control, shape, learn and deepen man's emotional world. The ability to represent in the human being has propelled its differentiation from nature. The first manifestations that arise from differentiation are particularly important because they are able to explain the originating mechanisms at the base of phenomenological manifestations.

The evolution of man can be seen as the ability to depict and represent the core of his experiences in

ever more appropriate ways. The various forms of artistic expression throughout history and even more evidently in prehistory are the stages of cognitive evolution of man as we know it today.
Representation and narrative mark the transition from the undifferentiated to the differentiated, in the same way in which the fetus develops the differentiation of its tissues in nine months.
With the ability to represent the world around him, man has been able to differentiate himself from his needs related to biological survival via food, sex and land.
Differentiation was possible because of the ability to transfer images, which over the course of evolution have progressively become differentiated from their driving source.
The origin of intellectual expressions comes from the ability to produce new concepts moving from its internal system of needs to that of external representations.
The prerogative of human beings is thus being able to perform not only a mental shift, but also a physical one. The peculiarity of man appears to be, therefore, the ability to move, to transfer.
Since the beginning of time human beings perish if left without the possibility of moving. Take for example certain dramatic cases of psychic diseases like anorexia.
The presence of these cases of suffering right in the middle of the most affluent society to have ever existed is explained as a fixation at an earlier stage, a kind of mental paralysis at a primitive stage of development which has abnormally reactivated the memory of being a fetus when nutrition was done automatically. It is of interest to note that the fixations in early childhood can form different personalities. We can distinguish characters as oral, anal and phallic, without further dwelling on this issue, which could lead us even to recognize social organizations based on the respective stages of endopsychic collective fixations.
The psychic manifestation of movement is pictures. Images are nothing more than information stored in the memory of movement. The unconscious manifests itself through the free energy in the attempts and the entities that inhabit the unconscious which convey the energy that is exchanged, continuously moving through iconic information packets. Visual perception is much more essential in humans than in any other species and it is enhanced by mental processes that go beyond the visual function. Visual images available to man only in part correspond to those of visual stimuli. Think of what happens in dreams in which visual perception is carried out regardless of the actual vision. In the illustrative material the micro details of individual life or character of ontogeny and phylogeny are thus fixated. Image therefore has the ability to crystallize emotion and both the individual and the collective experiences. The stored visual images transfer information between generations. Through the dream, current information is amalgamated with that of the past and man is immersed overnight in its origins. The ability to produce images has a main role in the evolution of the human species and it is also a precondition for the transmission of memory.
Experiences are moved through images from one generation to another in an infinite ratio that exceeds the limits of time and space.
Freud says in this regard:
It seems at first that the experiences of the ego may be lost to inheritors. When, however, they are repeated with sufficient frequency and intensity for many individuals of successive generations, they transform themselves, so to speak, in the experiences of the id, whose expressions are consolidated through inheritance.

> 'This way, the id, which has become depositary of the legacy, contains within itself the residue of countless existences of the ego and it may be that when the ego creates your own super ego from the said id, does no more than draw back to surface, thus resurrecting the settings of the ego with the oldest date'.

Freud always said: 'Dreams are the result of things seen in the prehistoric period' and this applies not only to one's own childhood but also to the lives of the generations which have preceded us.
Images are to psychic life what genetic material is to biology.
The wealth of images is that of conveying the identity of the human race between generations.
Primitive men were well aware of the secret image and therefore undertook to engrave on stone in the form of symbols and signs of expression, not only for members of their own community but for others who would live a thousand years away in a different time

dimension from the one we use today, limited to the present.

When we look at the images of rock art we feel we belong to them and we feel that these images belong to us. The images of rock art are recognizable by anyone and they express meaning even to a child who has yet to learn the use of language. In these images we find the unconscious grammar at the base of all verbal and non-verbal expression.

The work of psychoanalysts is very similar to that of paleontologists through artifacts such as dreams, thoughts and feelings to search for man's identity and its origins. In the same way, though it may seem difficult to interpret them and what happens when we are not in transferral resonance with them, the evidence of rock art is full of expressive cues. It just takes a hair to get a person's DNA and just a scratch on a stone to be able to recover the intention of our ancestors who are far away, yet so close to us so as to be able to recognize in them our internal memory.

Memory, whose unconscious characteristic is timeless, informs us not only of what happened in the lives of our ancestors but also of what may happen in the future of the upcoming generations.

## A ritual space with paintings and engravings in the La Calera rock art set, Caborca, Sonora, Mexico

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### Introduction

This paper aims to present the first observations on the symbolic elements of a ceremonial space located among large rocks that form a small enclosure with rock art (paintings and engravings) in the hill of La Calera or San José, an archeological site that is part of the area with rock art engravings and ritual spaces of Caborca region (Sonora, Mexico).

Caborca contains important assemblages of rock art engravings, like the hills of La Proveedora, La Calera, El Mójoqui, Cerrito Gastelum, San Fernando, El Mono Colgado, Potrero de Balderrama and Las Flechas, in Sierra El Álamo, which have been studied by different researchers (Hinton 1955; A. Quijada 1976, 1977; C. Quijada 1993, 2006; Carrico 1982; Ballereau1985, 1987, 1988a, 1988b, 1991a, 1991b; Braniff 1985, Contreras and Quijada 1999; Villalobos 2003; Viñas and Arroyo 2008; Amador 2010; Amador and Medina 2013). Thi is a significant region for the knowledge about the rock art of Northwest Mexico.

The discovery of this new enclave was made during a Visita arqueológica a los Estados de Sonora y Baja California, in May 2007, organized by some members of the Biodiversidad y sociedades cazadoras recolectoras del Cuaternario de México project, led by the Institut Català de Paleoecologia Humana i Evolució Social (IPHES, Tarragona, España) and the Instituto Nacional de Antropología e Historia

(INAH, México). The purpose of the tour was to find out about some of the rock art complexes located in La Proveedora, consisting of numerous rocks with engravings of human figures, animals, and geometric and astronomical elements.

Regarding the chronocultural affiliation of these rock art sets, the archeological record indicates that the region was occupied by the Trincheras tradition, which developed between 200 and 1450 AD (Braniff 1985; Villalpando and McGuire 2009). However, the different degrees of patina on the engravings and the evidence of re-engraved figures suggest an uncertain origin and, therefore, the possibility of different cultural authorship in the development of that graphical process.

The movements and relations with other groups in northwestern Mexico and southwestern United States, hunter-gatherer societies and societies with an early agriculture, like Cochise (pre-ceramic) Mogollon (600 BC–1400 AD), Anasazi (100 BC–1450 AD) Hohokam (800 AD–1400 AD), represent a complex mosaic of possibilities that will be analysed, as the archeological research progresses. The finding of projectile points from the Archaic period in La Calera (Villalobos 2003) should be noted.

**Background**

In 1890, Carl Lumholtz toured the basins of the rivers Magdalena, Altar, Concepción and Sonoyta and the region of El Pinacate and cited the presence of some sets of engravings in Papaguería (Lumholtz 1986). However, the first date on the rock art of La Calera corresponds to Thomas Hinton, who indicated the presence of engravings of human figures, animals, mazes and geometric elements and various terraces and different kinds of stone structures (Hinton 1955). Subsequently, Armando Quijada Hernandez addressed the issue and established the following areas: Proovedora I, II, III, Calera Norte, Potrero Balderrama and Puerto Blanco (A. Quijada 1976).

In 1974, A. Quijada systematized and described some of the rock art sets in the regions of El Pinacate, Tubutama, Trincheras, Cucurpe, Sonora river, Cumpas, Moctezuma, Bavispe river and Hermosillo, and conducted the first description of the petroglyphs in the Caborca region: La Proveedora and La Calera (Quijada Hernández 1976, 1977).

Years later, Richard Carrico explored part of the La Calera hill and recorded numerous engravings in the eastern and southern areas. The researcher noted the presence of the Trincheras tradition and linked the archeological sites with the rock art iconography of the Hohokam of Arizona (Carrico 1982).

Soon after, between 1981 and 1984, Dominique Ballereu conducted an inventory of the engravings identified in La Proveedora and La Calera. For the classification, two broad categories were proposed: biomorphic and geometric, among which were astral elements, like moons, stars and suns (Ballereau, 1988, 1991). In La Calera, there was noted the existence of terraces, stone structures, residential areas, and among the engravings, there stood out a possible atlatl, sticks, bows, arrows and *palos conejeros* (Ballereau et al. 1989).

Beatriz Braniff developed in 1985 the first systematic archeological work on the La Proveedora hill, designed to investigate the livelihoods of the last pre-Hispanic communities in the region. In her study, she presented a new typological classification for the engravings, separating realistic and figurative motifs from the abstract ones, with the following categories: anthropomorphic; hands and feet; zoomorphic; stars; frets; mazes; Phrygian caps; isolated elements and doodles. The researcher excavated in La Calera and linked the development of the Trincheras tradition to the rock art representations (Braniff 1992).

In early 2003, César Villalobos developed the Manifestaciones Rupestres en la Proveedora, Sonora project and his objectives focused on the development of 10 digital maps where were recorded archeological materials (petroglyphs, architectural structures, terraces, ceramic, shell, lithic artefacts and mortar bowls) with UTM coordinates. The record included: 1,331 rocks where there were 5,873 engravings, 152 terraces and four architectural structures (Villalobos 2003).

In 2010, Julio Amador published his work about constructive strategies, the symbolism of the landscape and the rock art in the hills of Trinchera. For this researcher 'Los rasgos más destacados … en el noroeste de Sonora son los asentamientos complejos asociados a las cuencas fluviales y a los cerros volcánicos'. On its slopes were recognized: 'terrazas, senderos, grabados rupestres; en las cimas: observatorios con visibilidad a las llanuras y cerros aledaños, estructuras de muros

con probable función ritual' and in the adjacent plains metates and mortar bowls, rock art engravings and 'grandes rocas alineadas, espacios colectivos de reunión, casas en foso, restos de herramientas líticas, artefactos de concha y algunas cerámicas diagnósticas' (Amador 2010: 159).

According to Amador, the structure of the settlement fulfils the criteria of practice functionality, cosmological concepts expressed in cosmogonic schemes and a ritual logic. He considered the rituals of request for rain and the ritual hunt of deer, aspects that can be inferred on the basis of archeology, archeoastronomy, rock art, ethnography and ethnohistory (Amador 2010).

Archeologists Elisa Villalpando and Randall McGuire studied the area of Cerro de Trincheras and set the frequency of the different phases and the characteristics of this northwest tradition, a complex built by terraces to locate households in the slopes of these reliefs and develop all kinds of activities. The authors noted that it was occupied during the period Prehistorico Tardío. It was a place where corn, beans, squash, cotton and agave were grown and that ended due to climatic changes or internal problems, or perhaps both factors. Its inhabitants returned to the initial stage of small farming communities scattered throughout the watershed. According to Villalpando and McGuire, in Cerro de Trincheras some 300 stone structures were recorded, rectangular and circular, attached to the walls of the terraces, and two architectural elements stood out, one at the base of the hill, known as La Cancha, and the other located at the top, called El Caracol, both with characteristics of a ritual type. The work of these researchers has permitted the profiling and classification of the major features of the Trincheras tradition, like the diagnostic ceramic, smooth, purple on red, purple on brown, polychrome altar (Villalpando and McGuire 2009). These cultural elements extend along the northwestern part of the Sonoran territory and gives rise to the name of the Trincheras tradition.

The Visita arqueológica a la zona de Sonora (2007) was the basis of our Investigaciones prehistóricas en el Noroeste de México: Baja California Sur y Sonora project. Among the initial comments, delivered in the technical report to the Consejo de Arqueología del INAH, were emphasized: 'el descubrimiento de un conjunto de grabados y pinturas entre unos grandes bloques rocosos que forman un resguardo natural' (Viñas and Arroyo, report INAH 2008 and Viñas 2007, report AECI[1]).

More recently, Julio Amador and Adriana Medina published a paper about the ritual spaces, the symbolism of the landscape and the rock art of Cerro La Calera, which emphasize the concepts targeted in the work of Trincheras (Amador 2007). On the set of La Proveedora, wall structures over the tops and alignments of large rocks with engravings on the plains that have a fundamental ritual function stand out. As proposed, the authors believe that the human figures engraved represent ritual specialists in ceremonies associated with the request for rain and abundance, one aspect that is corroborated by the attributes, masks, headdresses and the cane prayer, elements that seem to be related to ritual practices (Amador and Medina 2013).

**Image analysis and typological record**

In the archeological visit to La Calera a series of photographs were taken and general aspects of the site were noted. However, due to a pending permission from INAH for a thorough site survey, we analysed the photographs obtained (Viñas and Arroyo 2007), using the Photoshop program to perform some digital tracings. We have also made image processing for the analysis of the paintings with ImageJ and DStrech plugin.

The information was classified on Excel tables with the description of each unit and in the following categories: humans, anthropomorphic figures, feet and hands, adornments, objects and artifacts, animals, undefined zoomorphs, vegetables or 'fitomorfos', astronomical elements, 'Cenefas y Grecas', mazes,

1 The discovery of this site, subject of this paper, was held on 7 May 2007, by Ramon Viñas, César Quijada and Albert Rubio. The finding was discussed with the archeologist César Villalobos, who confirmed that the site with paintings and engravings was unknown. Shortly after a conversation with Adriana Medina, who was preparing an archeological project in the area, the situation of the site was indicated. Years later, the technical report of the project submitted to the Consejo de Arqueología del INAH said: 'Cabe destacar que en nuestro recorrido de la ladera oeste descubrimos una covacha en las coordenadas UTM 381878 Este y 3392364 Norte a una altura de 255.6 msnm' (Medina 2012: 52). The author noted the existence of 165 rock art representations inside the cave (Medina, 2012: 51).


Fig. 1. Situation map and view of the hill of La Calera, next to La Proveedora (Photograph, César Quijada).

structures, undetermined and remains.

**Cerro de La Calera and the new ceremonial space**

Cerro de La Calera is located in the Sonoran desert, about 10 km SW of the town of Caborca, a region bounded by the Sierra Madre Occidental and the Gulf of California, located southeast of the Reserva de la Biosfera del Pinacate y el Desierto de Altar (fig. 1).

It is a small massif that rises above the plain of the Asunción river basin (267 m). The hill, elongated and oriented NW–SE, with dimensions of about 2 km long and 600 m wide, is part of the rock art core of La Proveedora, La Calera and many hills to the west (Villalobos 2003).

The hill of La Calera is composed of granite outcrops of volcanic origin. These rocks, which present blackish patina, accumulate on the slopes and at the base of the hills where there are thousands of engraved figures, divided into four sectors, the west, north, east and south slopes. Undoubtedly these constitute the testimony of a worldview linked to the archeological evidence found in the area: stone structures, residential and ceremonial, fixed metates, cup marks, terraces and an esplanade called La Plaza, of ritual character associated with the Trincheras tradition (fig. 2).

According to Amador and Medina (2013), La Calera responds to an 'arquitectura de espacios colectivos'. About the cited plain, Amador said: 'la distribución de los grabados está en función de la estructura de plaza elipsoidal que parece haber sido construida ex profeso para fines rituales y de eventos comunitarios' (Amador 2010: 134). In his description, he emphasizes an alignment of large engraved rocks that form a spiral that borders the plain of 50 x 60 m and that forms a sounding box that facilitates hearing in the area.

Fig. 2. Block with human figures, animals and geometric elements of the La Calera rock art set (Photograph, Albert Rubio).

Amador believes that the sites show a long occupation since the Archaic period and indicates dates between 200 AD and 1450 AD, for seasonal camps associated with the harvest and groups for temporary agriculture (Amador 2010: 149).

**The enclosure and the panels**

The new cave-shaped ceremonial space (273 m) is located among the large rounded blocks of the western slope, more specifically between 'La Plaza' and the most significant engraved rocks of this strand, about 200 m of the plain (fig. 3).

The interior of the enclosure projects an irregular plan of a roughly square shape of about 3 m x 4 m. According to the log, the representations are divided into four areas with five panels that occupy different points. Panel I occupies the bottom of the enclosure, where the paintings are. Panels II, III and IV cover the side blocks that form the walls of the cavity, and Panel V is on the floor, leaving free the western zone, from where is possible to access the area (fig. 4). Besides these murals, there were recorded three blocks with engravings, three other with cup marks and mortar bowls, one rock with remains of pigment and one group of engravings on the outside. In total, the ceremonial enclosure has 177 elements and 13 engravings on the outside.

Fig. 3. West slope of the hill of La Calera, where is located the ceremonial enclosure (Photograph, César Quijada).

The provisional inventory is as follows:

| Panel | Technique | No. of elements |
|---|---|---|
| I | Paintings | 32 |
| II | Engravings | 33 |
| III | Engravings | 8 |
| IV | Engravings | 42 |
| V | Engravings (on the floor) | 26 |
| Total | | 141 |

| Block | Techniques and representations | No. of elements |
|---|---|---|
| I | Engravings | 6 |
| II | Mortars, cupmarks and groove | 8 |
| III | Cupmarks | 12 |
| IV | Engravings | 4 |
| V | Engravings | 1 |
| VI | Mortars and cupmarks | 4 |
| | Pigment remains | 1 |
| Total | | 36 |

**Results**

From the field notes and photographic analysis, we conducted an initial assessment of the material and created a database where we have classified: 32 units painted in red colour, half being just a few remains; 109 engravings on the sidewalls; 11 engravings on blocks; 3 mortar bowls on blocks; 18 cup marks and one groove on block. In total, the enclosure shows a minimum of 177 units, in which the painted panel stands out (fig. 5).

The general features of the enclosure include: the location of paintings and engravings inside a cavity, between 'La Plaza' and the engraved blocks; the orientation of the enclosure to the SW; and the spatial characteristics, quadrangular aspects, suggesting a link with cardinal directions and astronomical aspects.

**The engravings**

The engravings, distributed in the side blocks (Panels II, III and IV) and the enclosure floor (Panel V) correspond to the same style of the outer rocks. Among the human figures, three examples of the round head

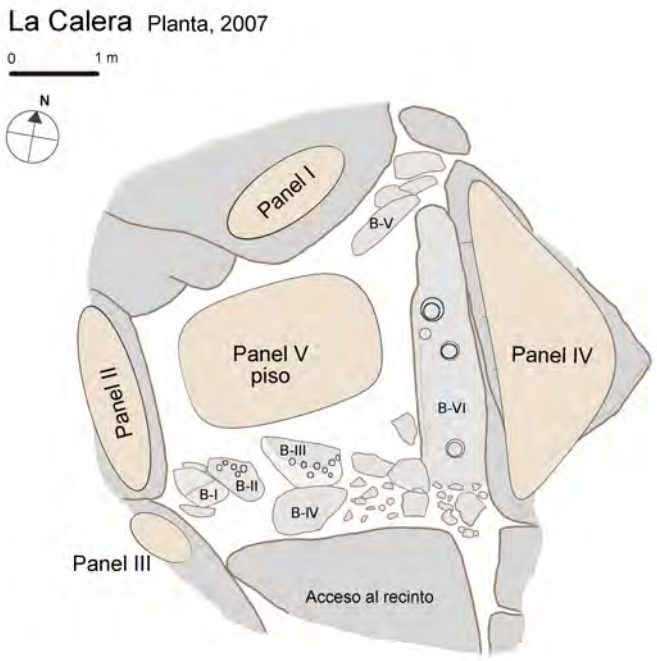


Fig. 4. Provisional sketch of the La Calera ceremonial enclosure.

and outer circle prototype stand out, in a position of bent and raised left arm, and the right on the hip. One of these figures, perhaps a ritual specialist, shows curved spokes on the circle of his head; holding two tools, including a possible ceremonial rod (fig. 6). Moreover, a female representation with two circles as an ear, and a child with her in Block IV were located. Beyond these figures are several anthropomorphs and a human-lizard.

Among the animals, we documented a dog, various quadrupeds and a couple of deer, with belly indicated but not bulky, and, within the geometric elements: concentric circles, vertical zigzags, 'S', the C or double caudate imbricated, borders with triangles or concentric diamond shapes and undulating traces. In general, symbols related to water to propitiate the rain were evoked (figs. 7, 8).

