

PART ONE

THE SURVEY

A preliminary survey of rock art, based on the existing documentation in the archives of the CCSP (Centro Camuno di Studi Preistorici, Italy) and on the reports received from researchers, has enabled us to locate some 820 areas of rock art in the world, including thousands of sites.

At first there were discrepancies, among rock art specialists, about the definition of rock art groups. It was necessary to define what constitutes an “area” and a “site”. On the whole, there now seems to be general agreement on two points:

1. *Site*: A rock art site is any place where there is rock art. Its boundaries are traced 500 meters (circa 450 yards) beyond the last decorated rock in every direction. Two clusters of depictions which are separated by a figureless distance of over 500 meters are considered two different sites. Over 20,000 sites are documented around the world.

2. *Area*: A rock art area may include several sites. It is defined primarily by its cultural and topographic characteristics. Rock art areas coincide with geographical features such as valleys, plateaus and mountain ranges. In order to be distinct from one another and form different *areas*, two assemblages of rock art should be at a distance of at least 20 kilometers from each other, a distance that requires about one day’s walking. Over 820 *areas* have been located, but this figure depends primarily on the information that has been made available.

Rock art areas usually include other archaeological remains. They are vital for the understanding of the role played by the area, at the time in which the rock art was executed. Each area obviously has a landscape and a topography. They should be preserved and protected

as part of the patrimony as they are the natural setting in which the rock art was produced. The choice of men to produce rock art in a certain locale was usually motivated by the nature of the place.

A selection of areas was attempted in order to identify *major areas*. A *major area* provides an outstanding contribution to the knowledge of the intellectual identity of early man. Most of the major areas have over 10,000 figures in a zone of less than 1,000 km², but this is not a prerequisite.

Surprisingly such areas are quite evenly distributed: in no continent are there less than 10 major areas, or more than 40. 150 major areas have been identified so far, and are distributed as follows:

Africa:	24	Countries	31	Areas
Asia:	13	“	34	“
The Americas:	13	“	39	“
Europe:	14	“	31	“
Oceania:	6	“	15	“
Total:	70	“	150	“

Some of these major areas of rock art have an enormous quantity of figures. The Drakensberg range in Lesotho and South Africa includes over 5,000 sites with an estimate of over 3 million figures. Kakadu, in the Arnhem Land, Australia, has over 2 million figures. The Tassili n’Ajjjer, in Algeria, has over 400 sites with at least 600,000 figures. The Negev and Sinai, in Israel and Egypt, include 17 areas with over 300 sites and at least 500,000 figures. The Alpine range in France, Italy, Switzerland and Austria, numbers 16 areas. Just one of them, Valcamonica (Italy), includes 26 sites with over 250,000 figures recorded and with an estimated total of over 350,000 figures. Various areas in Arabia, India, Siberia, Russian Central Asia, Brazil and Argentina may each contain as many figures, though precise surveys are not yet available.

The world production of rock art documented so far numbers over 35 million figures, but we may safely estimate that the total number of rock art figures still preserved should be well over 50 million. This constitutes an extraordinary documentation of man’s intellectual adventures, an outstanding world heritage and a unique source for historical reconstruction.

Each figure is part of an assemblage which was produced deliberately and which conveys some message. All together they make the raw material of a 40,000 year record. Each year some story is being reconstructed. Each year keys are found to decipher the codes of some chapter, illuminating the long history of mankind. This may become the most challenging task of the human sciences in the coming generations. The importance of carrying on an accurate world survey and in producing a world archive of rock art is evident. A new kind of world history would make available the intellectual adventures, the beliefs and the habits of many populations which have been so far ignored by world history. These peoples are represented by a unique database that records the intellectual development of Homo Sapiens from the moment our species created the concept of art.

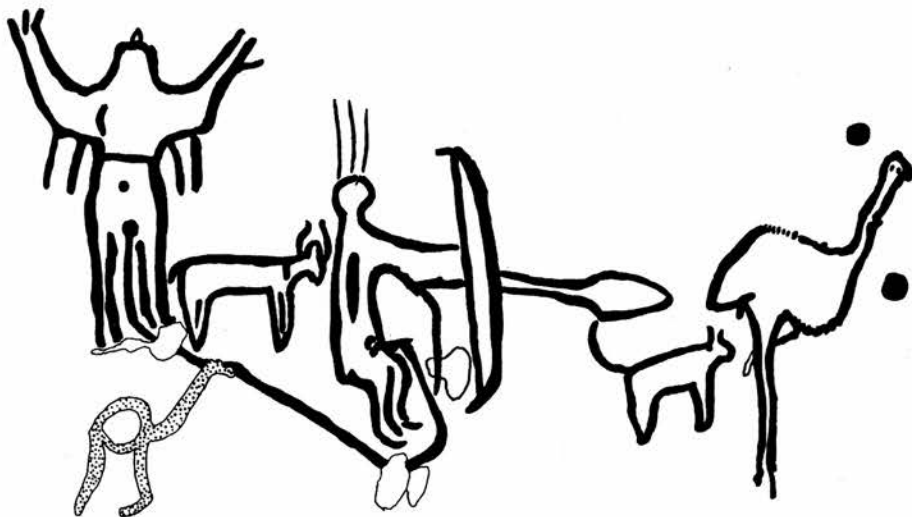


Fig. 2.
Relationship between hunting and sex.
Rock engravings of Tiout, Atlas Range,
Sahara, Algeria. An ostrich hunter is
using the bow and an arrow with a large
head. He is helped by a dog. His penis
(and probably his arm) is related by a line
to the pubis of the female figure behind
him. Between the woman and the hunter
there is a caprine with a triangular
symbol between the horns. The same
symbol is repeated on the head of the

woman and probably is an indicator. The
animal, plus the ideogram, may indicate the
identity or the name of the woman. The
object of the hunt, the ostrich, has, in its
vicinity, two cup marks. They indicate the
ostrich as the object meaning "to do" or, in
this case, subject to be hunted.
Source: Drawn from a photograph of G.
Camps, 1975, p. 328.
Area Code: C-II. Cat.: C-I.



Fig. 3.
A rock engraving from Valcamonica,
Italy. A symbolic composition of the
Chalcolithic Age, ca. 3000 BC. From
Paspardo.

Source: E. Anati 1982, p. 217.

Area Code: E-I. Cat.: D-II

THE BEGINNING OF RESEARCH

Rock art was often an attempt to interpret nature. In itself it has the spirit of research. The reading of its messages was research from the very beginning. Likely, rock art and rock art research started together. At Jebel Uwenat, in Upper Egypt, an ideographic sequence of engravings of Early Hunters likely to be over 12,000 years old was apparently interpreted, after several thousand years, by a Neolithic artist who added the figure of a woman near a female ideogram. At the site of Luine, in Valcamonica, Italy, a rock engraving of a dagger belonging to the Chalcolithic period, ca. 3000 BC, was recognized by a passer-by in the Roman period, 3000 years later, and below this image he engraved the word "mucro" which in Latin means dagger. In the same Italian valley, Medieval shepherds engraved crosses on rocks with prehistoric engravings to neutralise their satanic power. In Bhimbetka, Madja Pradesh, India, Buddhist hermits in the last centuries before our era were using the rock shelters with prehistoric rock art, adding Buddhist images to renew the sacredness of the site.

In 1627, the first tracings of prehistoric rock art were made in Bohuslaan (Sweden) by a Norwegian school teacher, Peder Alfsson. The study of rock art has since developed gradually to interest both scholars and laymen.