Note that the engravings located on the concave and rocky part of the floor (Panel V) are partially covered by stripes of ochre colour that hinder the vision. This

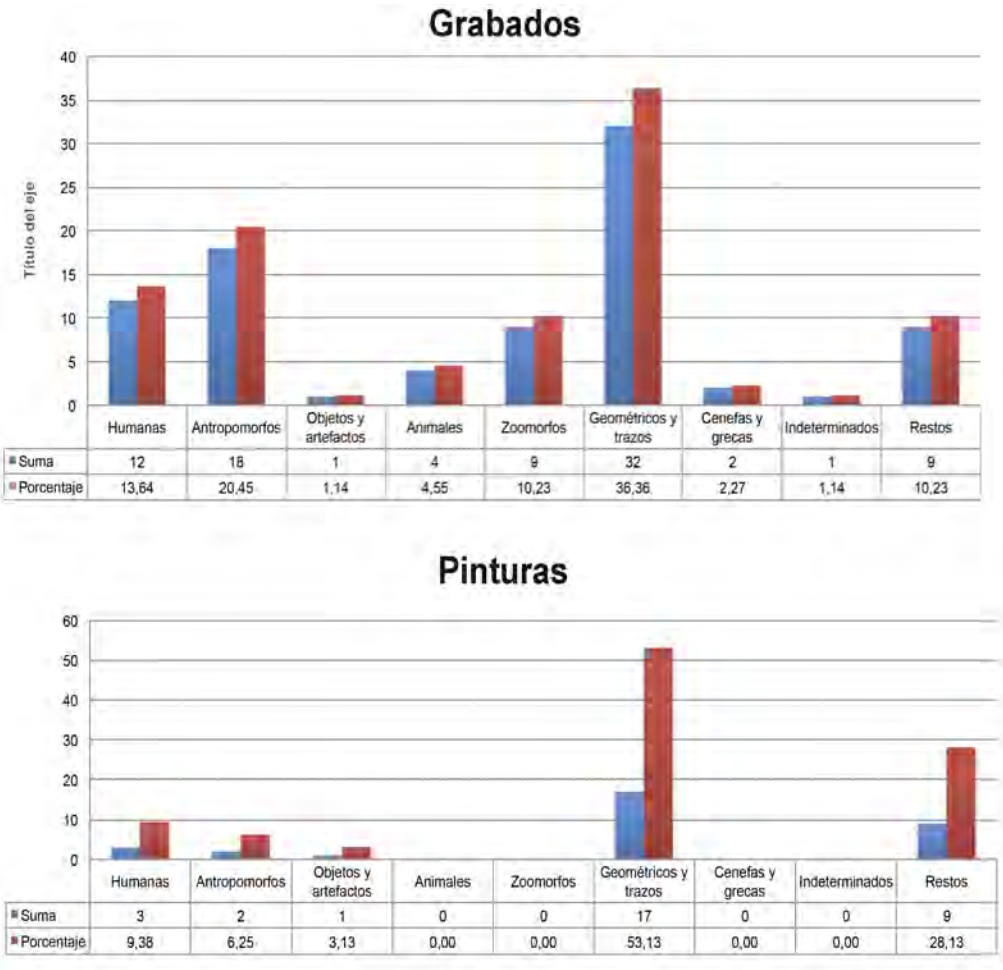


Fig. 5. Comparison among categories of paintings and engravings of the ceremonial enclosure. Can be noticed the predominance of the geometric elements.

Fig. 6. Possible ceremonial ritual specialist with a rod and female figure with headdress and with a child (Photograph, Albert Rubio).

Fig. 7. Representations of the Panel IV, on which stands out human figures and geometric elements (Photograph, Albert Rubio).

tone seems to come from some liquid spilled during rituals, or caused by leaks that would permeate and go over the drawings during the rainy season (fig. 8).

We identified two techniques in the engraved figures: percussion or 'piqueteado' (indirect and direct) and abrasion. The former provides sharper images while the latter are poorly defined and have a vague outline.

**The paintings**

Regarding the pictorial representations located in Panel I, provisional analysis indicates that, prior to or synchronously, three geometric units were engraved: a circle, a concentric circle and a vertical zigzag. Around them, 32 figures were painted in red colour, currently covered by a thin clay layer, similar to Panel V. The photographic analysis indicates that inside the grooves of the concentric circle there are traces of red pigment, an observation that should be confirmed in future studies.

This panel is chaired by three particular figures. The third is eroded and imprecise. The first is an anthropomorph form of double line, with concentric circles. The second, on the right of the engravings, shows a mythical or supernatural character, with a semicircular head showing horns and a schematic body

Fig. 8. Representations of deer and geometric elements, engraved inside the enclosure (Photograph, Albert Rubio).

formed by a shaft and a zigzag or maybe a diamond shape. Beside it, is possible to distinguish the third one, made by double trace, slightly triangular head, headdress forming two protrusions like horns, straight and stylized body, and hands and feet inverted, V-shaped. Under the hands we see a vertical zigzag line and a pair of curved lines. On the head, consecutive small lines are noted (fig. 9).

The panel is completed by a number of simple and schematic anthropomorphs, various vertical lines, a serie of circles, a double line with traces ascending to the left side, undetermined elements, various remains and a vertical trace with a circle on the upper end thereof, similar to that displayed on the heads of the three main characters of the outer block, and described by Ballereau (1988) as an 'elemento horizontal puntiagudo, provisto de una masa', apparently a ceremonial rod. In all these figures the technique is the profiling and the flat colour.

Fig. 9. Characters of the Panel I. Digital Photograph and image treatment by DStrech (Photograph, Albert Rubio.)

**The blocks**

Nos. III and VI stand out among the six blocks, the first located at the entrance of the enclosure with a series of small cup marks on the top edge and adjacent areas. In our opinion, these small perforations should exercise the function of markers or solar indicators for determining specific dates (fig. 10). The second, attached to the right end of the enclosure, has elongated

Fig. 10. Block III. Small cupmarks are observed in the upper edge of the block and the projection of sunlight (Photograph, Albert Rubio).

and narrow morphology, containing several fixed mortar bowls. It seems that this block was worked, levelled and installed with the support of other rocks (fig. 11).

Another block with traces of pigment, possibly used for making paint, was also recorded.

**Discussion**

Most researchers agree in granting a ritual character to the La Calera rock art. Amador (2010) proposed that the manifestations are related to the request for rain and the ritual hunt of deers. While we agree with this interpretation, we would insist on other aspects, that assume the deer as an entity linked to the sun among North American groups. In the enclosure, we have noted the presence of two deer facing west, which could represent the subject of ritual hunting and also the intermediary or solar personification that would be consumed to commune with the deity and seek abundance of goods (Viñas and Saucedo 2000; Viñas and Rosell 2009; Viñas 2013).

On other hand, Block III marks an interest in the path of sunlight, though inside we did not observe any clear representation of the sun, except for the presence of other linked geometric signs, or the presence of two marked deer.

**Conclusions**

Observations on the rocky enclosure point to a complex ceremonial site that reinforces the symbolic content of the site and of the hill itself, which we interpret as an abode of supernatural forces; a space for congregation and cohesion, intended to carry out requests, festivals and ritual dances.

The content of the rock art evokes the symbolism of the wind, clouds and water, which are associated with the expression of spirits conducive to rain, like the lightning snake, and which are assistants of the ritual specialists (vertical zigzags, diamond-shape elements, wavy lines, 'S', human-lizard, etc) (Underhill 1948; Schaafsma 1980; Wittley 2000; Amador 2010; Viñas 2010).

In our opinion, the enclosure was an excellent location for astronomical observation, as Block III indicates,

Fig. 11. Block VI, with presence of fixed mortar bowls (Photograph, Ramon Viñas).

that probably allowed the annual screening of the sun. Moreover, the view from the site, facing west, is broad and with the hills presents an interesting celestial horizon for the start of the summer solstice, which heralds the rainy season, and is useful for recoring the positions of certain constellations overnight.

In conclusion, it is a cavity that served as a centre for the request for rain, broadly linked to fertility and other ritual celebrations, and inhabited by supernatural forces. However, there are still many issues to be resolved in the archeological research onLa Proveedora and La Calera, due to the vastness of the territory and the collection of rock art and to the different types of ceremonial evidence and archeological sites, with which shall be established the periodization of the occupations and affiliations of the prehistoric authors, complex issues that require lengthy projects with interdisciplinary teams and extensive resources.

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# The rock art of Indo-European cultures: concordances, logics and possible common values

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After more than two centuries of debate on the existence, origin and history of Indo-Europeans, today we are more or less stationary: the updated intersection of linguistic, genetic, mythographic and especially archeological data has erased any remaining doubt about the origin of the ethnic and cultural nucleus of the Indo-Europeans in the steppes. Most specialists consider this thesis to be ascertained. Among others, the recent, rigorous *status quaestionis* of Lebedynsky (2011) and Haudry (2001), the genetic analysis of the Cavalli-Sforza group (Cavalli-Sforza et al. 2001, on the R1a haplogroup of the Y chromosome), and the progress in archeology and comparative linguistics (Haudry 2001, Martinet 1987, Villar 1997) disprove Renfrew's (1988) Balkan-Anatolian thesis and the more fanciful Middle Eastern, Northern, Paleolithic and Indian ideas.

Basically the main lines traced by Gimbutas (1980) and by Mallory (1989, 1997) and Dexter et al. (1997) are confirmed, as well as at least some of those drawn by Dumézil: their work, too quickly and ideologically blacklisted, now looks like more than pioneering in view of the current data. The result is the historical presence of a culture, or better a unitary cultural sequence, which holds the Indo-European key features, a matrix which, with varying degrees of development, replicates in a three-millennial process.

Rock art, has been little considered so far even by its own researchers, since they are on hold on the whole Indo-European (IE) *quaestio*. Recognition should, however, be given to Anati for his early intuitions about the Indo-Europeanism of the stelae phenomenon (Anati 1986) and to central Asian colleagues for a constant natural tendency to link the prehistoric rock art of the area to Indo-Europeanization, including interesting parallels with what is testified by the oldest sources (especially Veda and Avesta) and the local shamanic traditions (Samašev 1992, Martinov et al. 1992, Rozwadowsky 2004). I think it is time to fill this gap with a wide synthesis of assessments on Euro-Asian contexts, which show indubitable thematic and symbolic convergences starting at the beginning of the third and the early second millennia BC.

In fact, prehistoric rock art from the Chalcolithic to the Iron Age shows a progressive and changing focus on weapons and warriors, circular shapes, some zoomorphic figures and carts, tools and structures, proceeding towards a proportional, realistic representation, with an individualistic and personalizing tone becoming more and more evident. And while man (often ithyphallic) and his role are widespread, the female figure, when recognizable, is progressively marginalized, confined to a few areas, such as the scenes of coupling (*topos* of the importance of a male role) or worship and the feminine itself seems transposed into symbolic elements. The disarmed male figures, especially of orant type, have at the same time a strong ritual emphasis.

This imperfect summary, deliberately beyond the regional peculiarities and the related continuation or addition of traditional lines, gives us the picture of a very different world from what we see in the Neolithic iconography. Here is a world ideologically ruled by masculine values in all their aspects: we see the warrior, the hunter, the driver of carts and ships, the ploughman, the shepherd, the craftsman in the products of his art, the procreator in the act of fertilizing, the orant, the priest or the god that connects every aspect of creation.

Alongside, we see wild animals in the mythical world of the hunter, with a widespread emphasis on male deer, and among the domestics the purely male horse, then birds (typical of the western regions) that are related to the celestial and probably funerary symbolic dimension. At the top of stelae we can find rounded, pointed or cruciate discs in close connection to male figures. Furthermore, the scenes show the typically Chalcolithic frontal, vertical, ascending view of the stelae, which also possibly possesses a phallic symbology. And these themes seem to make up an extensive ideological set which occurs throughout the same time-frames and in the same areas of the great Indo-European expansion, a set that converges with what is revealed by the ritual, essentially funeral,

customs of the corresponding archaeological cultures. It follows a logical parallel with the linguistic, symbolic-religious and paleogenetic research, including first and foremost the macroscopic phenomenon of hybridization and regional particularization in the dynamics of the phases, which occur in all the considered areas. And it happens so clearly that we may miss the phylogenetic dynamic that joins them all.

The linguistic studies, despite the large, complex, open-ended problems, now appear more mature and relevant. They have identified so far a phonology, a lexicon and a clearly Indo-European inflectional morphology of a branched development along four stages (Lebedynsky 2011, Haudry 2001): first, the original, undivided version of indefinable, but at least Chalcolithic date (between the fourth and the early third millennium BC); second, the previous version, based on the bifurcation of the Anatolian languages (and perhaps the Tocharian, from the early second millennium BC or earlier); third, the "mature Indo-European" (West 2007); fourth, the classic version reconstructed on the basis of historical languages.

The archeological structure directs this vision. Rock art gives similar results: if, borrowing the language method, we try to identify radicals (themes), suffixes (declination of the themes) and basic morphology, we find well-known similarities which are normally attributed to simple dialectic intercultural and multifaceted exchanges. Reticular dialectic, certainly true, but if the Indo-Europeanization is a reality – and it is – these concordances should be read as an ideological source centre of Chalcolithic age, which won the entire European continent and Central Asia in waves over a period of at least three millennia. The problem is to understand which are the authentic radicals and which the morphology, a complex operation that requires data from parallel disciplines and the courage of a broad vision, extremely difficult in nowadays' general sectorial analytical trend.

According to Meillet (1922), a term can be considered of IE origin if it appears in at least three distinct branches of the IE languages, which have to be non-contiguous and isolated, i.e. without the possibility of horizontal transmission. Applying this approach to rock art would certainly gain valuable information, but also considerable reliability problems, given the very selective (limited) number of rock art themes, the logic of symbolic language and the sharing of various ideograms over multiple cycles. On the other hand, in certain cases the same phenomenon for which the Chinese ideogram *hanyu* can be understood may be found in an identical way, but read differently in each of the ten Chinese linguistic/cultural groups. In rock and associated iconography, a broader response is needed. The research should not be limited to the individual subject, but must include the morphologic set and the organic overall ensemble of different contexts. Tracking down the lowest common denominator can be a solid foundation in reconstructing the original ideological matrix.

The primary phenomena are the stelae/engraved boulders dating to the Chalcolithic (third millennium BC), typical of the territory from the Alps to the Ukrainian steppes, which shows a greater adherence to the symbolism of weapons. This topic is too complex to be fully discussed here, so I will just mention the rupestrian locations of the late fourth millennium BC (Valcamonica, Mount Bego, French Midi, Wartbergkultur area) and the strong presence of an different tradition in the Western Atlantic context (from the late fourth millennium until the Bell-beaker culture), albeit with special enclaves (Galicia).

The first engravings of this type appear in the Caucasus-Kazakh area at least at the end of the fourth and the beginning of the third millennium BC, but the phenomenon of rock art is paramount during the Bronze Age. On the heels of the Bell-beaker culture, with a peak around the middle of the second millennium BC, all the major European regions were involved in this change (with greater resistance in west Rhine regions and the British islands).

Between the end of the Early Bronze and the beginning of the Middle Bronze Age (or EBA2–MBA1, in central European terminology around the 12th to the 15th centuries BC) we see the first peak of expansion, with significant rupestrian evidence in South Scandinavia, the Iberian Peninsula, the Alps and Central Asia, with likely influences as far as the central Sahara (early phase of the Garamantes, with carts and horses in flying gallop). Some of the subjects become dominant and grow continuously, with progressive regional changes, up to the second peak, around the Late Bronze Age (from the 12th century BC) to the

beginning of the Iron Age (from the ninth century BC) and throughout the following period until historical times. The conference in Tanum in 2012 highlighted the common themes and common cultural basis between the central Alps and Scandinavia; there was a particularly interesting prevalence in both the considered areas of the representation of weapons and discs in the early stages of the Nordic Bronze Age and the coeval EBA2–MBA1 of the central Alpine area. Moreover, a parallel emphasis on armed men and a related iconographic set have also been identified: two- and four-wheeled carts, ploughing, footprints, orants and big-handed figures, scenes of coupling, schematic signs and so on.

The Iberian Peninsula has clear evidence of a Chalcolithic development starting from the lines emerging during the megalithic tradition of the local Neolithic, with a strong localized intrusion of new concepts, especially in the eastern area. The Galician weapons (daggers, halberds, axes) engraved in a context that places great emphasis on circular shapes (concentric disks, spirals), idols, deer/stags and perhaps the first squares (topographic?) are specially interesting. Later, during Bronze Age 1 and 2, circular forms, weapons and deer continue, with additions in Bronze Age 3 and the Iron Age of horses, horsemen, chariots, mazes, paddles, footprints and swastikas, with initially absent and therefore very rare anthropomorphic representations (Peña Santos, Rey Garcia 2001).

Expanding the dialogue with the fourth largest rock art area of the Bronze Age and early Iron Age, i.e. the Central Asian region, we notice even in a brief overview (considering the diversity of contexts, from the North Caucasian to the Altai) the emergence of the same main subjects: two- and (rarer) four-wheeled carts, discs with radial or other type of interior decoration, warriors, orants with raised or orthogonal arms, including many ithyphallic men and big-handed figures, scenes of coupling, schematic signs; huge prominence is given to animal figures, especially deer, horse and the wild goat with long, curved horns. Among the warriors there is an absolute prevalence of archers, mostly in hunting scenes, but there are also figures with swords, maces and spears; shields and unheld weapons are rare, while duellists and raiders are well represented and very significant. As in Alpine and Scandinavian areas, choral scenes are frequent and tend to be associated in standard modules.

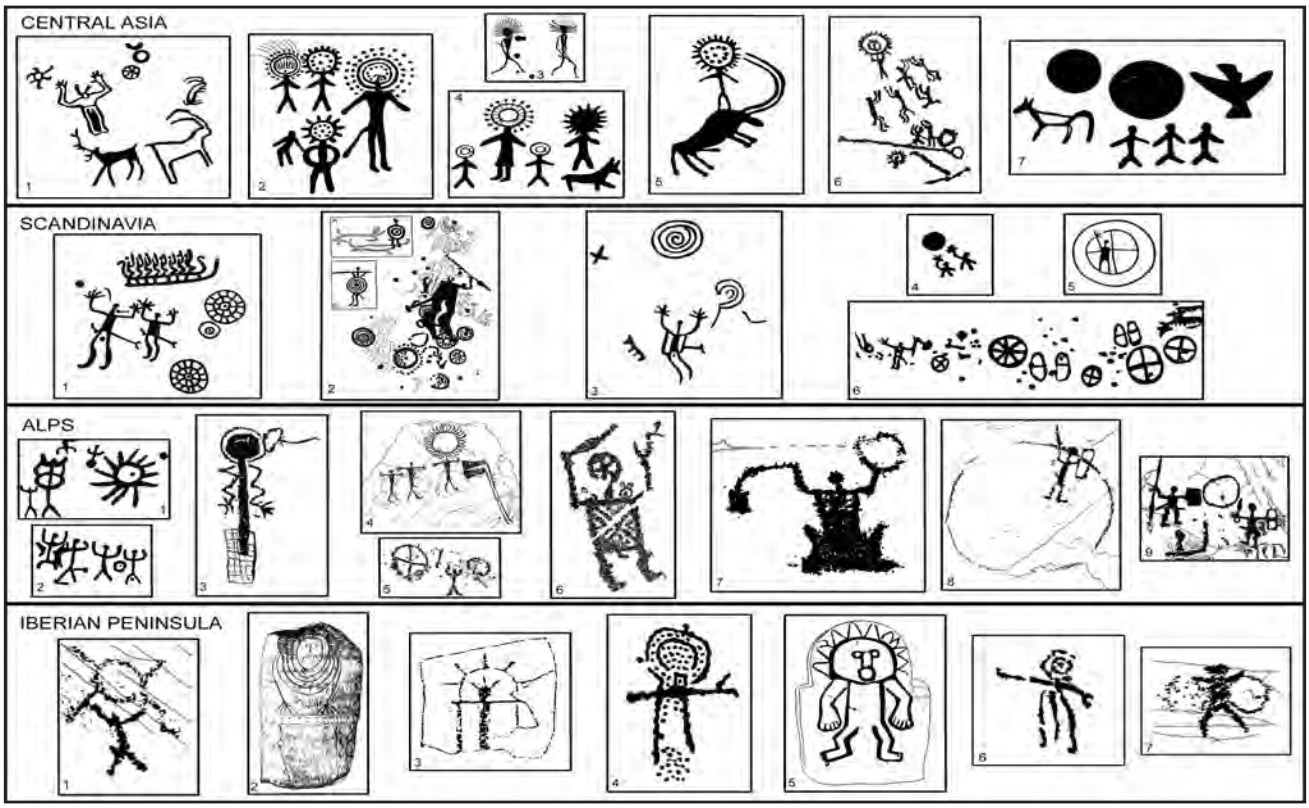
These four rupestrian contexts are very clearly characterized, being the result of different histories and environments, but the background and the ideological root are similar; this original seed provides the Uranic and warrior hero clichés that the archeological record and the historical religious data remind us are the fundamental IE characteristics. This is a cultural root that, in line with the most recent acquisitions, coincides very little with the ethnic factor and even with the language: the area of Valcamonica and Valtellina expresses, for example, non-IE languages and the same can presumably be said for of the first inscriptions the central Sahara.

**Epistemiological conclusion**

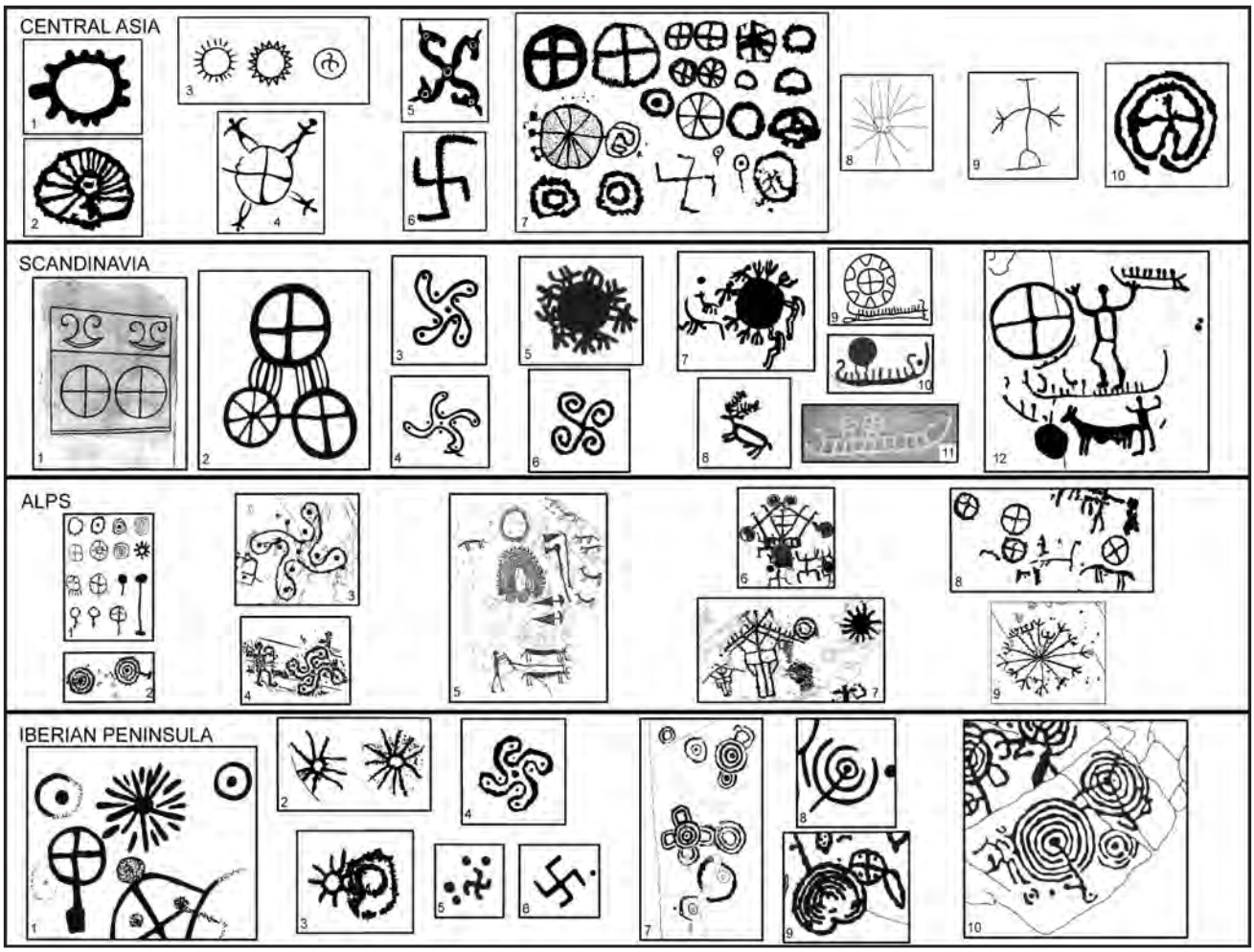
Following Meillet's rule, even with the above limitations, may open up new research frontiers, which will be variously extendable to other smaller continental contexts. These are the few, simple rupestrian radicals, which can find countless parallels outside the IE space and time when taken in isolation but which, if morphologically considered as a whole, as a set of context, certainly offer new insights on the theme.

There is no place here to give other significant details (work in progress), only to initialize the problem, so I am already taking for granted the severe criticism of many colleagues. On such a broad topic the call is to open up wide-ranging research, not with a single disciplinary perspective, but in a fleet with all the parallel and convergent others. It is in praise of synthesis, the result of myriad analyses, which we must have the courage to embrace: this is not an optional but a primary task of the historical and human sciences.

This text integrates and revises what has already been presented in the article: Reflection on European and Central Asian rock art in the Indo-European framework. XXV Valcamonica Symposium 2013, Capo di Ponte, Italy.


CENTRAL ASIA
SCANDINAVIA
ALPS
IBERIAN PENINSULA

Pl. 1


CENTRAL ASIA
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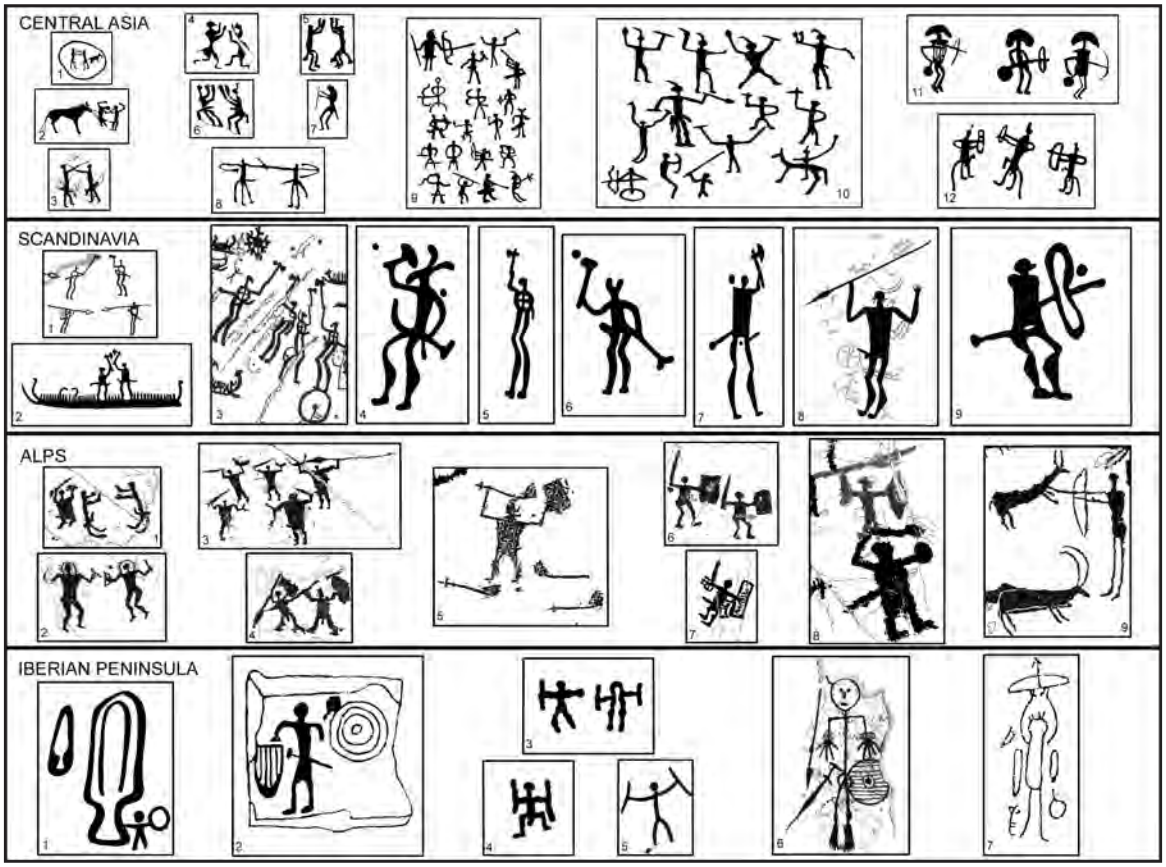
IBERIAN PENINSULA

Pl. 2


CENTRAL ASIA
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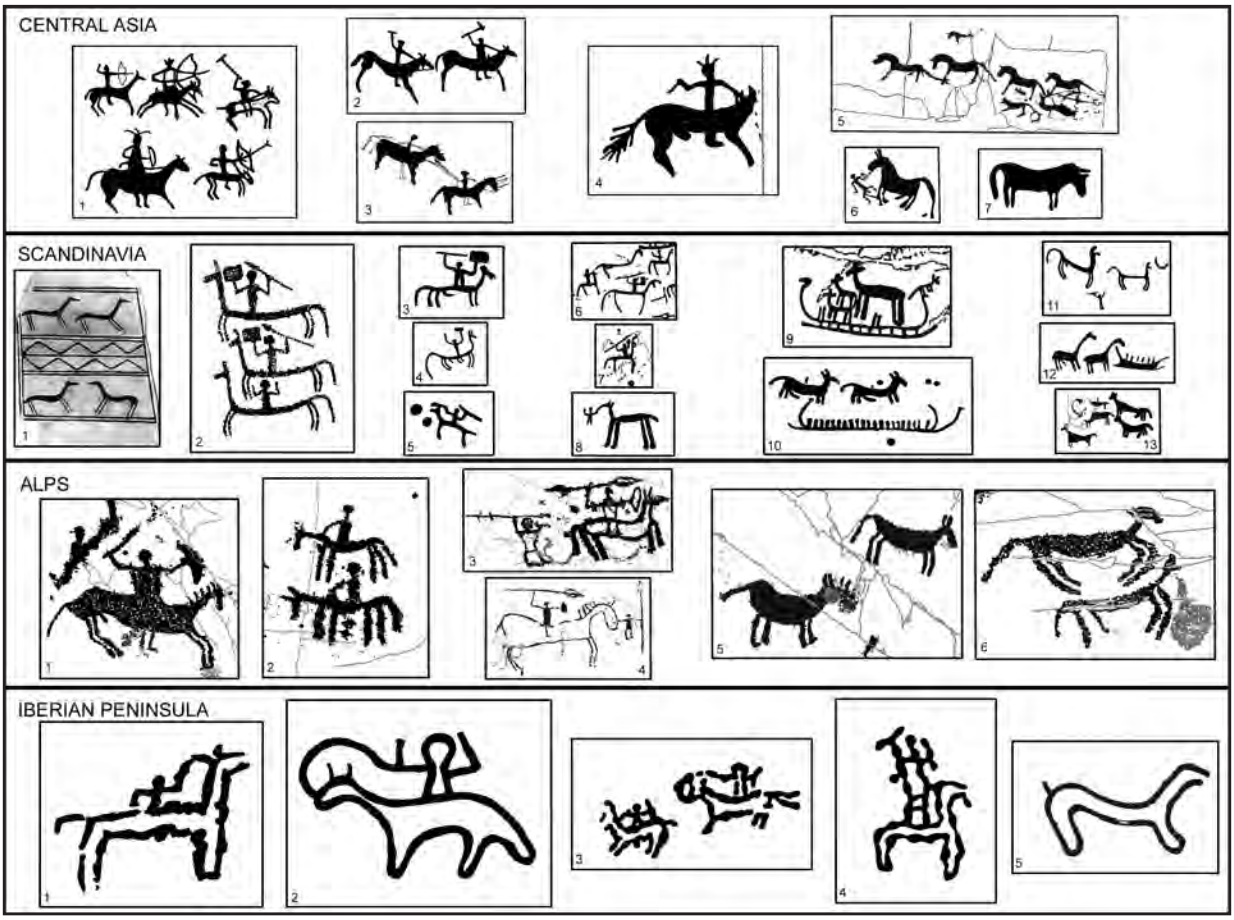
IBERIAN PENINSULA

Pl. 3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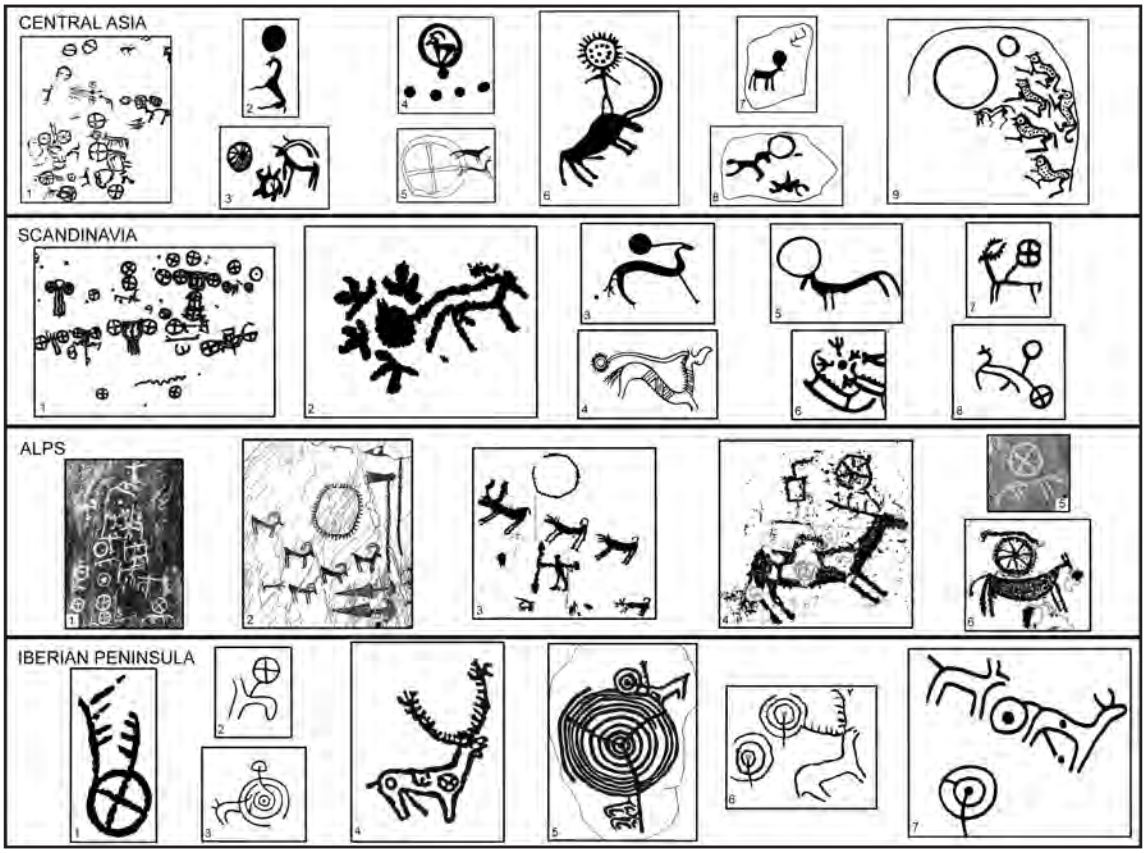
Pl. 4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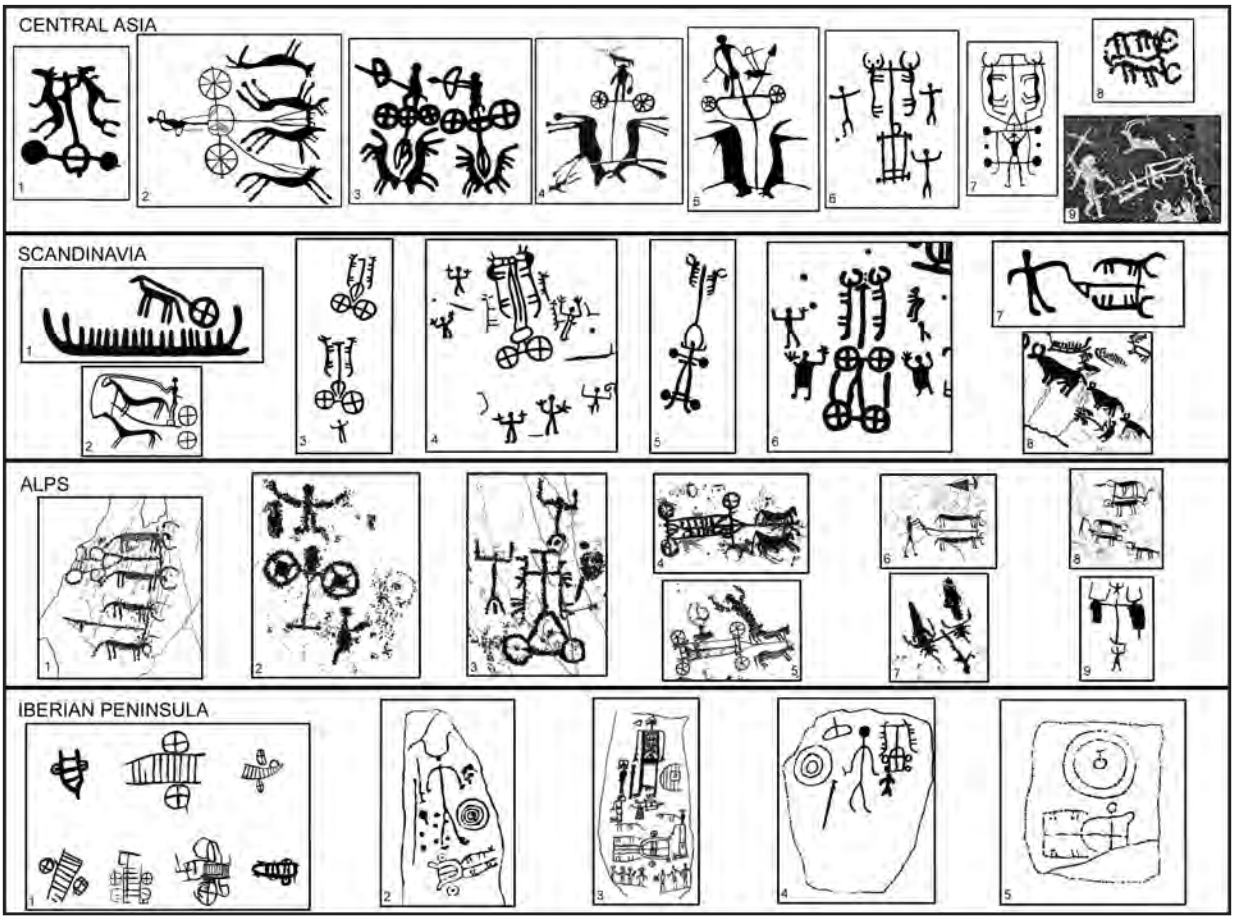
Pl. 5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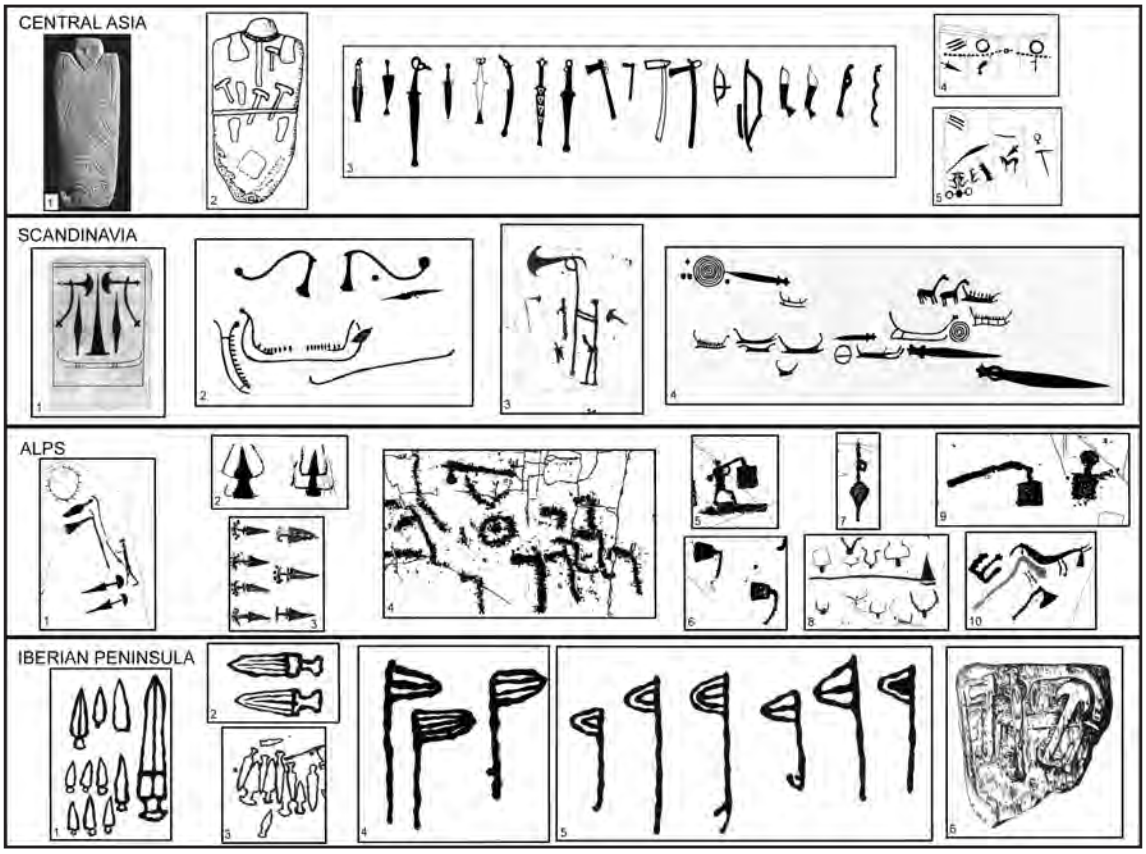
IBERIAN PENINSULA