In the last century, the number of publications concerning the subject has steadily increased. Even so, the study of rock art is still a relatively young and undeveloped field of archaeological research. Today the subject is awakening an ever-growing interest among researchers. However, well-tested recording systems and fully assimilated patterns of aims and purposes are still lacking in many regions of the world.

Sporadic reports on rock art appeared throughout the 18th and 19th centuries. However, major studies were not undertaken until the end of the last century. In America, an invaluable book by G. Mallery, *Picture-writing of the American Indians*, was published by the Smithsonian Institution in 1893. From the beginning of this century there have been significant reports and data collection on rock art in South Africa, the Sahara and Australia. In Sweden, rock art studies were pioneered by O. Almgren and in the Alps by the English clergyman Clarence Bicknell.

After the discovery of Altamira cave, in Spain, about one hundred years ago, a wealth of Palaeolithic cave art in France and Spain was brought back to light. Beginning in the early 1900's, recording and descriptions of rock art sites were conducted primarily by the Abbé Henri Breuil and by Hugo Obermaier.

These two scholars, followed by Teilhard de Chardin, created a challenging school of thought that contributed to a new cultural approach in rock art studies. "Research" at that time consisted of a combination of descriptions and theories. Scholars attempted to establish dating for prehistoric paintings and to explain their meaning, relating them to tales and habits of present-day tribes. There were many more or less factual accounts, yet little analysis and no synthesis in these preliminary studies; however, they provided an astounding intellectual base that raised curiosity and stimulated further research.

More recently, valuable scholars such as Paolo Graziosi and André Leroi-Gourhan have brought order to the discoveries of Palaeolithic European cave art. This has created the basis for a structural analysis. In spite of this, a world-wide view was still missing. The study of rock art as a world phenomenon was created and developed by the Centro Camuno di Studi Preistorici (CCSP) in Italy. As a result the CAR, International Committee on Rock Art of the ICOMOS (International Council on Monuments and Sites) came to exist.

The CCSP has developed a World Archive of Rock Art (WARA), a Who's Who in Rock Art, world reports and international symposia. The data that is being collected grows constantly; scholars and students from different countries join efforts to give vitality to a new born discipline: Rock Art Studies.

Methods of recording and analysis have been, and still are, continually being refined. There is no doubt that they will further evolve. The growth of research itself generates ever deeper aspects of study, with a consequent need for new systems of documentation and analysis.

Methods must be adapted for each project to ensure that the basic data required for analysis can be obtained: that is, analysis must be planned according to the specific questions which the project addresses. To record paintings calls for different techniques from recording engravings; where both occupy the same surface, still other considerations must be made. In addition, the dimensions of figures and decorated surfaces, their state of preservation, the type of rock, the presence or lack of various techniques of execution and stratigraphic superimpositions, irregularities in the rock surfaces, and differences in patination (that is, the color of the naturally oxidized rock surface that changes hue with age) demand, in each case, specific approaches of study and research. Today the methods of recording developed in Italy by the CCSP have been adapted for use at several major rock art sites in Europe, the Near East and Africa, yet there is still no recording method that is universally applicable.

Recording also requires a concern with superimpositions and stratigraphy, quantitative analyses of subject matter, evaluation of stylistic patterns, the study of raw materials and the tools used by the artists, and numerous other items that enable an in-depth understanding.

Differences obviously exist in the methods used by researchers due to variations in approach and training. Nevertheless it is imperative to develop and establish a conventional, universal system which will enable researchers to understand each other, to compare results and to identify common elements and particularities in each area.

Once an area is accurately recorded, the main question that arises is what should be done with the collected data: in other words, what are the aims and purposes of rock art studies. As with methods of recording, the goals of research are also developing. In the last few

years wider scopes and new implications have emerged within this field.

Matters changed when it was understood that rock art, like writing, is a vital source for historical reconstruction. Because of this consideration research in rock art has grown both in dimension and in outlook. In the last generation it has ceased to be just a descriptive subject and has become a research discipline.

Twenty years ago there were very few specialists in rock art, concentrated in a few countries. Today there are over 300 specialists in nearly 150 countries throughout the world; there are numerous amateurs; thousands of laymen make “pilgrimages” to rock art sites. In 30 years the number of visitors to rock art sites such as Valcamonica in Italy or the Tassili in Algeria, has multiplied 30 times. Rock Art is being discovered by the public at large, and yet scholars have yet to define the broader aims and purposes of their research.

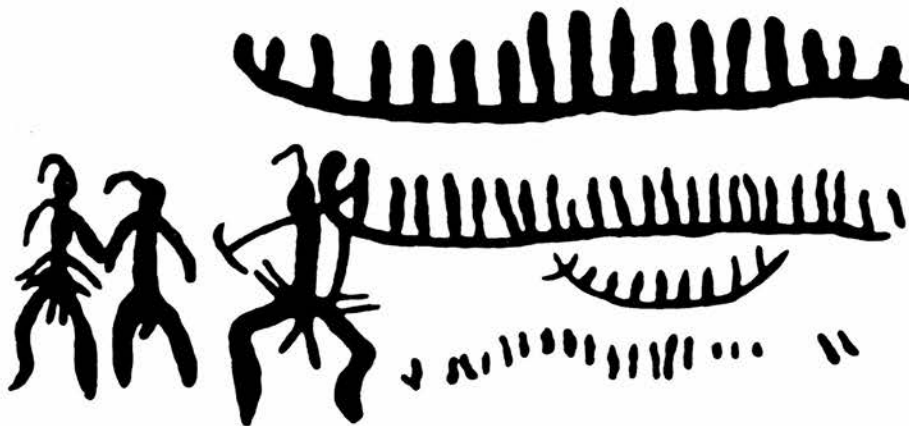


Fig.4.

Boats and human beings on the shores of the Caspian Sea. Rock engravings of an agricultural and Fishing population. Gobustan. To the left, a couple is holding hands. Male and female are being instructed by a woman who is larger in size, presumably indicating that she is

more important. The male sex is indicated by one line while the female sex by two. The boats are superimposed. They have been added later on the same surface. Source: Redrawn from I.M. Djafarsade, 1973, rock n. 33. Area Code: E-III. Cat.: D-III.

HISTORICAL RECONSTRUCTION

The appearance of *Homo Sapiens* on Earth marks the emergence of a new species: one able to communicate through a complex assemblage of vocalizations that we call language. This species spread across the earth, and we are its issue. Early vocalizations, gestures and other communicative expressions, either oral or visual, were not preserved. But their graphic messages did reach us. While art objects have been unearthed in early archaeological sites, the bulk of prehistoric creative expressions is preserved in the form of rock art. Its study and evaluation provides unique insight into man's intellectual life during the last 40,000 years, and reveals his imagination and conceptual adventures. The consistency of subjects and figures exhibited in rock art throughout the world testifies to the common origin of the human intellect.

In every territory which was inhabited by human beings, rich concentrations of rock art provide new perspectives into the history of mankind. All prehistoric groups are represented; from Palaeolithic hunter-gatherers to contemporary collectors, fishermen and pastoral societies. As a result of the information gleaned from these creative registers, we have gained a greater historical awareness of the remote past in many countries of Asia, Africa, the Americas, Europe and Oceania.

Because it falls well before the advent of writing, rock art constitutes a major testimony of early man's expression of himself and of his world view. While even the most ancient script is just over 5,000 years old, rock art provides a record of the way man lived many thousands of years earlier. Yet despite its value as a source of cultural, social and historical information, in most regions of the world this

expression of human creativity has been sorely neglected. For one reason or another much of the knowledge of regional scholars does not become available to the rest of the world. In order to establish a more co-operative and receptive forum for thought, it is vital that researchers share their conclusions on the state of rock art studies.

Technical aspects of culture progress in a more or less coherent evolution. New inventions and innovations constitute the bases of each step in the evolutionary sequence, and result from experiences which motivate subsequent progress. It is questionable, however, whether such logical evolution occurs in the artistic aspect of culture as well. Current cultural standards influence the evaluation and appreciation of art and creativity. Aesthetics change from culture to culture and from person to person according to fluctuations in style and taste. This concern should be kept in mind when rock art styles are described as realistic, descriptive, abstract or symbolic, for such terms reflect our own degree of comprehension and our own cultural criteria which are the result of complex, dialectical and individual capacities.

The artist did not represent everything he saw or knew, but instead made specific choices. Although the subject matter varies consistently from one age to another, it is always rather circumscribed within each age. Thus the frequency and assemblage of subjects allow us to construct a rudimentary hierarchy of the artist's values. The gamut of subject matter is always well-defined and consistent within specific cultural and tribal patterns. There have always been defined impulses to paint, draw or engrave in a certain way, and both subject matter and style are reflections of deep motivations.

Rock art may help in defining such patterns of culture. When assemblages can be identified chronologically, each one represents a different stage in the cultural sequence; hence, through subject matter and associations, rock art can divulge many aspects of human life. The depiction of the species of animal hunted and of the food gathered tells us much about the ecosystem in which man lived. The depiction of weapons, tools and other objects reveal his technical abilities. The illustration of his myths and beliefs bring back to our consciousness essential aspects of our intellectual roots and displays the existential relationship between Man, Nature and the "Supernatural".

Comparative studies help to identify similar kinds of societies around the world. Certain kinds of hunting societies, for example, tend to depict animals in a particular style and to use a consistent assemblage of symbols the world over. Pastoral societies from different regions have style characteristics in common and focus their representations on the animals they breed. The art of fishermen or of pastoral populations from areas which may be quite distant from one another may show similar traits of style. No doubt, daily concerns and specific patterns of activities have had parallel impacts on peoples with similar activities and backgrounds, resulting in similar trends of figurative output. It seems therefore that patterns of style and subject matter indicate specific horizons of mentality and hence enable us to detect stages of culture. Thus it already seems possible to define the meaning of style in a general way; of course the details of each figure may still reveal much more about the individual artist's state of mind, preoccupations and motivations within his cultural horizon. Rock art studies may have a tremendous impact in the near future in reconstructing the history of mankind and of specific ethnic and cultural entities.



*Fig.5.
Cattle and men. Rock paintings of Senda
Bifton, Ethiopia. Men with shields seem
to defend two bovines while a group of
people approaches. The lower bovine is
made by a different hand.*

Source: A.R. Willcox, 1984, p. 58.

Area Code: C-V. Cat.: C-II.



*Fig. 6.
The animal spirit brings fertility on
Earth. Pastoral rock engraving from Ti-
n-lalan, Tadrart Acacus, Libya. The
woman is using her hands to keep her
legs wide open so that the animal spirit or
divinity can easily penetrate her. The
garments suggest the woman's status or*

*her beauty. Pastoralists often have
animal divinities and spirits in their
Olympus. Early phase of Pastoral
Neolithic; size of tracing 1.65 by 1.70
meters.*

*Source: F. Mori, 1975, p. 356.
Area Code: C-II. Cat.: C-II.*

WORLD DISTRIBUTION

While today it seems that we live in a world where the arts have an ever-decreasing role in day-to-day living, early man apparently viewed art as an integral and essential part of his daily life. In every region of the inhabited world human groups painted and engraved rock art. Indeed, rock appears to have been the first canvas used by man, in every part of the world. This is the art that was preserved. Many other art forms, likely to have been as old, have not survived. Body paintings and decorations, as well as sand drawings and collections of stones of peculiar shapes or colors may have been created by man as early or before the inception of rock art. Music and dance have left indirect traces only through depictions in rock art and remains of musical instruments in archaeological layers.

Major concentrations of rock art are found more or less evenly distributed on earth's inhabited land. We shall start our survey in southern Africa which, according to present reports, has the greatest concentration of rock art in the world. There are major concentrations in Angola, Botswana, Kenya, Lesotho, Malawi, Mozambique, Namibia, South Africa, Tanzania, Uganda, Zambia and Zimbabwe. In northern Africa the major concentrations are located in Algeria, Chad, Egypt, Ethiopia, Libya, Mali, Mauritania, Morocco, Niger, Somalia and the Sudan.

In Asia, major concentrations in the Near East are known in Iran, Israel, Jordan, Oman, Saudi Arabia, Sinai (Egypt) and Anatolia (Turkey). In Central Asia and the Far East significant concentrations are found in Afghanistan, China, India, Mongolia, Pakistan and in several areas of Russian Central Asia and Siberia.

Major rock art sites in North America are located both in Canada and the USA. In Latin America they are known in Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guatemala, Mexico, Peru, the Dominican Republic and Venezuela. In Europe, major concentrations are found in Austria, Bulgaria, Denmark, Finland, France, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and Russia. In Oceania, by far the major concentrations known are in Australia, including Tasmania; others are found in Easter Island (Chile), Hawaii (USA), New Guinea, New Zealand and the Solomon Islands.

Recent research indicates that the beginning of rock art on every continent goes back much farther in time than was believed a few years ago. In Africa the oldest art dated so far is from the Apollo 11 cave in Namibia, where painted animal figures on stone slabs were found at an archaeological level defined by W.E. Wendt as "Middle Stone Age", dated by three C-14 tests (not calibrated) to 28,400, 26,700 and 26,300 BP (Wendt, 1976). In Tanzania, the earliest rock art is from the Kondoa and Singida districts, and may be even older. In one of the painted rock shelters, coloring materials with marks of utilization, were found in archaeological levels dated by C-14 to over 40,000 years (Anati, 1986). A sequence of different styles of Early Hunters' rock paintings are likely to have started earlier than any other rock art dated so far and may well be over 40,000 years old (cf. *BCSP*, vol. 21, 1984). In northern Africa, the earliest dates available so far for the beginning of rock art are much later than in southern Africa; they refer to Early Hunters' art from the Acacus range in Libya, going back to the late Pleistocene, and date according to F. Mori to over 12,000 BP (Mori, 1970; 1991). Similar stylistic assemblages are known from the Tassili n'Ajjer in Algeria and from the Ennedi in Chad.

In the Near East the earliest clues for dating are from Central Arabia (Dahthami Wells) and are likely to belong to the Pleistocene epoch, between 14,000 and 10,000 BC (Anati, 1970). In Central Asia and the Far East chronological data so far are more limited than elsewhere. Mobiliary art from Malta and other sites in the Baikal region of Central Siberia has been dated (not calibrated) to ca. 34,800 BP (Abramova *BCSP* 25-26 1990, p. 81). By comparison, A.P. Okladnikov has proposed a Pleistocene date for ancient rock art sites of similar styles in various parts of central Siberia. These datings are

controversial. But Early Hunters rock engravings are widespread in Siberia and some of them may well go back to the Pleistocene.