Pl. 6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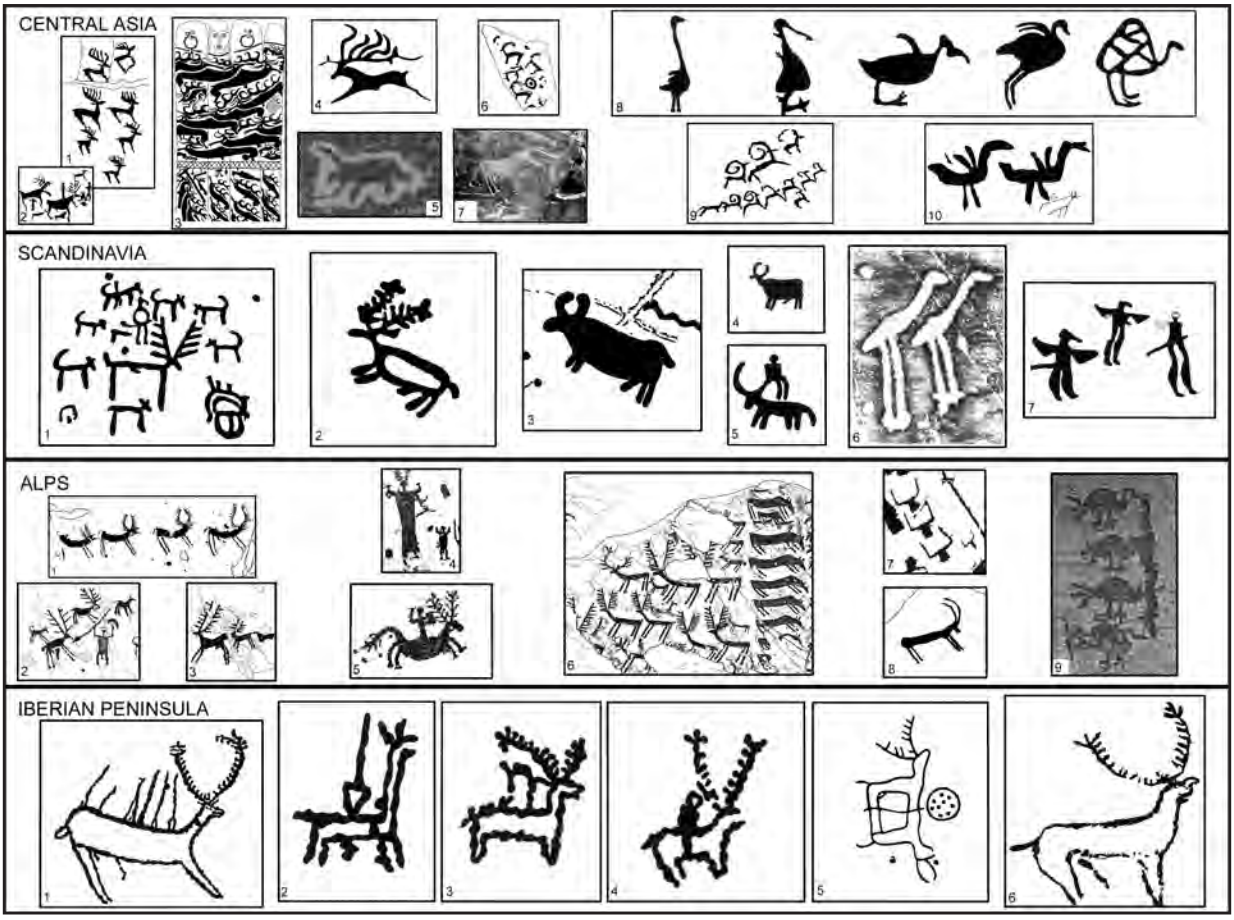
SCANDINAVIA
ALPS
IBERIAN PENINSULA

Pl. 7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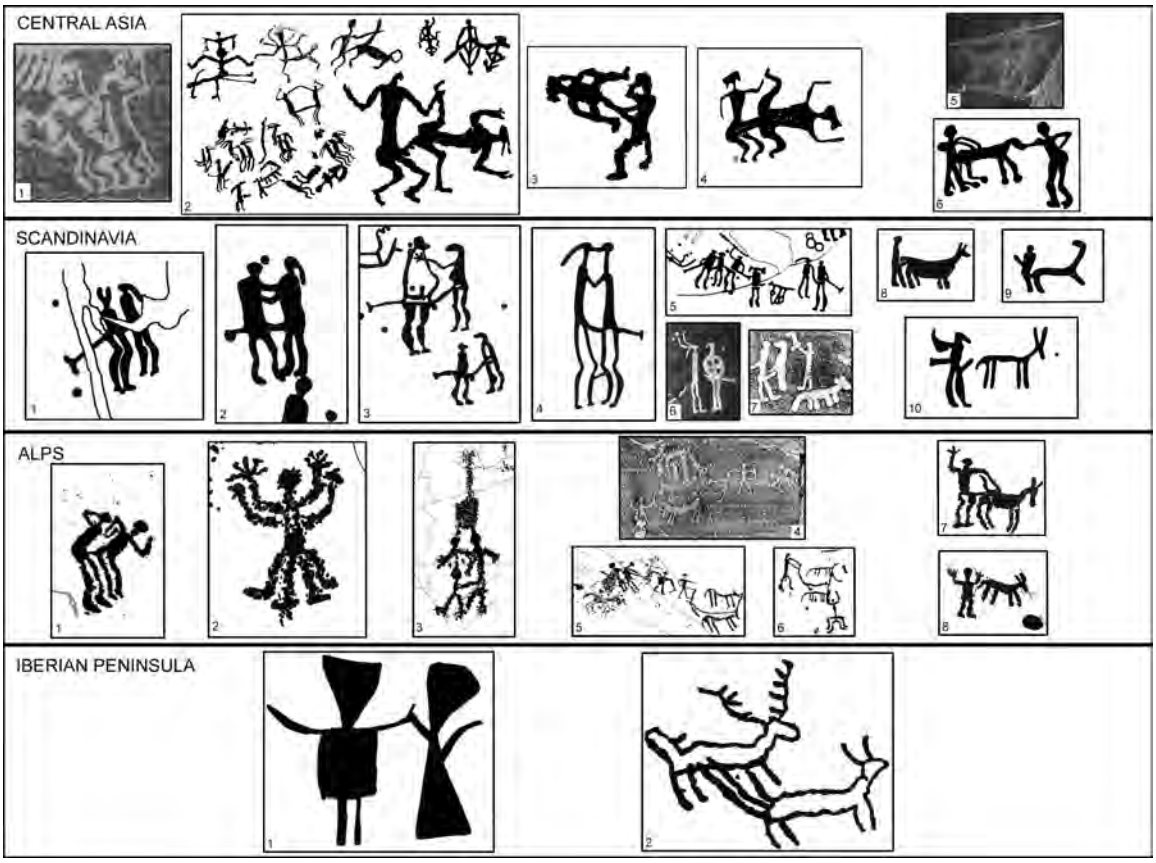
Pl. 8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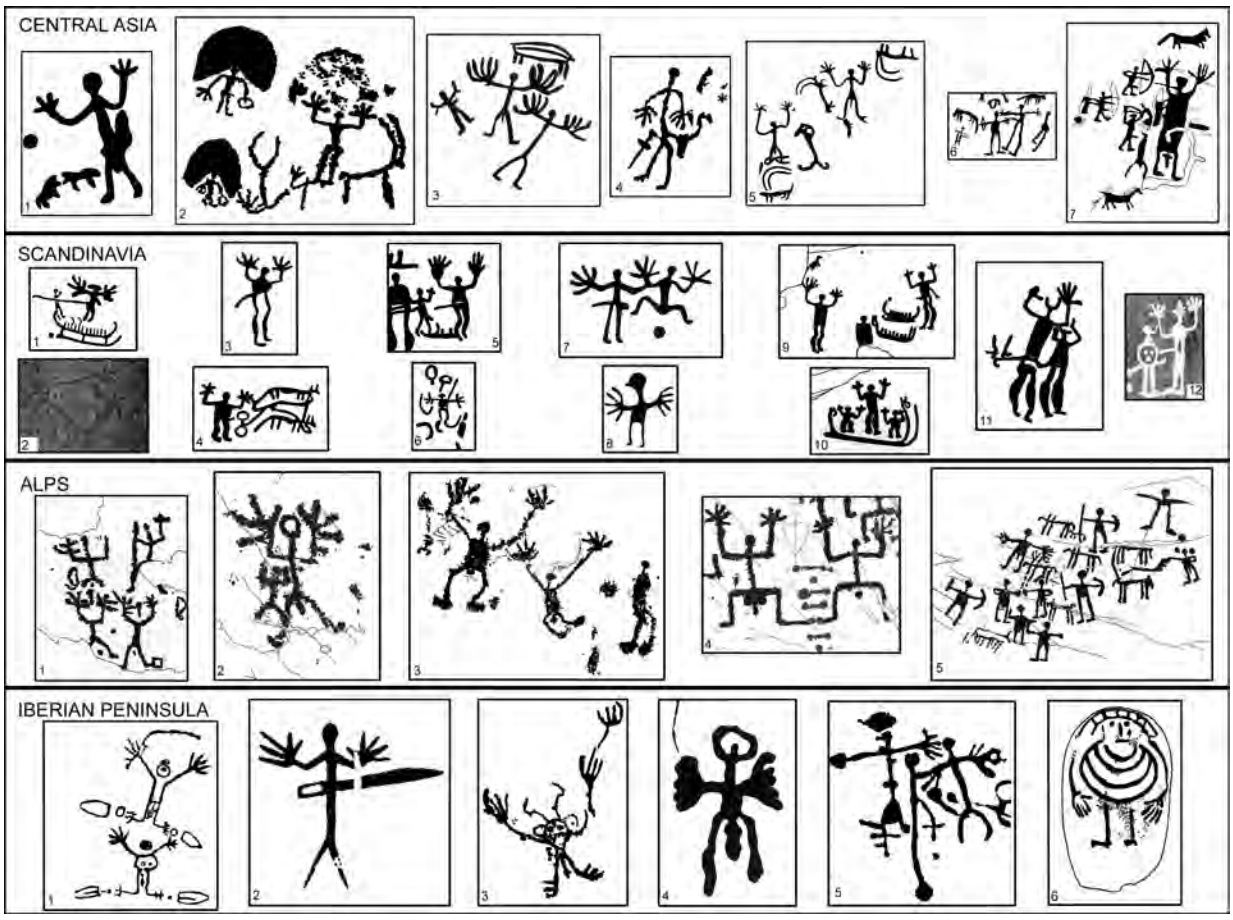
SCANDINAVIA
ALPS
IBERIAN PENINSULA

Pl. 9


CENTRAL ASIA
SCANDINAVIA
ALPS
IBERIAN PENINSULA

Pl. 10

PL. 1
**CENTRAL ASIA**: 1- Yazyly, Azerbaijan (Dzhafarzade 1973) 2 - Various localities of Kazakhstan (Marikovskii 1999) 3- Karakol, Altay, Russia (Okladnikova 1995) 4- Various localities of Kazakhstan (Marikovskii 1999) 5- Tamgaly, Kazakhstan (Jacobson 1993) 6- Saimaly-Tach, Kazakhstan (Martynov, Mariachev, Abetekov 1992) 7- Dood-Chulgan, Mongolia (Nowgodorowa 1980).
**SCANDINAVIA**: 1- Askum Raä, Bohuslän, Sweden (Bengtsson ed.1998) 2- Various localities of Bohuslän, Sweden (Van Hoek 1998) 3- Askum Raä, Bohuslän, Sweden (Bengtsson ed.2002) 4- Tanum no.193, Bohuslän, Sweden (Bengtsson ed.1995) 5- Backa Brastad, Bohuslän, Sweden (Abelin 2000) 6- Flyhov, Bohuslän, Sweden (Bertilsson ed.1989).
**ALPS**: 1- Coren del Valento, Valcamonica, Italy (Anati 1982a) 2- Coren del Valento, Valcamonica, Italy (Anati 1982a) 3- Mont Bego, France (De Lumley 1996) 4- Ossimo IX stelae, Valcamonica, Italy (Casini ed.1994) 5- Luine, Valcamonica, Italy (Anati 1982b) 6- Paspardo, Valcamonica, Italy (tracing by Le Orme dell'Uomo) 7- Campanine, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 8- Pagherina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 9- Pagherina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP).
**IBERIAN PENINSULA**: 1- Ficalho, Portugal (Baptista 1981) 2- Badajoz, Spain (Anati 1968) 3- Extremadura stele, Spain (Celestino Pérez 1990) 4- Outeiro de Mina, Galicia, Spain (Peña Santos Rey Garcia 2001) 5- Santa Eulalia stele, Galicia, Spain (Anati 1968) 6- São Simão, Portugal (Coimbra 2013) 7- Gardete, Portugal (Baptista 1981).

PL. 2
**CENTRAL ASIA**: 1-Džungarski Alatau, Kazkhstan (Marokovskii, Ivko 2001) 2- Saimaly-Tach, Kazakhstan (Martynov, Mariachev, Abetekov 1992) 3- Unknow localities, Mongolia (Nowgodorowa 1980) 4- Gueghamian Mountains, Armenia (Martirosyan, Israelyan 1971) 5- Aimag of Zavkhan, Mongolia (Nowgodorowa 1980) 6- Gueghamian Mountains, Armenia ( Martirosyan Israelyan 1971) 7-Various localities of Kazakhstan (Samashev 1992) 8- Talma, Upper Lena basin, Russia (Okladnikov 1977) 9- Talma, Upper Lena basin, Russia (Okladnikov 1977) 10- Moynak, Kazakhstan (Samashev 1992).
**SCANDINAVIA**: 1- Kivik grave, Scania, Sweden (Goldhahn 2005) 2- Backa Brastad, Bohuslän, Sweden (Bengtsson ed.2009) 3- Askum Raä, Bohuslän, Sweden (Bengtsson ed.2002) 4- Askum Raä, Bohuslän, Sweden (Bengtsson ed.2002) 5- Fossum, Bohuslän, Sweden (Milstreu Prøhl ed.1999) 6- Tossene, Bohuslän, Sweden (Bengtsson ed.2009) 7- Asperberget, Bohuslän, Sweden (Milstreu Prøhl ed.1996) 8- Asperberget, Bohuslän, Sweden (Milstreu Prøhl ed.1996) 9- Ullensvang, Hordaland, Norge (Sandland 1997) 10- Tossene, Bohuslän, Sweden (Bengtsson ed.2009) 11- Egely, Bornholm, Denmark (Kaul 1998) 12- Tossene, Bohuslän, Sweden (Bengtsson ed.2009).
**ALPS**: 1-Mont Bego, France (De Lumley 1996 Dufrenne 1997) 2- Luine, Valcamonica, Italy (Anati 1982b) 3- Carpene, Valcamonica, Italy (Sansoni 1987) 4- Pià d'Ort, Valcamonica, Italy (Farina 1998) 5- Bagnolo II stelae, Valcamonica, Italy (Casini ed.1994) 6- Campanine, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 7- Dos del Pater, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 8- Seradina, Valcamonica, Italy (Anati 1982a) 9- Zurla, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP).
**IBERIAN PENINSULA**: 1-Portela da Laxe, Viascon, Spain (Anati 1968) 2- Vale do Tejo, Portugal (Gomes 1989) 3- Fratel, Portugal (Gomes 2000) 4- Castro Guifões, Portugal (Coimbra 1999) 5- Os Covelos, Vigo, Spain (Costas goberna 1985) 6- Portela da Laxe, Viascon, Spain (Anati 1968) 7- Laje do Sinais, barcelos, Portugal (Coimbra 2004) 8- Valga, Galicia, Spain (Garcia Alén Peña Santos 1980) 9- Campo Lameiro, Galicia, Spain (Garcia Alén Peña Santos 1980) 10- Pontevedra, Galicia, Spain (Peña Santos Rey Garcia 2001).

PL. 3
**CENTRAL ASIA**: 1 - Eškiol'mes, Kazakhstan (Mar'jasev, Gorjacev, Potapov 1998) 2- Eškiol'mes, Kazakhstan (Mar'jasev, Gorjacev, Potapov 1998) 3- Sagyr, Kazakhstan (Samashev 1992) 4- Tamgaly, Kazakhstan (Samashev 1992) 5- Saimaly-Tach, Kazakhstan (Samashev 1992) 6- Tamgaly, Kazakhstan (Samashev 1992) 7- Tamgaly, Kazakhstan (Samashev 1992) 8- Mojnak, Kazakhstan (Samashev 1992) 9- Various localities of Siberian Federal District, Russia (Vasilevskii 1992) 10- Various localities of Siberian Federal District, Russia (Vasilevskii 1992) 11- Ortaa-sargol, Russia (Devlet 1982) 12- Various localities of Mongolia (Okladnikov 1981b).
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PL. 4
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PL. 5
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PL. 6
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PL. 7
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**SCANDINAVIA**: 1 - Kivik grave, Scania, Sweden (Goldhahn 2005) 2 - Simrishamn, Scania, Sweden (Kristiansen 2012) 3 - Simrishamn, Scania, Sweden (tracing by Dip-Valcamonica CCSP) 4 - Fiskeby, Bohuslän, Sweden (VV.AA. 1966).
**ALPS**: 1 - Caven II stelae, Valtellina, Italy (Casini ed.1994) 2 - Mont Bego, France (De Lumley 1996) 3 - Foppe di Nadro, Valcamonica, Italy (Chiodi Masnata 2004) 4 - Tresivio, Valtellina, Italy (Sansoni Gavaldo Gastaldi 1999) 5 - Pagherina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 6 - Campanine, Valcamonica, Italy (Sansoni Gavaldo 2009) 7 - Campanine, Valcamonica, Italy (Sansoni Gavaldo 2009) 8 - Mont Bego, France (De Lumley 1996) 9 - Campanine, Valcamonica, Italy (Sansoni Gavaldo 2009) 10 - Boscatelle, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP).
**IBERIAN PENINSULA**: 1 - Auga de Laxe, Galicia, Spain (Peña Santos Rey Garcia 2001) 2 - Castriño de Conxo, Galicia, Spain (Peña Santos Rey Garcia 2001) 3 - Campo Lameiro, Galicia, Spain (Peña Santos Rey Garcia 2001) 4- Pedra Ancha, Galicia, Spain (Peña Santos Rey Garcia 2001) 5- Auga de Laxe, Galicia, Spain (Peña Santos Rey Garcia 2001) 6 - Santa Vitoria, Beja, Spain (Anati 1968).

PL. 8
**CENTRAL ASIA**: 1 - Nikitinka, Kazakhstan (Samashev 1992) 2- Elgazur, Russia (Okladnikov 1974) 3 - Uushigiin Uver, Mongolia (Nowgodorowa 1980) 4 - Khobd-Somon, Mongolia (Okladnikov 1980) 5 - Stelae of Kernosivka, Ukraine 6 - Narbota, Kazakhstan (Samashev 1992) 7 - Tamgaly, Kazakhstan (Mar'jasev, Gorjacev, Potapov 1998) 8 - Gueghamian Mountains, Armenia (Martirosyan 1981) 9 - Okej, Kazakhstan (Samashev 1992) 10 - Kulenga, Upper Lena basin, Russia (Okladnikov 1977).
**SCANDINAVIA**: 1 - Massleberg, Bohuslän, Sweden (Coles 1990) 2 - Asperberget, Bohuslän, Sweden (Milstreu Prøhl ed.1996) 3 - Asperberget, Bohuslän, Sweden (Milstreu Prøhl ed.1999) 4 - Fossum, Bohuslän, Sweden (Milstreu Prøhl ed.1999) 5 - Torsbo, Bohuslän, Sweden (Bengtsson 2001) 6- Backa Brastad, Bohuslän, Sweden (Evers 2001) 7 - Kallsängen in Bottna, Bohuslän, Sweden (Hygen Bengtsson 2000).
**ALPS**: 1 - Seradina, Valcamonica, Italy (tracing by CCSP) 2 - Pagherina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 3 - Zurla, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 4 - Naquane, Valcamonica, Italy (Anati 1982a) 5 - Naquane, Valcamonica, Italy (tracing by Le Orme dell'Uomo) 6- Cemmo II stelae, Valcamonica, Italy (Casini ed.1994) 7 - Mont Bego, France (De Lumley 1996) 8 - Tirano-Lovero, Valtellina, Italy (Casini ed.1994) 9 - Naquane, Valcamonica, Italy (photo by CCSP).
**IBERIAN PENINSULA**: 1 - Os Carballos, Galicia, Spain (Peña Santos Rey Garcia 2001) 2 - Outeiro Gordo, Galicia, Spain (Peña Santos Rey Garcia 2001) 3 - Nabal de Martiño, Galicia, Spain (Peña Santos Rey Garcia 2001) 4 - As Martizas, Galicia, Spain (Peña Santos Rey Garcia 2001) 5 - Laxe das Lebres, Galicia, Spain (Peña Santos Vazquez Varela 1996) 6 -Campo Lameiro, Galicia, Spain (Anati 1968).