In India, in Madhya Pradesh at Bhimbetka, V.S. Wakankar detected a series of rock paintings from the Stone Age which he located in the Pleistocene. Decorated ostrich eggshells from the same area have been dated by C-14 to 25,000 BP. There are several sites of Early Hunters' rock paintings which are likely to be of Pleistocene age.

In Europe, the earliest graphic signs are found in contexts which are dated 34,000 to 30,000 years B.P. and seem to coincide with the first presence on the continent of *Homo Sapiens Sapiens*. Nonetheless, the beautiful polychrome paintings from the caves of Altamira and Lascaux developed in the Magdalenian period, 16,000 years ago. Some graphic markings have been attributed to the Mousterian period and are considered a "pre-figurative" stage in the graphism which has been attributed to Neanderthal Man. This hypothesis is much debated, but should it prove to be correct, the earliest graphic markings in Europe would turn out to be older than 40,000 BP. So far, no figurative images have been demonstrated to exist at that stage.

In the Americas, the earliest art dated so far comes from the southern continent where in the Piaui State, Brazil, anthropic layers, connected with rock art and including fragments of painted rock surfaces, have been dated by C-14 to ca. 17,000 BP. Recently, much earlier dates have been proposed for rock art in Brazil but, so far, they do not seem to be reliable. In the far south of Argentina, at Rio Pinturas, in the province of Santa Cruz, C-14 datings have again enabled researchers to locate early representational assemblages as far back as 12,000 BP. Nothing as early has been dated so far in northern and central America, although stylistically the Early Hunters' rock art assemblages in Baja California, Mexico, and in the states of California and Washington, USA, may well turn out to be of a comparable early date.

In Australia and Oceania the earliest reliable evidence of art so far is provided by graphic markings at Koonalda Cave near the southwestern edge of South Australia, West of Adelaide, dated by C-14 to ca. 20,000 BP. Recent considerations propose dates older than 40,000

years for Australian engravings. These figures rely upon C-14 datings of organic intrusions in the rock varnish (patina) from engraved surfaces (Bednarick, 1992). Should this date be confirmed it would nevertheless raise a problem: The process of incising may have brought materials from the surrounding surface. Such dates are not impossible but they require further verification .

This brief summary of the earliest dates of rock art available so far in the different continents seems to indicate that the earliest rock art we know of may have come into existence more or less in the same period, that is between 40,000 and 30,000 BP, in different parts of the world.

Whatever the case, the production of art and therefore of rock art, seems to be a basic attribute of *Homo Sapiens*. Our common direct ancestor is today believed to have originated in a “primary home land” in Africa or in Asia. In Europe, America and Oceania there is no evidence for the presence of previous hominids from whom *Homo Sapiens* may have emerged. All of the present day mankind derives from this primary core. Early groups of *Homo Sapiens* reached the various continents as a result of a trend of migrations and diffusion. They carried with them their traditions of hunting and food collecting, their technological abilities to produce tools, their primordial mother language, their social and conceptual patterns, and their ability to produce art. Early *Homo Sapiens* produced art and therefore we may find its traces wherever he arrived. According to present data, the great migrations took place between 45,000 and 35,000 years ago. By then *Homo Sapiens* had acquired its modern characteristics. The world distribution of rock art is likely to coincide with the world distribution of *Homo Sapiens*.

ECOLOGICAL SETTING OF ROCK ART

A large percentage of the 150 major areas of rock art detected so far reside in, what are now, desert or semi-desert areas. We may define these areas as peripheral or isolated zones in the present ecological situation. This general pattern recurs, from the Dahthami Wells in Central Arabia to Tromso in Arctic Norway; from the Acacus in the Libyan Sahara to Ayres Rock in Central Australia; from the Kalahari Desert in southern Africa to San Ignazio in Baja California, Mexico; From Valcamonica in the Italian Alps to the Middle Yenisei River in Siberia; and from Rio Chubut in Argentinean Patagonia to Har Karkom in the Israeli Negev desert. On the other hand, the data available so far indicate that the less dense areas of rock art are confined to the regions covered today by large tropical forests. We have very little evidence of rock art in Brazilian Amazonia, in the Congo and in other west-central African countries, and in south-eastern Asia. The few areas of rock art known in these regions are usually rather late.

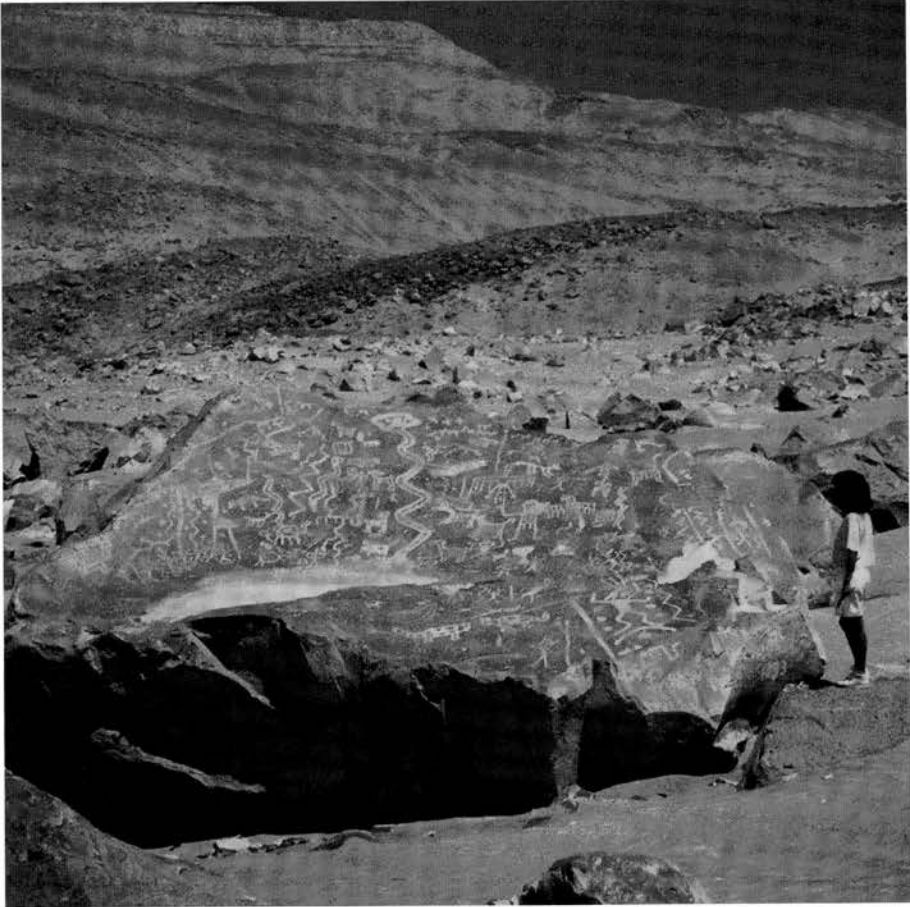
The major concentrations of Palaeolithic cave art of Europe are located in the dead end area which faces the Atlantic Ocean. In the Franco-Cantabrian region, in fact, man is likely to have moved about much less there than in eastern Europe, the Balkans or the Mediterranean areas, where later civilizations flourished. In Australia this phenomenon repeats itself; although man must have arrived to the continent from the north, populating that area before expanding southward, the earliest known instances of rock art occur in the most far away regions from there, in the south, in a dead end facing the Southern Ocean, at Koonalda Cave and elsewhere.