PL. 9
**CENTRAL ASIA**: 1 - Stelae of Kernosivka, Ukraine 2 - Various localities of Kazakhstan (Samashev 1992) 3 - Kurchum, Kazakhstan ( Samashev 1992) 4 - Khavtsgayt, Mongolia (Jacobson 1993) 5 - Saimaly-Tach, Kazakhstan (Martynov, Mariachev, Abetekov 1992) 6 - Terekty, Kazakhstan (Medoev 1979).
**SCANDINAVIA**: 1 - Tanum, Bohuslän, Sweden (Bengtsson Olsson ed.2000) 2 - Tanum, Bohuslän, Sweden (Bengtsson ed.1995) 3 - Varlös, Bo-

huslän, Sweden (Milstreu Prøhl ed.1999) 4 - Vitlycke, Bohuslän, Sweden (Coles 1990) 5 - Kville, Bohuslän, Sweden (Ling 2008) 6 - Slänge, Bohuslän, Sweden (Milstreu Prøhl ed.1999) 7 - Tanum, Bohuslän, Sweden (Evers 2001) 8 - Kville, Bohuslän, Sweden (tracing by Milstreu) 9 - Sagaholm mound, Jönköping, Sweden (Randsborg 1996) 10 - Kallsängen, Bohuslän, Sweden (Coles 1990).
**ALPS**: 1 - Zurla, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 2 - Foppe di Nadro, Valcamonica, Italy (Anati 1982a) 3 - Foppe di nadro, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 4 - Seradina, Valcamonica, Italy (photo by CCSP) 5 - Seradina, Valcamonica, Italy (Anati 1982a) 6 - Dos Cuì, Valcamonica, Italy (Anati 1982a) 7 - Coren del Valento, Valcamonica, Italy (Anati 1982a) 8 - Pagherina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP).
**IBERIAN PENINSULA**: 1 - Las Viñas, Andalusia, Spain (Anati 1968) 2 - Pazos de Borbén, Galicia, Spain (Garcia Alén Peña Santos 1980).

PL. 10
**CENTRAL ASIA**: 1 - Unknow locality, Kazakhstan (Marikovskii 1999) 2 - Saimaly-Tach, Kazakhstan 3 - Gueghamian Mountains, Armenia (Martirosyan 1981) 4 - Zevakino, Kazakhstan (Samashev 1992) 5 -Gueghamian Mountains, Armenia (Martirosyan, Israelyan 1971) 6 - Zevakino, Kazakhstan (Samashev 1992) 7 - Eškiol'mes, Kazakhstan (Mar'jacev, Gorjacev, Potapov 1998).
**SCANDINAVIA**: 1-Asperberget, Bohuslän, Sweden (Milstreu Prøhl ed.2004) 2- Vitlicke, Bohuslän, Sweden (Hygen Bengtsson 2000) 3 - Kville, Bohuslän, Sweden (Abelin 2000) 4 - Kville, Bohuslän, Sweden (Abelin 2000) 5 - Bräcke at Rixö, Bohuslän, Sweden (Coles 1990) 6 - Askum Raä, Bohuslän, Sweden (Bengtsson ed.1998) 7 - Askum, Bohuslän, Sweden (Abelin 2000) 8 - Kville, Bohuslän, Sweden (Abelin 2000) 9 - Tegneby, Bohuslän, Sweden (Bengtsson ed.1995) 10- Tanum, Bohuslän, Sweden (Bengtsson Olsson ed.2000) 11 - Tossene, Bohuslän, Sweden (Bengtsson ed.2009) 12 - Slänge, Bohuslän, Sweden (Milstreu Prøhl ed.1999).
**ALPS**: 1 - Naquane, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 2- Campanine, Valcamonica, Italy (Sansoni Gavaldo 2009) 3- Cereto, Valcamonica, Italy (tracing by CCSP) 4- Pagherina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP) 5 - Seradina, Valcamonica, Italy (tracing by Dip-Valcamonica CCSP).
**IBERIAN PENINSULA**: 1 - Montalegre, Portugal (Bettencourt 2004) 2- Monte Blanco stele, Badajoz, Spain (Gomes 2011) 3- Pampilhosa da Serra, Portugal (Batata Gaspar 2011) 4 - Pontecaldelas, Galicia, Spain (Peña Santos Rey Garcia 2001) 5 - Seia, Portugal (Ribeiro 2008) 6 - Ciudad Rodrigo idol, Spain (Anati 1968).

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# The use of burial space and social relations between the Late Neolithic Age and the Copper Age in Sardinia

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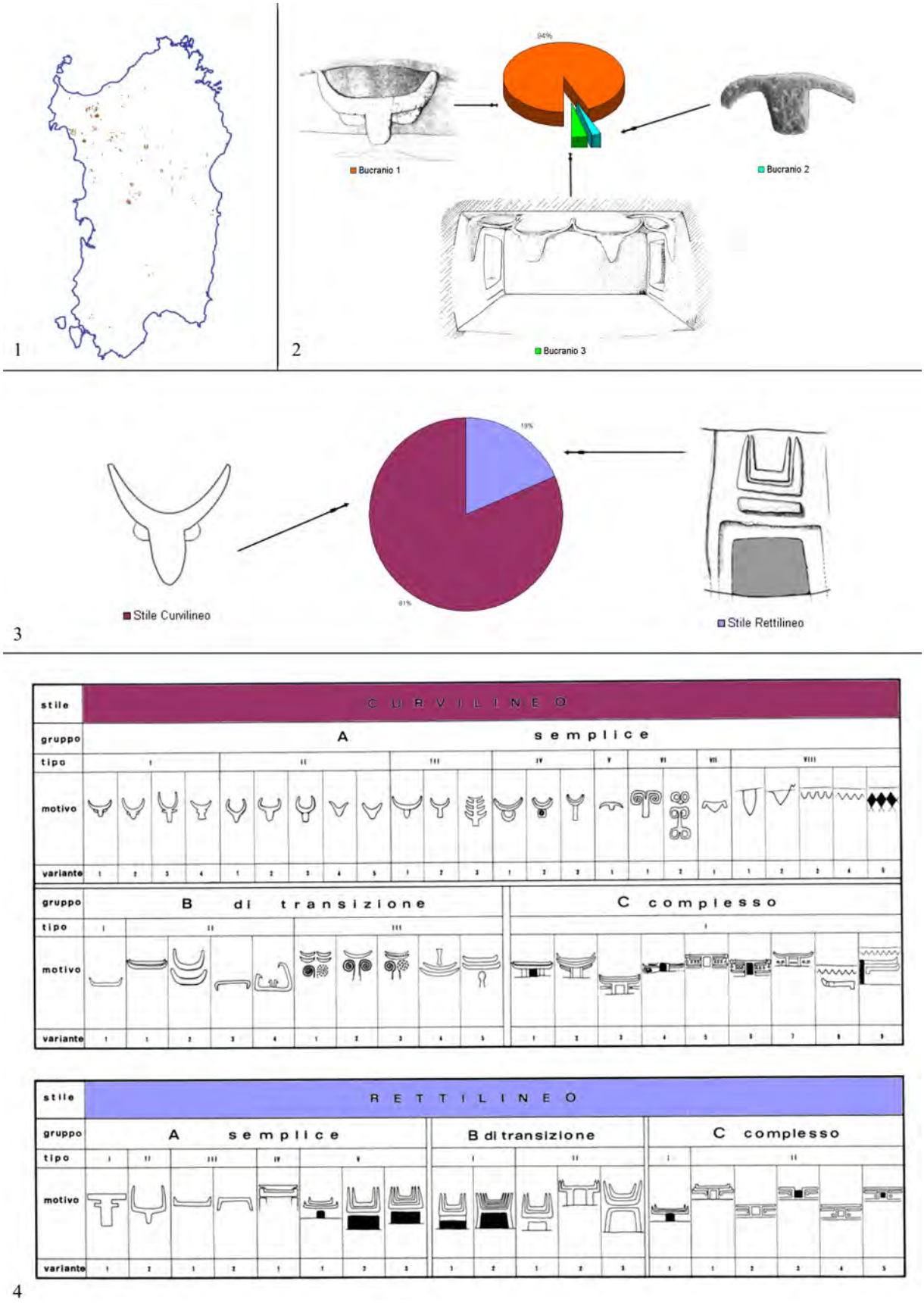
The figurative models of the Middle Neolithic Age (5060 ÷ 4050 BC) gave rise to the Domus de Janas art, and the culture of Ozieri (Late Neolithic Age, 4360 ÷ 3480 BC), which provide evidence of a major funerary ideology expressed mainly by the representation of real animals in a symbolic architectural context. (Fig. 1, 1: Distribution map).[1] It is an animal-centred art representing a portion of an animal with horns, implementing different techniques (sculpture, painting, engraving, punctuations of little dots or hollows), sometimes combined, focusing on the walls of 196 Domus de Janas (equal to 5% of the 3,500 funerary caves explored so far) (fig. 1:1). Among the figurative motifs, there is a great number and variety of bas-reliefs (convex or flat section) or false-reliefs: 262 motifs in 102 graves, which include four of the morphological categories of the six hypogeic wall art discovered so far: I, bucrania; II, comb-shaped; III, anthropomorphic; IV, weapons and tools; V, geometric figures; VI, architectural elements. Among the bucrania, three typological groups are recognized: bucranium 1 (forward horns), bucranium 2 (horns down), bucranium 3 (horns carved on the ceiling and facing the entrance, forward), with a prevalence of bucranium 1 (245 motifs), bucranium 2 (6 motifs) and bucranium 3 (11 motifs) (fig. 1:2).

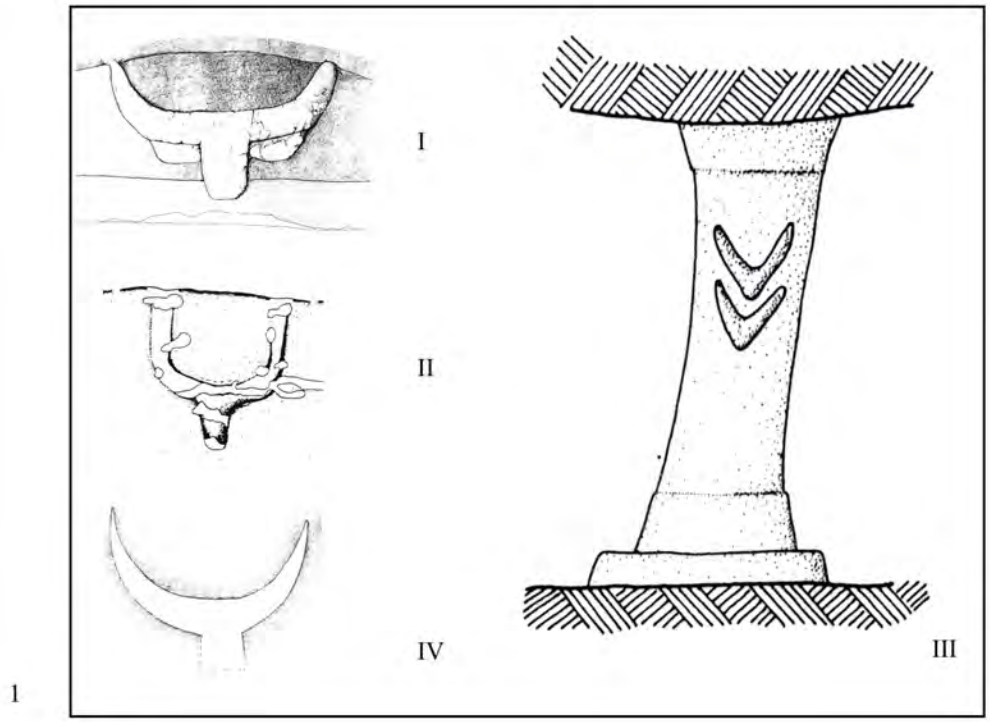
Some issues relating to the spacial organization of figurative signs will be briefly explored, including two of the styles identified so far, that is, the curvilinear pattern (Subclass a) and the straight pattern (Subclass b) (already discussed in Tanda 1977 pp. 16–21; 2007, pp. 127–34; 2008, pp. 99–143). Based on new available data, some common features may be identified in their distribution and position, which are, presumably, on the one hand a reflection of the economic and social changes that occurred between the Neolithic and Copper Ages in Sardinia; and, on the other hand, the result of the evolution of Neolithic burial ideology.

First, it is necessary to process the great amount of data concerning the number, the organization and position of the motifs and/or the figurative compositions. A significant number of Types I–IV signs (curvilinear pattern), both in absolute (fig. 2: 1) and relative terms in relation to each grave (Tanda 2007), may be registered. A significant concentration (at least six motifs or figurative compositions) may also be noted in 10 Domus de Janas, characterized by a complex plan or centripetal pattern, all located in the northwest of Sardinia, especially in Sassari (fig. 3:-3). These Domus de Janas are characterized by a high number of compartments (7–20) and a large surface. All of them display a T-shaped plant, with the exception of Tomb II of Pontesecco (figs. 3, 7), even those including clear evidence of renovations and expansions, and therefore may be regarded as refurbished. They are tombs which undergone expansions and renovations, made at different times and circumstances, such as, for example, the need to expand a basement, with the excavation of groups of cells, in particular junctions. In those hypogea, figurative types I–IV (79 of 108, 73% and 27% respectively) prevail; in Mesu ‘e Montes II, eight types may be found (table 1), testifying an intensive and long-lasting use of the hypogeum. Only three tombs (Enas de Cannuia, M. Siseri and Puttu Codinu), characterized by a T-shaped plant, do not seem to be affected by major refurbishing and the resulting upheavals. The absence of Types I–IV in two of those Domus de Janas, M. Siseri 1 and Puttu Codinu VIII, is worth noticing.

1 This 2011 contribution was sent to Dr Guillaume Robin, coordinator of the Colloque International “Fonctions, utilisations et représentations de l’espace dans les sépultures monumentales du Néolithique européen” (Aix-en- Provence, to be published), held at the Maison Méditerranéenne des Sciences de l’Homme, Aix-en-Provence, 8–10 June 2011. Despite a request for the update of the synoptical section of the publication in early 2012, on the request of D. Robin, no information on the publication of the records of the event is available. Therefore, I intend to publish the results in another journal. I pay tribute to Professor Emmanuel Anati for this opportunity. This work is a condensed version of a chapter included in the following monographic work: Giuseppa Tanda, *Le domus de janas con motivi scolpiti*, soon to be published (2015).




Figs. 1: 1, Distribution map of decorated Domus de Janas; 2 Distribution rate of the three bucranium models; 3 Distribution rate of curvilinear and rectilinear styles; 4. Type of carved motifs (Tanda, 1985).

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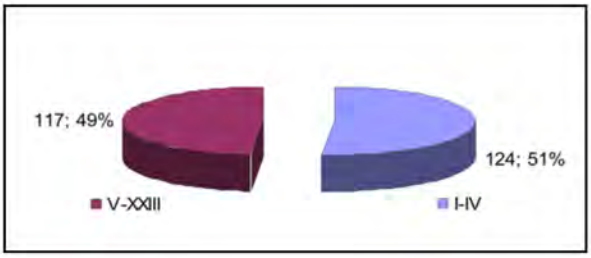


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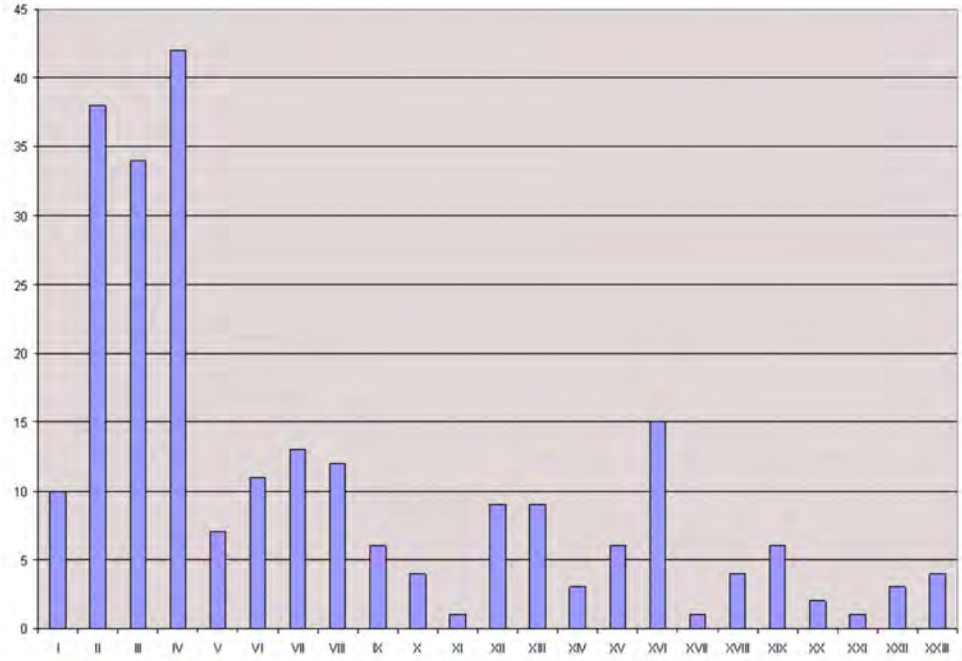


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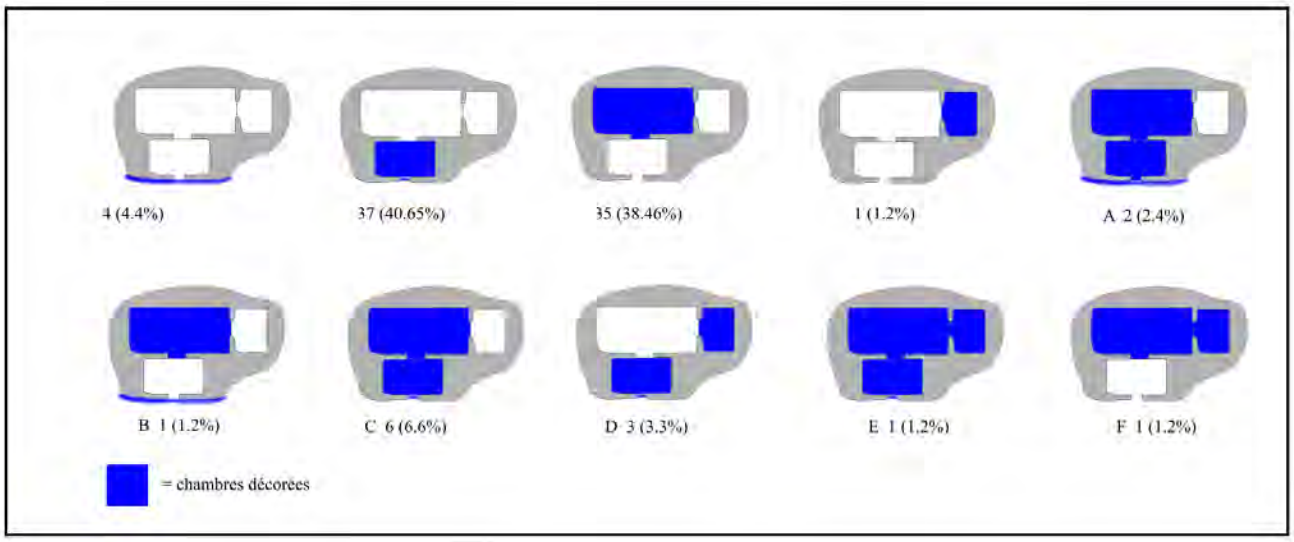
Figs. 2: 1, Types I–IV; 2 Distribution rates of types I–IV and V–XXIII; 3 Distribution rates of types.

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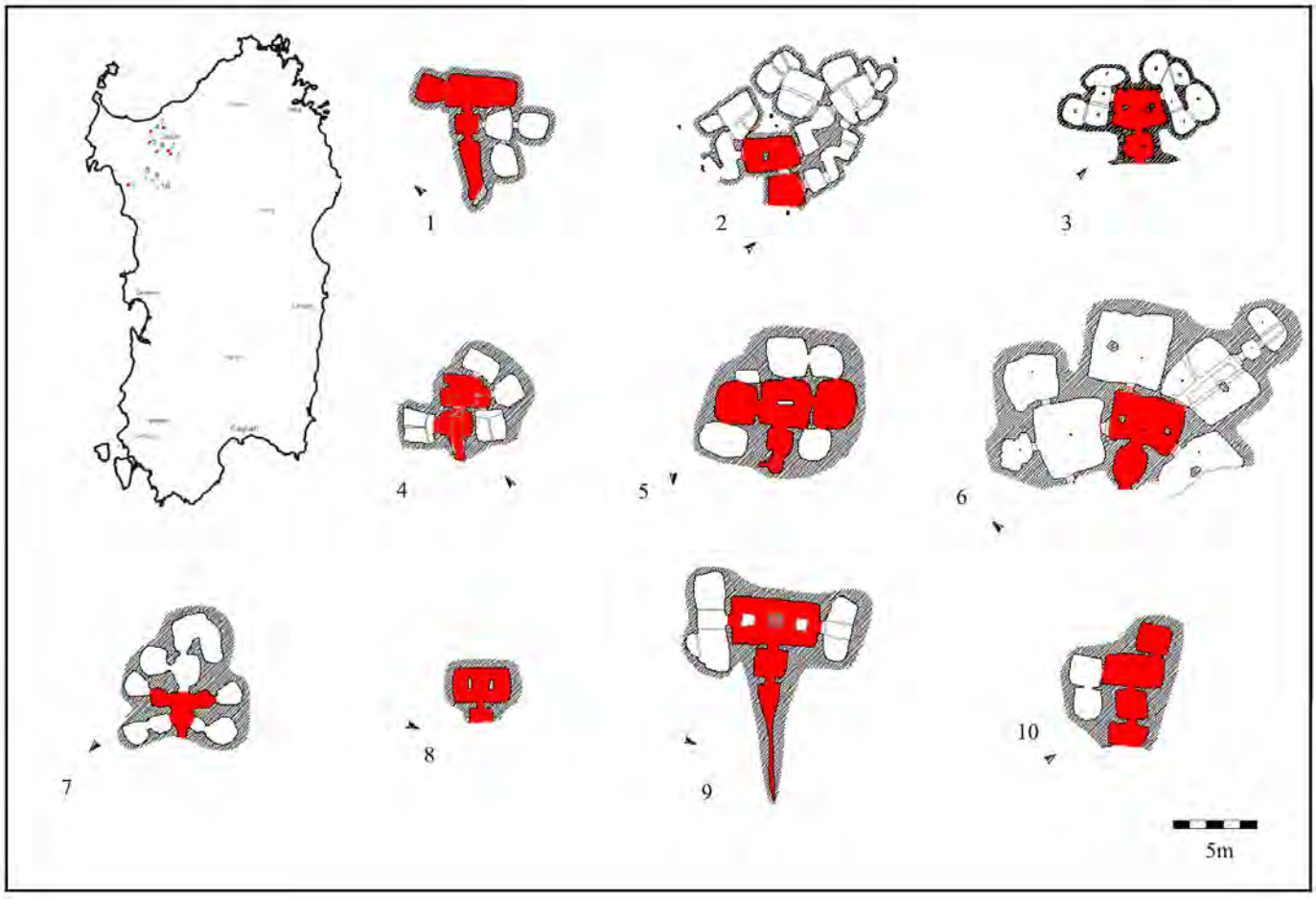



2

Figs. 3: 1 A, Distribution rate of the Domus de Janas displaying a large number of pictorial representations; 2 A, hypogea at Anghelu Ruju Tomb A ( a), Li Curuneddi VI ( ), Monte d'Accoddi 1 ( ), Pontesecco IIa ( ); 3, hypogeum at Tomba Maggiore ( ), Mesu 'e Montes II ( ), Montalè ( ); 3, hypogea at M. Siseri ( ), Puttu Codinu VIII ( ), Enas de Cannuia ( ). The numbering corresponds to the distribution map.

| N | Denomination | Planimetrics | T-shaped core | No. of rooms | No. of motifs | Area sq m | Type | Type I–IV | Type V–XXIII |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Alghero, Anghelu Ruju Tomb A | Restored, multiple-roomed | * | 7 | 8 | 29.7 | II | 8 | |
| 2 | Ossi, Tomba Maggiore | Restored, multiple-roomed | * | 20 | 18 | 60.58 | I, IV, V, VI | 17 | 1 |
| 3 | Ossi, Mesu 'e Montes II | Multicellular organism | * | 12 | 18 | 33.15 | II, III, IV, VI, IX, II, XIII, XXII | 9 | 9 |
| 4 | Sassari , Li Curuneddi VI | Restored, multiple-roomed | * | 7 | 9 | 23.84 | II | 9 | |
| 5 | Sassari, Montalè | Restored, multiple-roomed | * | 10 | 7 | 51.81 | IV–VII | 6 | 1 |
| 6 | Sassari, Monte d'Accoddi 1 | Restored, multiple-roomed | * | 11 | 10 | 125.50 | III | 10 | |
| 7 | Sassari, Pontesecco IIa | Restored, multiple-roomed | * | 14 | 12 | 32.76 | II, III, IV | 12 | |
| | | | | | **82** | | | **71** | **11** |

Table 1. Refurbished tombs, with T-shaped core.

Since the bucranium provides evidence of rites of passage (it was therefore defined an aesthetic ritual) (Tanda 2000, pp. 399–425), excluding apotropaic rites compatible with the funerary ideology, it seems very likely that its presence and abundance in different rooms of the Domus de Janas may be a sign of the need at different times to sanctify (a sort of rite of foundation) a new room or a new group of tomb chambers excavated to meet the above-mentioned purpose, and provide access to the otherworldly dimension by virtue of the execution of the symbolic motif. In this perspective, such a presence may be explained, it being uncommon in secondary cells, which are also the more recent ones, but most probably forming part of the group of compartments founded according to the ritual.

Based on the current state of the art in the field of research, the multiple-compound tomb does not seem to be conceived as the result of a complex planning purpose nor meet the need for a particularly high-rank tomb complex. However, it is most probably the sign of a long-lasting presence of large groups of people, devoted to various and intense activities deeply rooted and spread over the local territory and, possibly, connected to the upper classes. Those communities had been using the underground for a long time, between the Late Neolithic and the Copper Ages.

As far as the high number of bucrania carved inside the seven refurbished tombs is concerned, also the allegedly unfamiliar hypothesis connected to behavioural choices should be taken into account, the latter being determined by the large size of the population, its wealth and especially the social layers, which resulted in the rituals of the event and/or the material display of wealth, such as sacrifices of horned animals, as is still recorded in ethnographic contexts (Camaro Serrano, Spanedda 2001, pp. 373–94).

The three T-shaped tombs, in addition, characterized by their limited space and planning complexity (no secondary cells found), based on current research, do not seem to be conceived for the purpose of developing merely simple tombs, but rather, they seem to be

| N | Denomination | Planimetrics | No. of rooms | Area sq m | No. of motifs | Type | Types I–IV | Types V–XXIII |
|---|---|---|---|---|---|---|---|---|
| 8 | Bessude, Enas de Cannuia | T-shaped | 2 | 9.95 | 13 | III,VIII,XII, XIII, XXII | 10 | 3 |
| 9 | Putifigari, M. Siseri | T-shaped | 5 | 46.79 | 7 | VI, XII–XIII | | 7 |
| 10 | Villanova Monteleone, Puttu Codinu VIII | T-shaped | 6 | 27.83 | 6 | VIII, XII–XIII | | 6 |
| | | | | | **26** | | **10** | **16** |

Table 2. Tombs with T-shaped plant.

| Outside | % | Foreroom | % | Main room | % | Sec-ond-ary cell | % | A | % | B | % | C | % | D | % | E | % | F | % |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4,4 | **36** | 39,35 | 36 | 39.35 | 1 | 1,2 | **2** | 2,2 | **1** | 1,2 | **6** | 6,6 | **3** | 3,3 | **1** | 1,2 | **1** | 1,2 |

Table 3. Frequency rate of wach location where motifs are sculpted.

dedicated to particularly high-rank individuals, socially relevant and, therefore, characterized by a higher number of motifs. Such hypothesis may be explained by assuming that the small reference groups in the area did not have the need to expand and/or renovate the tombs. However, this could be a sign of a later intervention carried out between the end of the Late Neolithic and Copper Ages, when a production-based economy developed, lasting until the learning of metallurgy (not in practical terms though). However, this is suggested by the absence of Types I–IV (so far believed to be the most ancient) in two of the Domus de Janas, as reported above. Possibly, innovative technologies, perhaps possessed by few, gave prestige and economic capability to those who possessed them, resulting in the production of art.

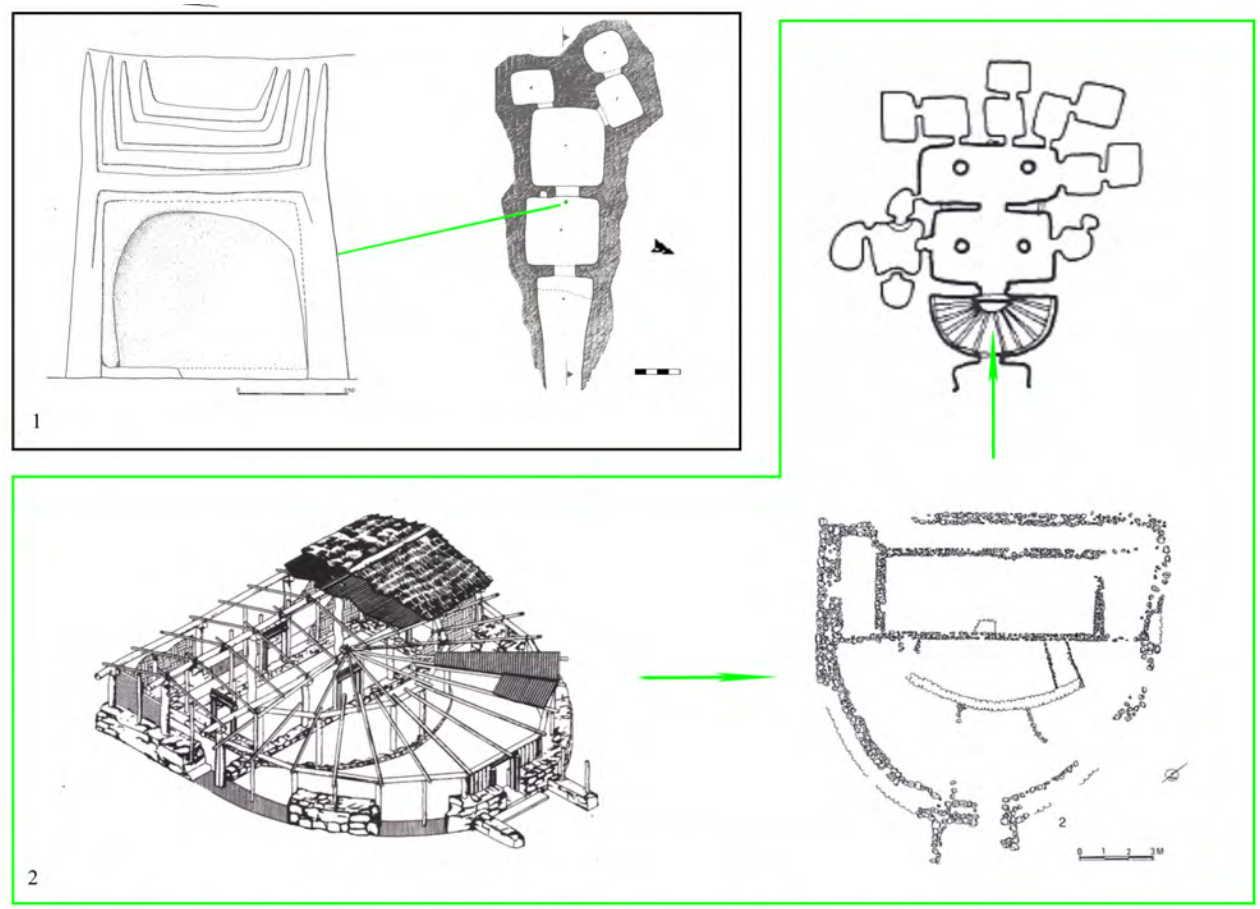
The expansion and refurbishing stopped because during the Copper Age another type of underground iconography developed, that is, a longitudinal Domus de Janas, with or without a *dromos*, typical of the culture of Filigosa (Copper Age: Tanda 1985, pp. 162–4) and, later on, another funerary model developed, the megalithic tomb (fig. 4.1), that is, unless the builders just wanted to build a particular type of building, of which no archeological evidence remains.

The analysis of the distribution of bas-relief (either convex or flat) or pseudo-relief bucrania (fig. 4.1) inside the tombs was carried out in close collaboration with the planimetric survey and led to some conclusions of great importance from the social and cultural point of view. Two levels of evaluation and assessment may be reported: the general level and the in-depth study of specific aspects, within the same research fields.

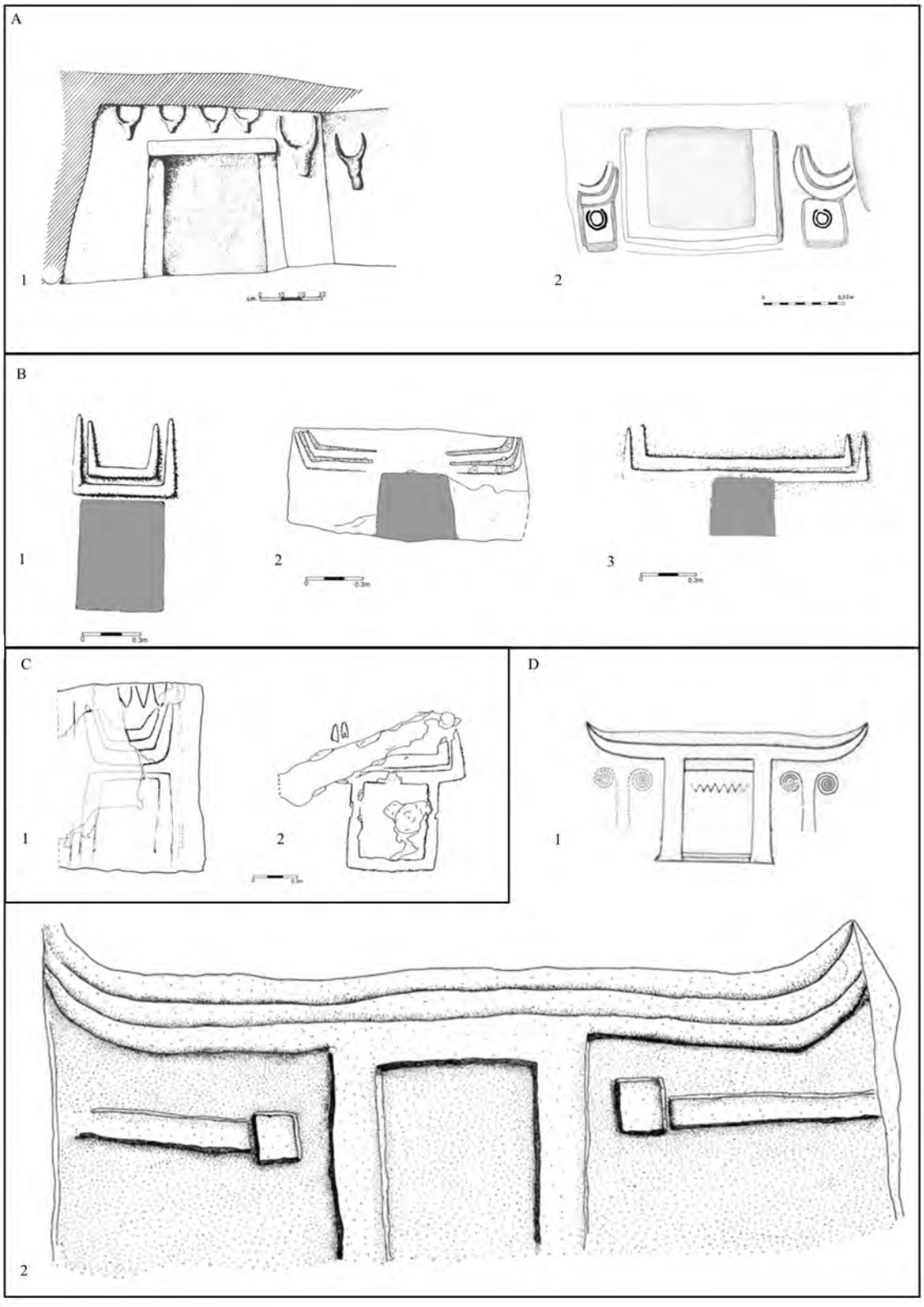
At the general level, it was assumed that the walls of the hypogeum on which the signs are carved were the material medium used to convey an ideological funerary message during the Late Neolithic and the Copper Ages. A suitable model to perform an empirical and experimental data processing was needed by measuring the impact of the signs in terms of the visitors' visual perception and, therefore, their symbolic value in the social structure for each Domus de Janas. The method involved the identification of spatial units to be measured, including the ceiling that often displayed the representation of the roofs of ancient Late Neolithic and Copper Age huts, with conical or semicircular double or single slope. Also the architectural elements, both in terms of patterns and details, fell within the category of funerary symbolism, assuming the value of material media for ideological communication.[2]

In particular, some markers were studied, including the position of the signs on the walls in relation to the type and size of the motifs, their visibility from the entrance, the hypothesis of figurative evolution proposed in the past (Tanda 1985, 2008).

2 The topic will be discussed in G. Tanda, *Visual culture in Sardinia." The Domus de Janas carved motifs* (forthcoming).




Figs. 4: 1, the Brodu Domus de Janas; 2, distribution of signs based of the plant.




Figs. 5, Architectural Elements: 1, Chiaramonti, Su Murrone; 8 Distribution map. Calarighes II (Villanova Monteleone) of curvilinear style subclass; Tuvu 'Carru (Anela), Littoslongos and the Tomb of Finestrelle (Ossi), Monte Siseri 1 (Putifigari), Li Algasa (Sedini), Brodu IV (Oniferi) and Sa Pranedda (Sarule) Anghelu Ruju Tomb A (No. 8, type II), Bessude, Enas de Cannuia (No. 13, ), Ossi, Tomba Maggiore (No. 18, Types I, IV–VI) and Mesu 'e Montes II (No. 18), Putifigari, M. Siseri (no. 6 types VI, XII–XIII); Sassari (No. 17, Types I and IV), Tomba del Capo or Monte d'Accoddi 1 (No. 10, type III), Pontesecco IIa (No. 12, types II–IV), Li Curuneddi VI (No. 9 , type II), Villanova Monteleone, Puttu Codinu VIII (No. 6, types VIII, XII–XIII).

The artistic evidence seems to be carved only in some rooms of the Domus de Janas, on the outside (in the pavilion), inside the foreroom, in the main cell, in a secondary cell (always located next to the main cell), that is, in spaces that, obviously, attracted the interest of the artisans and visitors, since they were very interesting in ideological funerary terms. The main positions where motifs were carved are the outside of the tomb (four tombs), in the foreroom (36), in the main cell (36) and in the secondary cell (1). The following combinations may also be found in lower concentrations: A, outside, foreroom, main cell (2); B, outside and main cell (1); C, foreroom and main cell (6); D, foreroom, main cell and secondary cell (3); E, foreroom and secondary cell (1); F, main cell and secondary cell (1) (table 3; fig. 4.).

Significantly, the carving of the motifs often reproduced both the architectural modules of the huts and the structural elements for symbolic purposes, as reported above (pillars, columns, fireplaces, gabled roof, with a single slope, conical in shape, with a semi-circular atrium, plinth walls, pilasters, etc) (fig. 4, ...). In this regard the presence of figurative motifs should be noted, made sometimes also on the facets of the pillars supporting the ceiling of the main cell (e.g. at Anghelu Ruju XIX and XX bis-Alghero, Enas de Cannuia IV-Bessude, Mesu 'e Montes II and Tomba Maggiore-Ossi, Monte Siseri I-Putifigari, etc: Tanda 2008) or a secondary cell (M. d'Accoddi 1: *as above*). On the other hand, the desire to imitate the huts inhabited by the living, even in the single plant, with the exception of architectural elements, has long been observed in the artificial caves (Tanda 1984, pp. 54–5).

Nine architectural modules have so far been recognized and imitated inside the Domus de Janas.

The most represented is the one rebuilt in 1984 and discovered in the settlement of Serra Linta in Sedilo (fig. 5, 1).) As part of this trend, one of the cornerstones of funerary ideology of the Late Neolithic and Copper Ages in Sardinia is recognized, that is, the belief in the afterlife and the desire to recreate the otherworldly dimension of the living environments or particular environments, although archeology has not provided suitable evidence, as stated above.

The location of the bucranium inside the foreroom or in the adjacent main cell may be regarded as the sign of a figurative diachronic development, being located inside the largest room connecting the rest of the space for worship purposes. But it also seems to suggest that rituals changed as society developed. The plurality of individual motifs and the uniqueness of the figurative compositions of the I–IV, XII–XIII and XVI–XXIII types respectively (Tanda 2008, figs. 3–6, 14–16, 19–26), and the space occupied by them, seem to be the expression of different concepts connected to different periods of time and different ritual dimensions. The several I–IV type motifs carved next to one another are more ancient than the repeated representations carved above the door or merged with it on a wall, such as the XII–XIII/XVI–XXIII types, which are interpreted as figurative compositions (figs. 5, 2–3).