In Africa, once again, the major concentrations of the earliest art horizons come from Tanzania and Namibia, both in mountainous, rather marginal, areas in late Pleistocene human movements. The same may be said of places such as Rio Pinturas in southern Patagonia, or of the peninsula of Baja California in Mexico. Such recurrent ecological and topographic environments for early rock art still demand an explanation. There is no doubt, however, that man arrived to these areas with the intellectual capacities for producing art; he found in them settings which were particularly favorable to artistic creation.

The ecological setting of rock art seems to fit the “revelation pattern”. A common denominator to many faiths responds to the biblical concept that “the prophet comes from the desert”. Medicine men in various parts of Africa go for long periods of isolation to the sacred caves, and shamans in Siberia choose to remain isolated for months at a time in the icy tundra. In many parts of the world the preparation for initiation into adulthood demands isolation away from populated areas. Christian hermits choose lonely places. Buddha went to meditate on the mountain. Also revelations choose deserts. Islam was born in a desert oasis. Judaism was born on a desert mountain. Har Karkom, believed to be the biblical Mount Sinai, has also the richest concentration of rock art in the entire Sinai peninsula.

Many places around the world where rock art is still practiced are considered to be sacred and some of them are also secret where access is restricted to the initiated. No doubt many prehistoric rock art sites had a reason for their location.

At Har Karkom we know that the rock art was produced in a place which was already sacred. In Malawi the Nyau people produce rock art in caves which are sacred because “ancestral spirits live there”. The sanctuary caves of the Western European Palaeolithic were both sacred and secret and the same can be said for many Australian rock art sites.



*Fig.7.
The environment of Toro Muerto, a major
rock art site in Peru, in a desert area.
Source: Photo G. Samorini; WARA 90:V-
40. Area Code:G-II. Cat.:D-I.*



*Fig.8.
Rock engravings at Har Karkom, Negev
desert. Site: HK233.
Source: Har Karkom Expedition. Photo
by A. Fradkin-Anati, 1992: AA-92: IV-
33. Area Code: B-III. Cat.: D-I.*

THE EARLIEST ART

The hunting way of life has characterized humanity for over two million years and left profound marks on the intellectual nature of the species. **The fundamental human processes of association and “logic” developed throughout the ages in which the human species acquired its basic behavioural patterns** (*Postulate EAI*). These millennia are characterized by hunting bands who shared activities and refined communication. This way of life reached a high level of perfection and efficiency in the last 100,000 years with the diffusion of our direct forefather, *Homo Sapiens Sapiens*. He had a developed technological level, quite refined mental abilities, he was capable of producing precise and efficient implements and was responsible for creating an ideology whose matrix is still present at the core of modern man’s conceptuality, including a capacity for synthesis and abstraction which, among other things, led him to produce art and to develop an articulate and complex language.

The art of the Sapiens fossil population is the mirror of mind and spirit and constitutes a precious record of man’s conceptual and psychological matrix. As we shall further elaborate, we come across archetypes and paradigms that are essential to our being and which are still deep within us.

Those populations whose livelihood is based on hunting and gathering are today almost extinct. They are confined to the most inhospitable parts of the world. These regions include the deserts of Australia and Southern Africa, the tropical forests of the Amazon basin, the Congo basin, Southeast Asia, the Arctic tundra of Lapland, Chukotka, Alaska and the great Canadian North. They occupy territories which constitute more than 20% of the Earth’s land surface

and yet are less than 1% of the world's population. Only 500 years ago, at the time when America was reached by Columbus, 70% of the Earth's surface was populated by hunting and gathering people who then accounted for more than 20% of the world population. 12,000 years ago, at the end of the Pleistocene, the entire population of the Earth pursued this means of subsistence which was gradually replaced by economies based on food production. It is only in the last 12,000 years that other ways of life have developed.

Tribal societies around the world have the common characteristic of producing art, especially rock art. Their visual output is recorded in millions of figures, in thousands of zones distributed in 120 countries on all inhabited continents. Over 70% of all known rock art was produced by hunting and gathering societies while less than 30% is the work of Pastoralists and Agriculturalists. The growing interest in this art is caused by the light it projects on the collective memory and on universal conceptual processes.

Through these ancient expressions of the human mind a wide range of submerged memories come back to consciousness, reviving stored chapters of our intellectual heritage. But as important is rock art's historical relevance. Rock art is a sort of pictographic writing which constitutes humanity's largest and most significant archive of its history for 40,000 years until the advent of conventional modern ideographic and then alphabetic writing. New discoveries almost daily increase the record. Even in Valcamonica where we have been working for 30 years the 250,000 figures discovered are only a small part of the cultural patrimony that has yet to be surveyed.

Other examples are from Lesotho. Over the past 20 years, L.A. Smits has catalogued thousands of pictures from around 500 caves and rock shelters. There are still about 5,000 sites that have yet to be catalogued (L.A. Smits 1988). Analogous situations exist in most countries (E. Anati 1989).

Recent surveys reveal the size of this heritage that is being re-appropriated by human culture in such disparate regions as the Americas or the Far East (C. Grant 1982; J. Schobinger & C. Gradin 1985; Chen Zhao-Fu 1988). Countries like Sweden, Spain and France, claiming to have complete inventories are rare and even in these

countries there are new discoveries every year demonstrating that the exploration is not yet finished (A. Beltran 1988). The recording, study and comprehension of the rock art patrimony is still in its infancy.

So far, cataloguing and making inventories of rock art have been mainly the private work of students and amateurs occasionally supported by universities and museums. It is only in the last few years that some governments have become aware of the importance of this documentation as an immense cultural and historical heritage belonging to all humanity and are now embarking on systematic inventories. This came about largely as a result of an information campaign conducted by the CCSP (Centro Camuno di Studi Preistorici, Italy) and CAR (ICOMOS International Committee on Rock Art), with the support of UNESCO (United Nations Educational, Scientific and Cultural Organization) and ICOM (International Council of Museums).

At the same time, it was deemed necessary to stimulate individual scholars to make the results of their research available to the scientific world. For this purpose we promoted a monographic series of books on rock art, "The Footsteps of Man", published by Jaca Book in Italy and by the Cambridge University Press in England. Following the recommendation of a UNESCO consultancy held in 1981, the periodical BCSP has become the "*World Journal of Prehistoric and Primitive Art*" and devotes much space to current studies and discoveries of rock art.

Mobiliary art: figurines, plaquettes and decorated objects, have received different treatment. Once they are found they usually end up in museums and state collections which draw up the inventory more for the institution than for humanity. A single world inventory is also necessary in the sector of mobiliary art. However, both in terms of the immensity of existing documentation and world distribution, rock art appears to be a global phenomenon which constitutes more than 90% of the known prehistoric art. It has remained in situ and is found in all inhabited continents.

In order to reach a valid global vision of rock art there is a great need of a world data bank. Data should be classified using universal standards so that comparisons can be made. This would require collecting the same type of data having the same cataloguing

procedures in different countries and creating a fluid and open exchange of information. With this aim in mind CAR has produced, since 1984, standard forms which can enter a world data base in different languages and can be read and printed in any language. This data bank is already being compiled in various countries such as Canada, Mexico, Italy, Ireland, Tanzania, Malawi, Israel, Saudi Arabia (E. Anati 1984).

The rock engravings in Alto Adige, Italy and those only a few kilometers away in Austria are analyzed and catalogued in different ways each being ignorant of the other's methods and criteria. This sort of situation signifies that systematic research is impossible. Co-ordination should be pushed for by international organizations encouraging regional and local institutions as well as individual scholars and giving them concrete support and guidelines.



*Fig.9.
Rock engravings of a group with complex economy at Vitlycke, Tanum, Sweden. A couple is mating under the protection of a being of much bigger size which is ithyphallic and holds an axe above them. The point, in three different places of the scene, has the meaning "to do". The point at the foot of the couple is likely to mean*

"to copulate", near the foot of the big being is likely to mean "to go", near the axe it is likely to emphasize the metaphor of the perforated axe head penetrated by the handle.

*Source: Photo by E. Anati, 1974: E-9.
Area Code: E-II. Cat.: D-II.*

ECONOMIC AND SOCIAL CONTEXTS

Certain elements of style and content have been shown to be constant on a world level and we have been able to distinguish four categories of rock art with universal characteristics (E. Anati 1981).

A. **Archaic Hunters and Gatherers:** The art of hunting populations which do not know the use of bow and arrow. Figures and signs are associated but true descriptive scenes are practically absent.

B. **Evolved Hunters and Gatherers:** The art of hunting populations which use the bow and arrow. Descriptive and anecdotal scenes are present.

C. **Pastoralists/Animal Breeders:** The art of populations whose main economic activity is the rearing of livestock. The main interest of the artist focuses on domesticated animals.

D. **Complex Economy:** The art of populations with diversified economies including farming activities. Mythical scenes and schematic groupings of signs are repetitive.

Only a small percentage of the documented rock art can not be put into any of the four categories and this in itself indicates that almost all of the world's rock art belongs to one of these four categories.

These subdivisions are of course schematic. There are transitional phases and groups with mixed characteristics and within each category there are considerable variations which should be studied further. Nevertheless at the present state of research and given the

immensity of the material already noted it is becoming necessary to create general lines of analysis on thematics and style which go beyond the limits of regional definitions. The methodology requires further sophistication but even now it is producing results. A preliminary order has been established for the larger groups. These groups include rich concentrations in Central Tanzania, Madhya Pradesh in India, Central Arabia, the Negev and Sinai deserts and Seminole Canyon in Texas.

Criteria based on thematics and typology, the nature of the associations and the presence of scenes, figurative, schematic and abstract styles, the importance given to certain wild or domestic animals, the presence or absence of certain symbols which act as "fossil guides" have all led to the discovery of significant recurrent elements. This has brought us to the working hypothesis that: **universal reflections conditioned by a way of life influence behavior, thought, ideology, associative processes, and consequently artistic manifestations** (*Postulate EA2*).

A thorough analysis of the essential elements of rock art groups at a world level is necessary to determine universal factors and to identify and distinguish them from local factors. Five elements have been taken into consideration: 1. Subject matter. 2. Types of associations, compositions and scenes. 3. Stylistic trends. 4. Technical patterns. 5. Type of location on rock surface.

In Valcamonica, for example, it was found that general patterns do exist. The Proto-Camunian period (ca. 8000-6000 BC) is type A (Early Hunters) while all the successive periods belong to group D (Complex Economy) (ca. 6000-16 BC). Groups B (Late Hunters) and C (Pastoralists) do not appear to be represented in Valcamonica (E. Anati 1976).

For some groups of rock art in Spain we may make quite clear attributions: Group A for Cantabrian cave art (ca. 30,000-8000 BC); Group B for a large part of Levantine rock art (tentatively dates ca. 8000-2000 BC); Group C for some complexes of schematic art, and for others Group D (both present since ca. 3500 BC). The rock art of Mount Bego (France), until recently, had been considered by many to be the work of an agricultural population. In fact, the Mount Bego

rock art seems to be Group C; the work of a principally animal rearing population (ca. 3000-1000 BC). It is only in a later phase that the marks and images, including figures of plows, appear to reflect a partly agricultural mentality (after 1500 BC).

The rock art of the Negev and Sinai deserts shows successions of types A, B and C while no rock art of type D has been detected apart from an isolated case (this sequence of rock art displays a sequence of seven main stylistic horizons from 10,000 BC to the present (E. Anati, 1979).

It is likely that more specific definitions have yet to be made within Groups A and B. In various parts of the world there are extremely schematic groups of paintings and engravings which, at first appearance, seem abstract. Nevertheless, marks with numerical value, repetitive associations of dots and lines and network motifs actually follow conceptual rules. In Europe, various groups of Mesolithic art, the La Cocina type in Spain, Azilian art in France, Magelmoisian art in Germany and Scandinavia, and the Romanellian art in Italy, are very close to styles encountered in Turkey and the Near East, North Africa, Malawi and Zambia in Southern Africa, along the Murray river in Southern Australia and in various Polynesian Islands.

Several of these groups produced either mobiliary art or rock art or both. Many of these groups have two main recurrent features: a certain amount of specific associations of lines and dots which are repeated using similar associative syntaxes in various parts of the world, and constant proximity to escargotières or shell mounds. These are sites where human groups camped and where heaps of shells and other mollusc remains are to be found, revealing a particular diet and economy based on the collection of river or marsh animals. Thus it appears that a specific graphic style reflects a way of life with more or less uniform consistency, at different ages, in various parts of the world. We tend to find this type of art by rivers, lakes, marshes and the sea-shore. It would appear to reflect a gathering mentality, rather than a hunting mentality, of people who survived on gathering molluscs. Such activity, for reasons that are not entirely clear, seems to have aroused a particular interest in arithmetic and a tendency for schematism rather than the spirit of observing large animals in great

detail that appears in most Type A Groups (those of the Archaic Hunting populations).

On UNESCO's assignment we have attempted to single out the rock art zones of "primary importance". It was necessary to establish objective criteria and even if these criteria are modified for future evaluation the attempts have been useful. Many of the initial problems are still unsolved but working hypotheses support the continuation of research.

The list which was published in the *BCSP* vol. 21 (1984) did not include all of the 120 countries where rock art is known to exist and recognized others as having more than one zone of primary importance. Each of these zones may include numerous sites such as the Franco-Cantabrian zone or the areas rich in cave-painting of Central Tanzania or Lesotho. Based on a series of criteria already pointed out in the UNESCO report (1983) we selected 144 areas which, from the available information, are to be considered of primary importance. This list has recently been updated to include 150 areas. Upon studying their distribution we came to realize that they are more or less homogeneously diffused on all continents. Indeed, rock art appears to be a truly universal phenomenon.

In almost all cases recorded so far **rock art is a phenomenon of non-urban, non-literate societies** (*Postulate EA3*). **In all the examined zones there are areas of great concentration of rock art which do not reflect an analogous concentration of people** (*Postulate EA4*). On the contrary, it seems to be a universal pattern that rock art is scarce where the population is more concentrated. There appear to be many zones the world over where people went for artistic or other ritual and social activities of which little or no trace has yet been found besides rock art.

PICTOGRAMS, IDEOGRAMS AND PSYCHOGRAMS

Each of the four categories of rock art (representing respectively the production of Archaic Hunters, Evolved Hunters, Pastoralists and people with a Complex Economy) displays a limited typological range of subjects which recurs in the rock art of all continents (*Postulate EA5*).

Three types of signs are to be found grammatically different from each other. They are pictograms, ideograms and psychograms (*Postulate EA6*). They recur not only in rock art but also in mobiliary art.

Pictograms (and mythograms): Are figures in which we may recognize identifiable forms of real or imaginary objects, anthropomorphic and zoomorphic figures.