As far as ritual is concerned, the concept of a plurality of individual actions and repetitive rituals, such as the execution of motifs, that is clear in the I–IV types, reported in 73% of the tombs decorated with curvilinear motifs, seems to be connected with the celebration of events (death/funeral, refurbishing of

| No. | Denomination | Outside | Foreroom | Main cell | Secondary cell |
|---|---|---|---|---|---|
| 1 | Alghero, Anghelu Ruju, Tomb A | | * | | * |
| 2 | Ossi, Tomba Maggiore | | * | * | * |
| 3 | Ossi, Mesu 'e Montes II | | * | * | * |
| 4 | Sassari , Li Curuneddi VI | * | * | * | |
| 5 | Sassari, Monte d'Accoddi I | | | * | * |
| 6 | Sassari, Montalè | | * | * | |
| 7 | Sassari, Pontesecco IIa | | | * | |

Table 4. Location of the motifs based on the planimetric economy of refurbished Domus de Janas with a high number of motifs

| No. | Denomination | Outside | Foreroom | Main cell | Secondary cell |
|---|---|---|---|---|---|
| 1 | Bessude, Enas de Cannuia IV | | * | * | |
| 2 | Putifigari, Monte Siseri I | | * | * | |
| 3 | Villanova Monteleone, Puttu Codinu VIII | | * | * | |

Table 5. Location of the motifs inside the T-shaped Domus de Jana

the hypogeum/foundation ritual, repetitive ceremonies/anniversaries, etc) performed by individuals or as part of funerary, religious and magical rites. The execution of the figurative composition or the pattern on the wall, the spread of the whole available space or on part of it, however, is a sign of universal and collective religiosity and serves to build the identity of a group and keep it united.

The conceptual and diachronic discourse requires further study, emphasizing that the organization of space, such as the planimetric development of the hypogeum, is closely related to social organization.

The analysis of the values reported above (table 3) underlines, first, the common use of the foreroom and the main cell for ritual purposes, to be used at different times, with the exception of the 10 tombs, characterized mostly by a complex plant configuration, which have already been studied above regarding the high number of motifs. Six of them (Enas de Cannuia IV, Li Curuneddi VI, Mesu 'e Montes II, Monte Siseri 1, Puttu Codinu VIII, Tomba Maggiore) display figurative motifs inside the two rooms; one of them also on the outside (Li Curuneddi), two of them also inside secondary cells, and only one of them inside the main cell and in secondary cells (Monte d'Accoddi 1). Secondly, the same analysis seems to suggest that the foreroom did not serve for the sole purpose of granting access to the space where the corpse lied, but also as a kind of lobby of the home of the deceased; therefore, an area of physical separation but, at the same time, of spiritual connection. For these reasons, it is the place where magic and religious rituals are performed to propitiate the departed souls and their god. In the majority of the Domus de Janas, the foreroom is smaller than the main cell. While confirming the secondary function of the foreroom, in comparison with the rest of the cells where the actual burial was performed, its size seems to suggest a limited attendance of the place, if compared with the space where the magic and ritual ceremonies were performed. Therefore, given the close connection of the foreroom space with the signs of the cult, the fact that such motifs were moved to the other spaces seems to suggest the decline of the foreroom in terms of worship and funerary use.

As far as decoration is concerned, the bottom wall seems to be the most important one. Indeed, in 27 graves (75%), the front wall is decorated with one or more motifs carved above the door between the foreroom and the next cell, or next to it; in nine only graves (25%), decorations appear on the side walls. The use of the front wall may be explained by its central position, easily visible from the entrance to those who entered the hypogeum for burial or ritual or maintenance purposes.

As for the bucrania carved above the door or next to it, such use was a way to sanctify the room dedicated to funerary rites. The door/motif connection is not of merely a spatial nature: it is an expression of an ideological connection that unfolds through the figurative motifs. Indeed, in nine cases the bucrania are merged with the door through the implementation of architectural elements or the carving of patterns directly on the door, in the form of lintels. This reveals a more advanced level of sanctification, a significant and easily recognizable step in the process of figurative and ritual evolution of hypogeic arts: the symbolization of the door that becomes the head of the sacred bust. Since then, the door has been equipped with horns or busts, being imbued with a sacred value. Therefore the introduction of the deceased through it also assumes in itself, a magical ritual value, a kind of purification, and an initiatory and propitiatory act.

Eight Domus de Janas display this feature (Tanda 2007, pp. 127–34): Calarighes II (Villanova Monteleone) belonging to the curvilinear subclass; Tuvu 'Carru (Anela), Littoslongos and the Tomb of Finestrelle (Ossi), Monte Siseri 1 (Putifigari), Li Algasa (Sedini), Brodu IV (Oniferi) and Sa Pranedda (Sarule) (fig. 5, Distribution map). The sacred entrance to the deity through the deity and to its

world through a real entrance is to be interpreted as the characteristic manifestation of a type of worship open to the participation of the community, and possibly to changed social dynamics. As a result, the need to choose a wider space among those available was required to better meet the changing needs. Hence, rituals were performed in the adjacent cell, larger than the foreroom, connecting the foreroom to the rest of the cells, followed by the transfer of architectural and decorative elements – the signs of the cult, including busts – and refurbishing. In this representation, the real element (the door) seems to having been already replaced by the symbolic element (the false door). From this stage onwards, changes occurred in both nature and the figurative approach of the rites: the motifs were extended gradually to occupy one-third of the wall, two-thirds of it and then the entire wall (fig. 5).

When did the symbolization process of the door end and in which cultural context? At what chronological stage? The Sardinian hypogeic art chronology is based on the technical and typological analysis of the representations, on the overlapping of motifs, on the similarities of the motifs analysed by means of diagnostic findings related to other cultures, on the history of the artefacts found at the Domus de Janas, on the comparison with other European pictorial finds performed outdoors, on rocks, in gorges, caves, megalithic monuments (Valcamonica, Mount Bego, Iberian Peninsula, North Africa) (Tanda 2000, fig. 4). Some indications come from the history of the artifacts found at the Domus de Janas.[3] Therefore, at present, the end of the process of symbolization of the door may be dated back to the late stage of the Ozieri culture (4360 ÷ 3480).

In conclusion, the art of the Domus de Janas seems to reflect the economic and social changes that occurred between the Late Neolithic and Copper Ages in Sardinia within different groups of people:

larger groups, concentrated and enclosed within the territory of reference and distributed over time, between the Late Neolithic and Copper Ages, perhaps ruling over the territory characterized by a production-based economy, acquainted with metallurgy;

smaller groups, more prone to contacts and exchanges in a production-based economy, skilled blacksmiths, between the end of the Late Neolithic and the Early Copper Ages.

Therefore, two demographic lines seem to be connected with the development of hypogeic art: concentrated population (Late Neolithic); scattered population (Late Neolithic/Copper Age).

Two different ritual dimensions also seem to have developed: individual, household, mainly with magic religious appeaches (Late Neolithic); collective, public religiosity and group identity (Late Neolithic/Copper Age).

The hypothesis is reliable but it requires the confirmation of new and productive research, a sounder scientific strategy and, above all, fewer constraints than those imposed by the unreasonably strict bureaucracy. In this perspective, the exploration of the territory is crucial for the identification of settlements related to necropoles and their scientific exploration, for the reconstruction of prehistoric landscapes, for the identification of paleo-economies, for the identification of the internal articulations of societies, and ultimately to better understand the groups of people who built and used the decorated Domus de Janas.

3 Only in two tombs, Littoslongos and Monte Siseri, regular excavation campaign were performed, unearthing cultural elements. In Littoslongos, significant ceramic and lithic culture pieces were found in Ozieri (Moravetti 1989, pp. 87–91, Fig. 5-6.) and connected to the Filigosa culture. The fretworked plate statues may be referred to the latter (Moravetti 1989: Fig. 4, Tab. I, 2-3). In fact, the chronology is controversial; some scholars propose the Ozieri culture at its late stage. For a summary on the issue, see Moravetti 1989 , p. 91. Pottery pieces connected to the Ozieri culture were found at the hypogeum of Monte Siseri (Demartis 1991, pp. 1-21.).

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# Research of classification and stages of the rock art on Lusen Mountain in Qinghai[1]

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The rock art on Lusen Mountain lies on a hill in Jianghe township, Tianjun county, Haixi, Mongolia and Tibetan autonomous prefecture of Qinghai Province. The geographical coordinates are 37°18. 035' N, 99°66. 727' E, altitude is 3,331 m, relative elevation is about 20 m, and the local Tibetan people call it Lusen.

There is a river running from north to south across the foot of the southeast of the mountain, the width of which is more than 10 m, with many fish. Here it is flat and open, has luxuriant water plants and grass, and is an important pasture for the local herders; some residents are still living at the foot of the mountain. Here is an important place of worship and a holy mountain for the local residents and herders put prayer flags on the top of the mountain. In the investigation, the local people who accompanied us said that we could not relieve ourselves at the top and foot of the mountain, and we could not fish in the river. The northwest of this mountain is a cliff which is vertical, the west and south are relatively flat, and the rock art is distributed on a lot of rocks dispersed on the southeast slope. A rock[3] about 10 m across has the greatest concentration. Not only are the numbers of individual rock art very rich, but also the content and production methods of rock art are very diverse, and

1 The subject was the National Social Science Fund Project for Rock art Research Association of China, named Protection, use and development of China western rock-arts(2010-2013), presided over by Yasha Zhang, Project No. 10MB2030.
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Yanqing Jing, PhD of rock art, Research Association of China, Minzu University of China.
3 In the book *Qinghai Rock Arts* (Science Press, 2001), it was called the no. 1 bit. I also use this term.

can be called the most beautiful representative work of the rock art on Lusen Mountain.

**Research on classification about the no. 1 bit of rock art on Lusen Mountain**

Huisheng Tang and Wenhua Zhang made the scientific and systemic record of the rock art on Lusen Mountain the first time in their book *Qinghai Rock Arts*, involved 39 sites of rock art, covered the rocks which with the cognizable rock art basically. In this book, authors thought the rock art on Lusen Mountain had three production methods: vertical engraved recess lines chiselling, grinding and scratching. They also made a point that the vertical buffeting is oldest, and the grinding and scratching are the latest, but have not researched the classification and stages systematically. However, classifying the rock art by certain criteria, summarizing the relative relationship of age and sequence of development that are preconditions for investigating the connotation, function, age, family and other problems of rock art are also the basic work and prerequisite of rock art research. Therefore, I will try to give a few comments about the classification and stages of the rock art on Lusen Mountain in Qinghai, based on *Qinghai Rock Arts* and with my own dates and thoughts from site inspection.

As mentioned above, the no. 1 of rock art on Lusen Mountain has rich content, a large number of vestiges showing superimposition-breaking relationship and repeats, providing a good sample for the research of classification and stages of the rock art on Lusen Mountain in Qinghai. Also because of the rich content, the authors of Qinghai rock art introduced and described the representative pictures, but I got some new dates in the field study. Therefore, I will first make additional remarks of the other contents what were not mentioned in *Qinghai Rock Arts* on the basis of classification[4].

The most essential cultural feature of rock art is reflected through its production methods, artistic expression and theme. The judgement of people on the image and context of rock art is difficult to disentangle from the effect of subjective understanding absolutely, the expression of things for rock art itself is often symbolic and abstract, adding to the long history, parts of rock art are damaged or blunt. In order to make the classification more objective, I would divide the rock art on Lusen Mountain into the following four types mainly based on the production methods: A upright chisel; B chisel first then grind; C first incise then grind by metal tools; D incise with metal tools. I would divide the artistic expression of rock art on Lusen Mountain into the following four types: I entire expression; II entire expression, and profiling; III expression by profiling, and ornamenting inside; IV just expression by profiling. In the production methods and artistic expression, the latter is more easily affected by foreign culture, and has changing forms; as well, the former is more stable and lasting, it only has to change when the productive forces and production tools have significant progress.

By making the production methods and artistic-expressions of rock art in different groups, the rock art can be clearly identified on the no. 1 bit of rock art on Lusen Mountain should be grouped under eight main types, such as AI, AIV, BII, BIII, BIV, CIII, CIV and DIV5, next I will introduce the eight types.

AI (figs. 1, 2, 3), upright chiselling entirely, presenting the whole shape of things similar to silhouette.

Fig. 1. Figure

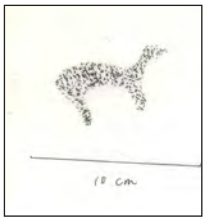

Fig. 2. Animal (like a dog)

Fig. 3. Yak

4 There is a need to explain that overlying rock art is difficult to identify, rock art is severely damaged by natural forces, limitation of time and conditions for work. Due to the above reasons, the additional remarks do not cover all the images on no. 1 bit.

5 There is a grinding curved groove on the no. 1 bit, a large number of recesses(bot) around it, and it is the underpart of Fig. 63 in Qinghai rock arts (Science Press, 2001). There is an image which has two grinding figures which look like copulation, and thought to symbolize intercourse between man and woman in the book. Because, basically the style of rock art on Lusen Mountain was realistic, and most of the content were things of reality, only one abstract image, so when the classification and stages about the rock art on Lusen Mountain was done, it was not included in my paper.

AIV (fig. 4), chisel of an outline of the animal using a stone implement, this type on the no. 1 bit of rock art on Lusen Mountain is only one.

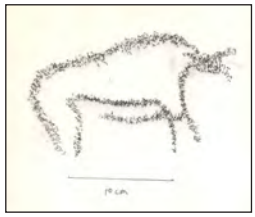

Fig. 4. Yak

BII (figs. 5, 6), upright chiselling entirely, but the edges have obvious traces of grinding, perhaps the first maker made it by intention, maybe there was re-creation by followers as well.

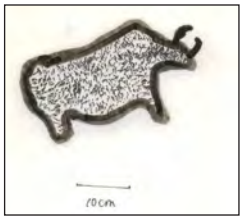

Fig. 5. Yak

Fig. 6. Yak

BIII (figs. 7, 8, 9, 10, 11, 12), chisel first then grind, showing the outline of animal, but also grinding some ornament on the body of the animal.

Fig. 7. Yak

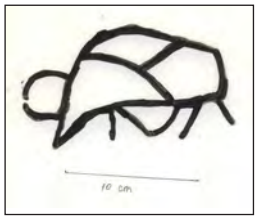

Fig. 8. Yak

Fig. 9. Deer (rear damaged)

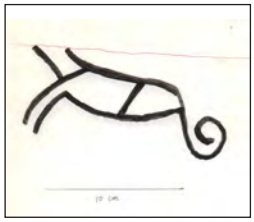

Fig. 10. Animal (rear damaged)

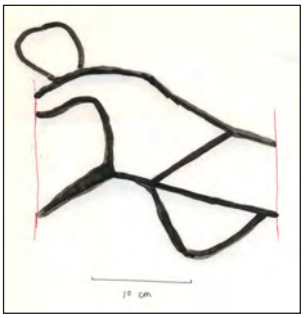

Fig. 11. Yak like a tiger, (head damaged, tail curl)

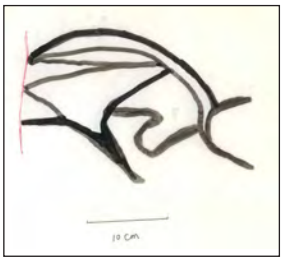

Fig. 12. Yak (rear damaged)

BIV (figs. 13, 14, 15, 16, 17), chisel first then grind, showing the outline of the animal only.

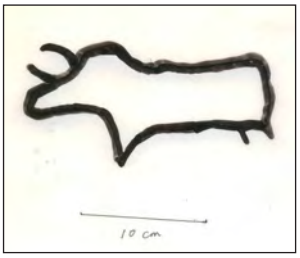

Fig. 13. Yak

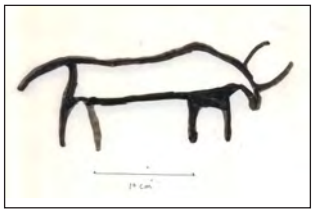

Fig. 14. Yak

Fig. 15. Yak

Fig. 16. Yak and horse

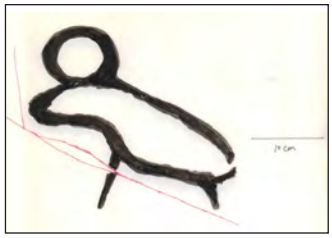

Fig. 17. Yak

CIII (figs. 18, 19, 20) have obvious vestiges of grinding deepened after incising by metal tools, grinding the outline of the animal and some ornament on body of animal at the same time.

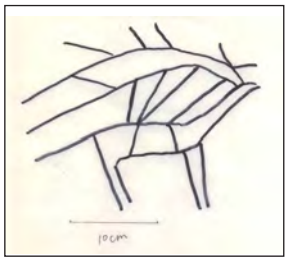

Fig. 18. Deer (antlers backward)

Fig. 19. Deer (antlers forked to the outside)

Fig. 20. Deer (antlers forked forward, extended from back)

CIV (figs. 21, 22, 23, 24, 25, 26, 27), grinding deepened after incising by metal tools, perhaps the first maker had made it completely, maybe there was re-creation by followers as well.

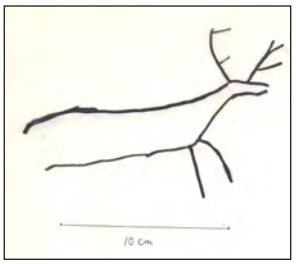

Fig. 21. Deer (antlers forked forward)

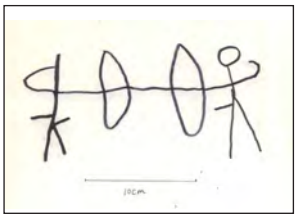

Fig. 22. Shoot face-to-face (prominent genitals)

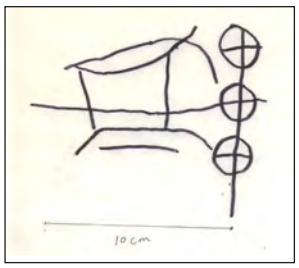

Fig. 23. Chariot

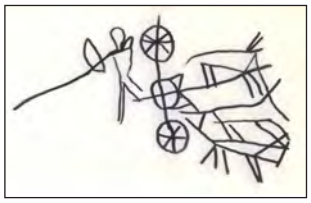

Fig. 24. Chariot and hunt diagram

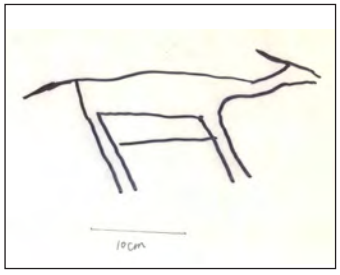

Fig. 25. Animal (like a dog)

Fig. 26. Tree

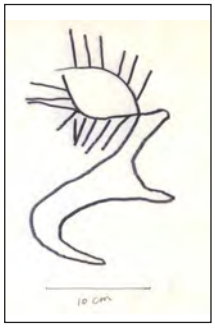

Fig. 27. Deer (antlers forked outwards)

DIV (figs. 28, 29), incised by metal tools directly, without vestiges of grinding, or just several details have been ground.

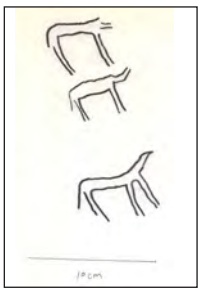

Fig. 28. Animal (like a horse)

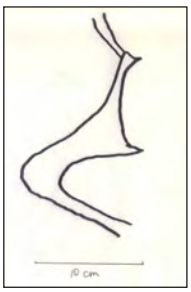

Fig. 29. Deer (antlers simplified)

**Research on the stages of the no. 1 bit of rock art on Lusen Mountain**

After dividing types and styles systematically for the no. 1 bit of rock art on Lusen Mountain, we research the stages by analysing the development of the production methods and artistic expression s of rock art, and make sure of the age of the rock art by observing superimposition-breaking relationships.

In terms of production tools, metal tools form a landmark in human productivity progress, and there is no doubt that rock art made by metal tools is later than rock tools, though rock was maybe also the tool for rock art after metal tools appeared. Thus, we can conclude that the A type and B type should be earlier than the C type and D type. The rock art shown in Fig. 30 probably represents a hunting scene for yak. From the analysis of production methods, it is obvious that the art of the trees is different from the yak and figures in the creative period. The drawing of trees was made by metal, and the method for yak and figure was polish and chisel. More important, there is the mark of rework by a metal tool in the painting of the bow and arrow beside the figure, which strongly suggests this.

Second, the four kinds of rock art on Lusen Mountain are obvious in their artistic expression. Take the common animal paintings, for instance, early humans showed the animal with a similar silhouette, and later the body contour stressed animal at the edge of the image, and then to the outline, but still symbolic and with some decoration on the body, until finally the fully formed contour artistic style. Of course, the reverse trend may be inferred, so we must be specific about the rock art on Lusen Mountain itself. From the production methods of the rock art on Lusen Mountain, the type I found only in type A, type II only in type B, type D is IV type rock. And we can think that the type A and type B made by stone tools are earlier than the type C and type D made by metal tools, so the development of artistic expression on Lusen Mountain from I type to IV type is clear.

Last, by analysing the relation between production methods and forms, we can determine the development from type A to type D. The rock art on Lusen Mountain from A to B and then to C production methods and rock type I to type II and III to IV type has a strong correlation, with a vertical hammer and chisel to hammer and chisel and edge grinding, then progress to the simple characterization of contour, which is also consistent with the laws of logic. This trend has also been seen in paintings. The development process of C type to D type has no very clear evidence, just from type A to type C, gradually forming a grinding style of painting. Taking into account the cultural phenomenon of inertia, we believe that in the early stage of making petroglyphs in metal tools, people still retained the traditional grind method, then after a period evolving into simple scoring. This omission is not only reflected in the production methods, but the period of animal patterns also showed a gradually simplified phenomenon.