Ideograms: Are repetitive and synthetic signs that are sometimes named as zoomorphic and anthropomorphic schemes, sticks, tree-shapes, phallic and vulvar signs, discs, groups of dots and lines. **Repetitiveness and constants of association seem to indicate the presence of conventional concepts in a number of ideograms** (*Postulate EA7*).

Psychograms: Are signs which are not recognizable as and do not seem to represent either objects or symbols. They are strokes, violent outputs of energy that perhaps express sensations or even more subtle perceptions.

Pictograms are images whose shapes we may identify. **In the rock art of non-literate people, pictograms are of four main**

themes: 1. Anthropomorphic; 2. Zoomorphic; 3. Topographic and Tectiforms; 4. Implements and Weapons (*Postulate EA8*). They may have metaphoric meanings. Only very rarely do other themes occur such as vegetation, landscapes or realistic portraits and only in very specific contexts.

Next to the above we often find associated ideograms. The meaning of the figures themselves and of these associations has been studied and discussed by many scholars and various theories have been suggested (H. Breuil 1952; A. Leroi-Gourhan 1982; A. Lommel 1970; G.G. Luquet 1926; A. Marshack 1972). Nowadays no one is satisfied with the mere identification of the animal species represented or other technical details since this is only a prelude to further study.

For Renaissance painters the dove was undoubtedly a dove. However, as in Fra Angelico's Annunciation Scene, to say, "There is a dove in the painting", does not convey the meaning of the work. When we know the Christian theme that inspired the artist and when we are familiar with his methodological and conceptual equipment the dove takes on a metaphoric content and meaning as the Holy Ghost. Similarly Picasso uses the dove not merely as a dove. He combines this pictogram with the ideogram of the olive branch that we recognize as such only because we are initiated. Twenty thousand years hence, perhaps someone will ask what could be meant by the ideogram near the beak of that strange pictogram that vaguely resembles a bird. It may not be easy then to read it as a metaphor for "peace".

A host of other examples could be cited such as the eagle in Roman times. *Homo Supersapiens* in a few thousand years will say: "Yes, the bird represented does seem to be an eagle". Tests will prove this from the shape of the beak or from the wing-span. But what does this eagle mean? Sometimes, when the pictogram is accompanied by four ideograms that nowadays we are able to read as SPQR, some inkling of the conceptual content of the figure will perhaps emerge as a sort of "totemic animal" of the Senate and the People of Rome.

But then, other eagles will be found, dating nearly two thousand years later, excavating the remains of a town on the shores of the Danube River: from the Austro-Hungarian Empire, or in a monumental house with white columns, in a town believed to have

been the Capital of the United States of America; and in the ruins of a princely palace in the Middle East which, the finds will show, had been used by both a Shah and an Ayatollah.

Different ideograms will accompany the eagle in each case and, no doubt, the eagle as a symbol will cause debate. The meaning of pictograms is not always obvious, but common denominators will show researchers that in these various cases the eagle is connected with power or leadership.

The quantitative analysis shows drastic numeric relative differences between pictograms, ideograms and psychograms in different periods and groups. In the Early Hunters' assemblages, there is a more even balance between the three types of graphemes which is more or less constant around the world; almost in even proportions between pictograms and ideograms and the sporadic presence of psychograms. In the Evolved Hunters and in the Pastoral groups, usually there is a predominance of pictograms.

In the Gatherers' groups, ideograms are usually prevailing, while in groups with complex economies, the possible variations have a larger range, from assemblages with a high majority of pictograms to assemblages with a high majority of ideograms. Throughout the range there may be assemblages with or without psychograms. Thus, the splendid pictograms of the Hunters frequently accompanied by their ideograms must have been clearly legible to anyone who was familiar with their conceptual content. Today there has been a breach in the direct tradition. The work of the archaeologist is now to assemble the components and observations that may enable us to approach an understanding of the content.

Ideograms in ancient writings and in many groups of rock art are signs that convey ideas from the writer to the reader, from the painter to the real or imaginary beings to whom the message is addressed. We have recognized three main types of ideograms which tentatively have been named: 1. Anatomic (such as vulvar signs or hand prints); 2. Conceptual (such as the cross or the disk); 3. Numeric (such as groups of dots or of lines). These terms are invented and used for the benefit of present day communication needs. They do not necessarily imply their original significance.

Most of the ideograms used for millennia by prehistoric groups are later found as characters in the first writings in various parts of the world: in China, the Near East and Central America. **In the cases in which the meanings of the ideogram can be traced back to a single common core a universal pattern is established** (*Postulate EA9*). The rectangle or the square mean land, site or territory in most early scripts as well as most areas of rock art. Two or more wavy lines mean water or liquid; the rayed disk means sun, light or day; the non rayed disk means sky or air. In some early ideographic scripts from different continents, and in rock art, of groups of people with mixed economies, the triangle with a point turned downward means the pubic triangle, sex, fertility or birth. In many instances, in the rock art of human groups with complex economies, in Europe, the Near East and North Africa, the dot, near an anthropomorphic being, is a verb of action, like “to do”. Then if it is near the foot of a person it may mean “to go” or “to walk”, if it is near the penis or the vulva - “to have intercourse”, if it is near the bow and arrow - “to shoot”, if it is near the head, “to think”. A similar significance of the “accompanying dot” seems to emerge from the rock engravings of the Helan Shan in northern China. In the rock art of the Plain Indians, in New Mexico and Arizona, a line near the foot of a human figure may indicate the direction of a trail. Similar lines appear to have the same significance in the rock engravings of later periods in the Near East. The problem is whether they can be traced back to a common archetype.