Figs. 30, 31. Probably represents a yak hunting scene.

To sum up, according to the production methods, form and number, and the relationship between various rock paintings, we can develop the theory that rock art evolution is divided into the first (A I), second (A class IV, B II, B III IV, B), third (C III, C IV class) and fourth (D IV) stages.

**Evolution of rock art on Lusen Mountain**

The above conclusion is only for the no. 1 bit of rock art, but if we want to take this as the standard to explore and summarize the characteristics of the various stages and evolution of rock art on Lusen Mountain, we need to verify it in the whole range. For this purpose, I reorganized the other designs of rock art on Lusen Mountain, which have been recorded in Qinghai Rock Arts. Because in that book the classification of the production methods was not the same as mine, and the artistic expression can be summarized in the pictures and text only, we cannot generalize . But we can differentiate the types A, B and C, D in general terms, and call them type AB and CD. Also we differentiate the I,II, III, IV, calling them first, second and third (see table 1)[6].

Table 1

| No. | Production type | Manifestation mode | Content and quantity | Notes |
|---|---|---|---|---|
| L2 | AB | First | Yak 3 | Fig. 66 |
| | | | Archer 4 | |
| | | | Animal (like a dog) 3 | |
| | | Second | Yak 6 | |
| | | Third | Yak 1 | |
| L3 | AB | First | Bird (eagle)1 | |
| | | | Animal (like a dog)1 | |
| | | | Figure (knee-tuck type)1 | |
| | | Third | Animal (like a sheep)1 | |
| | | Third | Yak 3 | |
| | | | Animal | |
| (like a horse or tiger)1 | | | | |
| L4 | AB | Third | Deer 1 | |
| L5 | AB | Second | Animal (like a tiger or leopard) 2 | |
| L6 | AB | First | Shoot face-to-face 1 | |
| | | | Yak 3 | |
| | | Second | Yak 1 | |
| L7 | AB | Second | Yak 1 | |
| | | Third | Animal (like a camel) 1 | |
| | | | Animal (like a sheep) 1 | |
| L8 | AB | Second | Yak 2 | |
| L9 | AB | Third | Yak 2 | |
| | | | Camel 1 | Production later |
| | CD | | Dog 1 | Added later |
| L10 | AB | Third | Animal (like a pig) 1 | |
| L11 | AB | Third | Animal (like a sheep) 1 | Another 2 images are unre-cognizable |
| L12 | AB | First | Yak 1 | |
| L13 | AB | Third | Yak 1 | |
| L14 | AB | Second | Animal (like a sheep) 1 | |
| L15 | AB | First | Yak 1 | |
| L16 | AB | Third | Yak 1 | |
| L17 | AB | Second | Animal (like a sheep) 2 | |
| | | First | Figure 1 | |
| | | | Yak 1 | |
| L18 | AB | First | Animal (like a deer) 1 | Antlers without forks |
| L19 | AB | First | Bird (like an eagle) 1 | |
| L20 | AB | Second | Yak 1 | |
| L21 | AB | Second | Yak 3 | |
| L22 | | | Om mani padme hum | Production later |
| L23 | AB | Third | Yak 1 | |

6 In Qinghai rock arts (Science Press, 2001), the text of L2 has 16 individuals, but counting from the figure, L2 has 17 individuals. It may be a clerical error, please refer to the pictures.

| | | | | |
|---|---|---|---|---|
| L24 | AB | Third | Yak 1 | Another damaged image like a yak |
| | | Second | Yak 2 | |
| | | Second | Animal (like a tiger) 1 | |
| L25 | AB | Third | Animal | |
| (like a wolf or a dog) 1 | | | | |
| L26 | AB | Third | Yak 3 | |
| | | Second | Deer 1 | |
| L27 | AB | First | Yak 1 | |
| | | Second | Yak 1 | |
| | | | Animal (like a tiger) 1 | |
| | | Third | Animal (like a sheep) 1 | |
| L28 | AB | First | Archer 1 | |
| | | | Yak 1 | |
| | | Second | Yak 2 | |
| | | | Animal (like a tiger) 1 | |
| | CD | Third | Animal (like a leopard) 1 | |
| L29 | AB | Third | Animal (like a horse) 3 | |
| | | First | Animal | |
| (like a dog or fox) 3 | | | | |
| L30 | AB | First | Yak 1 | |
| | | | Figure on horseback 1 | |
| | | | Animal | |
| (like a dog or fox) 1 | | | | |
| | | Second | Animal (like a tiger) 1 | |
| | | | Yak 3 | |
| | | Third | Yak 2 | |
| | CD | | Animal (like a leopard) 1 | |
| L31 | AB | Third | Animal (like a leopard) 1 | |
| | CD | Second | Animal (like a leopard) 1 | |
| | CD | Third | Animal (like a leopard) 1 | |
| L32 | AB | First | Archer on horseback 2 | |
| L33 | AB | First | Animal (like a leopard) 1 | |
| | | | Yak 1 | |
| L34 | AB | Third | Yak 2 | |
| | CD | Third | Dog 1 | Production later |
| L35 | AB | Second | Yak (double-head) 1 | |
| L36 | AB | Third | Animal (like a sheep) 1 | |
| L37 | AB | Third | Yak 1 | |
| | | | Animal (like a sheep) 1 | |
| L38 | AB | Third | Animal (like a sheep) 1 | |
| | | | Deer 1 | |
| | | | Yak 1 | |
| L39 | AB | Third | Yak 1 | |
| | | | | |

Table 1 shows that the rock art on Lusen Mountain went through four stages: AB-first, AB-second and AB-third belong to the first and the second stages, and CD-first, CD-second and CD-third belong to the third and the fourth stages. From the frequency, the rock art, except the no.1 bit of rock art on Lusen Mountain, was based on the styles of the first two stages, and had the figures of the two stages once in a while. As well when it advanced to the no. 1 bit of rock art on Lusen Mountain, a large amount of rock art was grouped there, presenting the characteristics of the number of extremely rich and repeatedly made pieces.

**Conclusion**

Thus, based on analysing the development stage and performance content of the rock art on Lusen Mountain synthetically, we can reach the type division and evolution and characteristic of each stage, as follows.

The rock art in the first stage (AI) was upright chiselled entirely, showing some situation, such as riding and shooting, shooting mostly. The subject of rock art was not completely formed, content was messy, thus reflecting the diversity of purpose and function of early rock art. The birds and the eagle graphics which appeared once in a while may relate to the totem faith in early Qinghai-Tibetan areas7. In the later part of this stage, the yak became an important theme of the rock art on Lusen Mountain, the production methods also began to simplify, from upright chiselling entirely to chiselling an outline of the animal. So this stage can be called the formative period.

The distinctive feature of rock art in the second stage (AIV, BII, BIII, BIV) is that yak was the main content: the frequency and artistic level of the yak graphics both occupy a prominent position. On the expression of the yak, the no. 1 bit of rock art is different from other rock art: the proportion of yak on the former is higher, and the latter also has some other animals here and there, with deer graphics which had very smooth lines in the latter. This phenomenon may reflect a developing process of the rock art on Lusen Mountain: developing from the foot to the mountain towards the special location where the no.1 bit of rock art lies, which showed the extraordinary divine status of the no.1 bit of rock art in the rock art makers' hearts. The production methods of rock art at this stage had the evolution process from upright chiselled entirely, then ground edge, transitioning to chiselled first then ground, showing the outline of the animal, with some ornament ground on the body of the animal, up to the outline of the animal just chiselled and ground. I think the second stage represented by the yak graphics is the finest fastigium of the rock art on Lusen Mountain, so it also can be called the yak period, and this period mainly reflected the characteristics of local culture on the Qinghai-Tibetan Plateau.

The contents of rock art in the third stage (CIII, CIV) were richer and had a lot of graphics, such as deer, tree, big predator and chariot; the deer and the tiger were especially beautiful. Abundant content of rock art may be found in the Inner Mongolia region of northern grassland culture. Rock art of superb quality was related to the progress of the production tools during this period. In particular, it is important to note that the yak as once the most important theme of the rock art on Lusen Mountain no longer appeared from this stage. The third stage which is represented by the deer graphics is the second of the rock art on Lusen Mountain, so it also can be called the deer period. The appearance of deer and tiger graphics which had beautifully decorated and smooth lines, and the disappearance of yak graphics, reflect the northern grassland culture and the penetration and influence of northern Qinghai-Tibetan Plateau.

The fourth stage (DIV) is the decline stage of the rock art on Lusen Mountain. The rock art on this stage was made cursorily, the ratio of some graphics was extremely uncoordinated, artistic level was greatly reduced, most of them were a parody of existing rock art.

The rock art on Lusen Mountain is located in the northern Qinghai-Tibetan Plateau, which is in the intersection region of Qinghai-Tibetan Plateau culture and the northern grassland culture. The content of the rock art reflects the characteristics of this civilization collision zone in part. In this paper, on the basis of the classification, we propose that the rock art on Lusen Mountain went through four stages. This is the basic work to discuss further, in the larger regional space and cultural context, about what should be the focus of future research. Comparative study of the rock art on Lusen Mountain, on the Qinghai-Tibetan Plateau and on the northern grasslands, and the two other cultural heritages, will be beneficial to the exploration of the relationship between two kinds of culture and their origin, and also may solve the dating problem of the rock art on Lusen Mountain.

7 See Yasha Zhang, "The 'bird' graphics in the Tibetan rock-arts", Tibetan Studies 2, 2006.

# EXPRESSION

N°7 March 2015


EXPRESSION, No. 1, September 2013
BIMONTHLY E-LETTER OF THE COMMISSION ON INTELLECTUAL AND SPIRITUAL EXPRESSIONS OF NON-LITERATE PEOPLES

EXPRESSION is a new link in the human chain of events.


EXPRESSION, No. 2, November 2013
BIMONTHLY E-LETTER OF THE COMMISSION ON INTELLECTUAL AND SPIRITUAL EXPRESSIONS OF NON-LITERATE PEOPLES

We note with pleasure the productive discussions held at the **XXV Valcamonica Symposium**, from the 20th to the 26th of September, 2013 in Capo di Ponte, Italy. Many speakers participated in increasing understanding about *"Art as a Source of History"*. Many plan on submitting papers for the Burgos meeting at the *"Ataquerca"* UISPP World Congress in 2014. **EXPRESSION** is herein publishing the Valcamonica Symposium conclusions as well as excerpts from the new *Atelier* publication in English **"What caused the invention of art?"**

In EXPRESSION N°7 are included additional papers presented at the UISPP World Congress in Burgos (1-7 September 2014). Please note that CISENP's blog remains open for UISPP-CISENP's ongoing dialogue, collaboration and discussions. Join us at www.atelier-etno.it.


EXPRESSION is published by Atelier Editions. Proposed news and texts should be sent to atelier.etno@gmail.com

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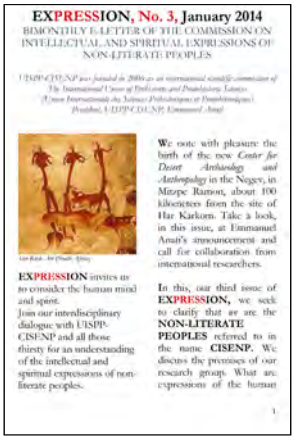

EXPRESSION, No. 3, January 2014
BIMONTHLY E-LETTER OF THE COMMISSION ON INTELLECTUAL AND SPIRITUAL EXPRESSIONS OF NON-LITERATE PEOPLES


EXPRESSION
N°4 April 2014


EXPRESSION
N°5 June 2014


EXPRESSION
N°6 August 2014
A MESSAGE FROM THE PRESIDENT

## APPRENTICESHIP IN CONCEPTUAL ANTHROPOLOGY

Applications for the position of Research Assistant at Atlier in the Camonica Valley, in the Italian Alps, are now being considered.

The apprenticeship, under the guidance of Prof. Emmanuel Anati, may last from a minimum of two months to a maximum of one year. It grants the apprentice the title of ´Research Assistant`. It involves the apprentice in active participation in research, compilation, organization and layout of exhibitions and publications, arrangement and cataloguing of ethnological collections, and planning of cultural and scientific projects.

During the active presence in the Camonica Valley, the selected apprentice will have access to self-catering accommodation on campus, at a symbolic fee.

The application, as an informal letter, should specify the motivations and skills of the candidate and be accompanied by a curriculum vitae. Preference is given to university students or graduates. Credits can be acquired.

Applications are considered throughout the year, with the timing of apprenticeship to be agreed upon with the candidate. Applications should be addressed by email to: atelier.etno@gmail.com.

## LETTER TO MEMBERS AND FRIENDS OF ATELIER

March, 2015

Dear friends,

Atelier, a cultural association founded in 2011, is celebrating its fourth anniversary. The meetings, exhibitions and publications have forged a path to the new discipline of Conceptual Anthropology.

Operating from its headquarters in Valcamonica, it confirms the role of activities taking place in the remote periphery. In this same Alpine valley, the Camonica Valley, half a century ago, another new discipline was born and disseminated: the scientific study of rock art. In synergy with CCSP, CISNEP and CISPE, young people of every age are working on the pioneering task of research and culture in Valcamonica, Europe, Middle East and elsewhere in the world. Atelier is a laboratory of ideas for the renewal of culture.

In collaboration with the UISPP (Union internationale des sciences préhistoriques et protohistoriques), Atelier is promoting a new online peer-reviewed international journal, EXPRESSION, a human sciences quarterly focusing on art, archaeology and anthropology, in which authors from corners of the world are participating. The journal is published in English, but with online translation now widely available, we foresee its circulating in other languages. For individuals and institutions, to promote the wider distribution of our publications, Atelier is also offering half-price on all orders received before May 15th, 2015, including a choice of books from our catalogue (http://www.atelier-etno. it/info-e-news/). All are available in print and as rea-sonably priced e-books. Atelier publications are devoted to humanistic interests. The high quality of the graphic presentation makes these books an excellent gift idea, as disseminating them contributes to expanding new horizons of research and culture. But, before offering them to your friends, please read them yourself.

The papers published in this issue were presented at the XVII World Congress of the UISPP in Burgos, Spain, from 1-7 September 2014, session A20 `The Intellectual and Spiritual Expressions of Non-literate Peoples´.

On October 12, 2014, a one-day seminar meeting, in Valcamonica, was dedicated to `Il pensiero dell'uomo preistorico´ (Ways of Thinking of Prehistoric Man). With the partecipation of anthropologists, archaeologists, psychologists and psychoanalysts. Two exbisitions were organized: `Myths of Origin´ and `The Sacred Tapa Cloth of Oceania´.

We have also launched a volunteer program in Valcamonica. This program concerns not only university students seeking internships, but is open also to all interested in actively participating in the cultural and scientific dynamics of Atelier. Individuals competent in data-entry, information technologies, publishing, exhibit design and museography, audiovisual production, writing, editing, translating into various languages, researchers and graphic artists are welcome. Lodging is available in the township hostel of Valcamonica at low cost.

Please contact us

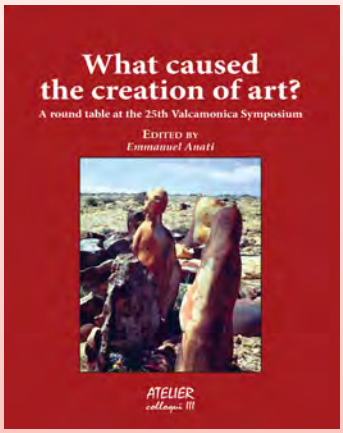
Atelier Secretariat

atelier.etno@gmail.com.

# ATELIER PUBLICATIONS ON CONCEPTUAL ANTHROPOLOGY

## ENGLISH EDITIONS

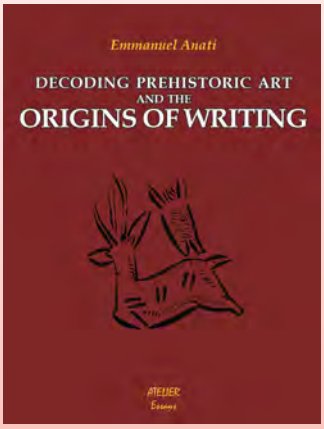
COLLOQUI




Anati, E. (ed.) 2013. *What Caused the Creation of Art? A Round Table at the 25th Valcamonica Symposium*, Capo di Ponte (Atelier) 44 pp. € 10.

'What caused the creation of art?' People from different disciplines and different cultural backgrounds present contrasting views. And yet, the same question has bothered thinkers for generation.

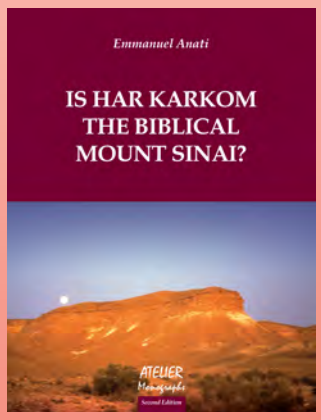
ESSAYS OF ATELIER




Anati, E. 2015. *Decoding Prehistoric Art and the Origins of Writing*, Capo di Ponte (Atelier), 152 pp. 83 pls. € 20

This text examines the cognitive process that led to the invention of writing and highlights constants of memorization and associative synthesis held in the mind of Homo sapiens for thousands of years. Some examples of decoding prehistoric art propose a new vision for the beginning of writing.

MONOGRAPHS

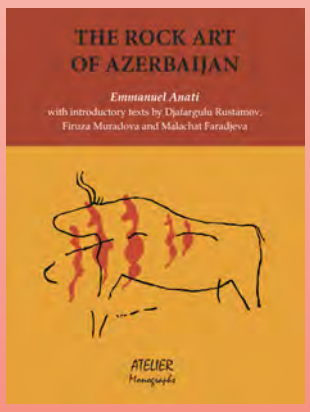



Anati, E. 2013. *Is Har Karkom the Biblical Mount Sinai?* (II ed.), Capo di Ponte (Atelier), 96 pp. 53 pls. € 20.

Remains of ancient sanctuaries and camp-sites tell the story of a hitherto unknown mountain in the heart of the desert of Exodus. Is Har Karkom the biblical Mount Sinai? To what point can we consider the biblical narratives as a source of historical documentation?


Anati, E. 2014. *The rock Art of Spain and Portugal, a Study of Conceptual Anthropology*, Capo di Ponte (Atelier), 104 pp. 87 pls. € 20.

An analytical synthesis of the rock art in the Iberian peninsula from the conceptual anthropology approach. The major concentrations of rock art are considered as expressions of their different cultural and social patterns.




Anati, E. 2015. *The Rock art of Azerbaijan*, Capo di Ponte (Atelier), 156 pp. 190 pls. € 20

In the course of centuries, Azerbaijan, was a great centre of rock art. This gateway of Europe, between the Caucasus Mountains and the Caspian Sea, was a major way of migrations from Asia to Europe. New chapters in the history of art are revealed by beautiful design and stylisation.

MONOGRAPHS

To order Atelier publications: http://www.atelier-etno.it or atelier.etno@gmail.com

# Rock Art Links

Rock Art Studies: A Bibliographic Database

Open access:
http://bancroft.berkeley.edu/collections/rockart.html

- Compilation began in 1993.
- Currently offers over 29,000 citations to the World's rock art literature.
- Available online through University of California/ Berkeley in co-operation with the Bay Area Rock Art Research Association.
- Over 100 archives, web portals, bibliographies, library catalogs and other miscellaneous sources are actively consulted.
- Includes books in and out of print, journals, conference proceedings, periodicals, gray literature and ephemera.
- The bibliographic data is searchable in the following fields: author, title, place name, subject keyword, abstract, and ISBN/ISSN.
- Recipient of the 2002 ARARA Castellon Award for excellence in Rock Art research.

"This is to certify that the RAS Data Base (on world rock art) is a most useful comprehensive tool as an aid to research and preservation of all rock art heritage the world over."

*Jean Clottes, INORA Editor*

"The most important resource of its kind."

*Robert Bednarik, IFRAO Convener*

"…This is of great interest for the scholars, student[s], institutions and museums working on Rock Art."

*Dario Seglie, Liason Officer*
*IFRAO – UNESCO –ICOM*

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Interested in rock-art in Wales? Go to: http://www.rock-art-in-wales.co.uk/.

Trust for African Rock Art (TARA, Kenya) continues to develop community museums and educational tools to teach about rock art.

TARA Chairman and founder, photographer, writer, and rock art specialist, David Coulson will be leading safaris into African rock art areas, also known for their incredible landscapes, rich wildlife and proud nomadic peoples. TARA's main international partner is Kenya-based Royal African Safaris who also have an office in the USA (Colorado).

Download TARA's Guide to Rock Art in Kondoa Irangi, Tanzania, UNESCO World Heritage site: http://africanrockart.org/wp-content/uploads/2013/12/Kondoa-guide-Booklet.pdf.

Take a look at The British Museum and Trust for African Rock Art (TARA) image project, a database cataloguing over 20,000 images from TARA's collection geographcially by country: http://africanrockart.org/news/tara-archive-online-with-british-museum/.