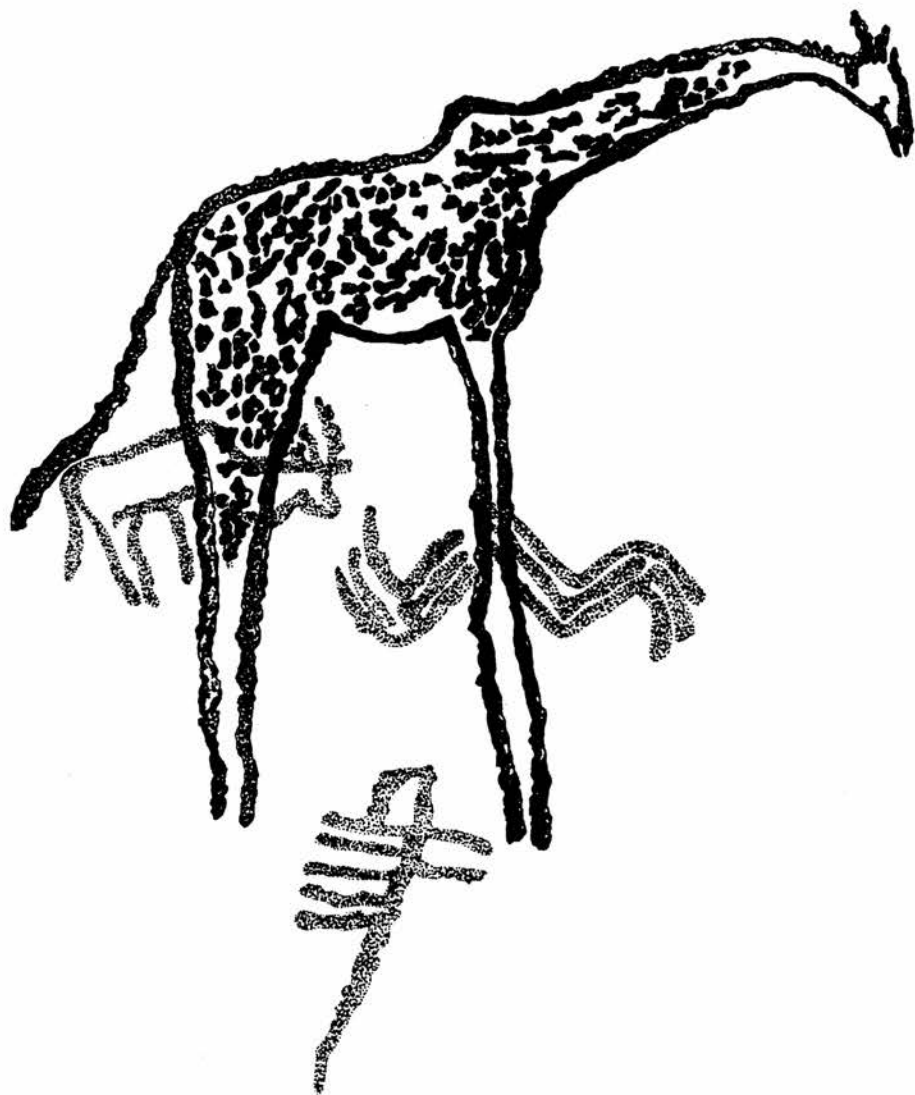
Psychograms are signs that convey sensations from him/her who represents to him/her/it which observes. For us this level is more abstract than the symbolic level which still has its own well-defined meaning. The psychogram works at a subconscious level as do certain archetypal signs that our conscious memory is no longer able to define but which, deep within the self, release associative and sensory processes on wavelengths that escape the bands of ordinary transmission and are remarkable for their immediacy. Psychograms do not seem to be intellectualizations but signs that have the power to stir the blood and the mind without conjuring up any specific associations. They are the quintessence of something hard to consciously define but which resonates deep within us.

In the rock art of all continents landscapes are extremely rare as are images of plants. They are either completely absent or indicative of

some particular characteristic if they do exist. The Tanzanian rock art sequence spans over 40,000 years and is considered the longest continuous sequence in the world. Yet all the images of the vegetal world are concentrated in one phase which is tentatively dated to the end of the Pleistocene and the beginning of the Holocene (ca. 12,000-8,000 BC). From the data at our disposal it appears to be a phase of gathering populations rather than hunting, even though it belongs to a Hunting and Gathering period (E. Anati, 1986).

The subjects represented indicate the range of interests expressed throughout the ages. It is significant that the quantitative proportion of the four main themes of pictograms varies from period to period. In some contexts, the anthropomorphic beings are the overwhelming majority while elsewhere they may be practically absent. The same happens with the other three main themes; zoomorphic, topographic and implements. In the rich sequence of Valcamonica (Italy), the relative percentage of the four themes varies drastically from period to period. The same is true for the sequence of the Seminole Canyon in Texas, for the Yenisei sequence in Siberia and for the Tassili sequence in Algerian Sahara.

Likewise, the type of assemblage in rock art, with associations of pictograms, ideograms and psychograms, varies from period to period. The frequent association of the three types is widespread among Early Hunters. When the scene becomes the main type of syntactic association, psychograms tend to disappear. Among Evolved Hunters and Pastoralists pictograms are the dominating grammatical form. But in the rock art of people with Complex Economies, ideograms are again common. And in some cases they are far more numerous than pictograms.



*Fig.10.
Two phases of rock engravings of Early
Hunters. Rocklands, Pomfret, South
Africa. Two phases display different
approaches. The later artist invested
much time and energy to decorate the
body of the giraffe with dots. The earlier
artist engraved a quadruped, probably a*

*kudu, a zig-zag pattern and another
ideogram, in essential lines. For the
artist, the association of the animal with
the ideograms was the essential point.
Source: Drawn from a frottage by G.J.
&.D. Fock, 1984, p.142.
Area Code: D-IV. Cat.: A-II and A-V.*

PARADIGMS

In each of the aforementioned categories elements exist that we call “paradigms”. We see these paradigms repeated all over the world. There are preferences for the type of place; cave, shelter or open air rock surface. There are also preferences for the type of surface be it horizontal, oblique, vertical, floor or ceiling. For all four categories there seem to be precise choices made in the surface on which the painting or engraving is done. The chosen surfaces have preferential characteristics of color and form that seem to mean that the “support” (or background) has been taken into account by the creator of rock art.

Every assemblage of rock art appears to reflect choices of the artists concerning the place, the inclination of support and the selection of the surface to decorate, according to recurring criteria. Usually one type of choice is prevailing over the others:

I. Choice of Place:

- A. Open-air rock
- B. Rock shelter (rock art visible with natural light)
- C. Deep cave (Rock art visible only with artificial light)

II. Inclination of support (or rock surface):

- A. Vertical (approximation of 10°)
- B. Oblique
- C. Horizontal - Floor
- D. Horizontal - Ceiling

III. Natural shape of decorated surface

- A. Surface completely flat: no shape detectable
- B. Shapes of surface visible only with directional lighting
- C. Natural shapes visible with any light

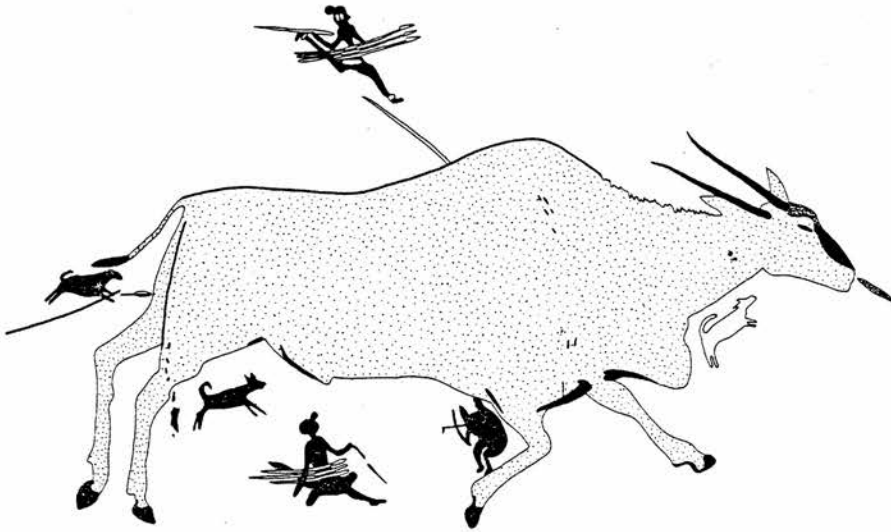


Fig. 11.
Accumulation of figures. Hunters with spears and bow as well as domestic dogs are hunting an antelope depicted in a previous period. Rock painting of

Martinsdale, Barkly East, South Africa.
Source: J.D. Lewis Williams, 1983, p. 48.
Area Code: D-IV. Cat.: B-I; B-II.

From the preliminary analysis of a random sample of 1,000 surfaces it appears that a high percentage (over 85% of paintings and engravings) correspond to recurring criteria. However exceptions exist and these require explanation.

In many cases, precise technical methods appear to have been used whether for painting, engraving, pecking, graffiti or for the various types of relief work. **Certain rock art techniques are broadly repeated throughout the world which do not seem to reflect processes of acculturation or diffusion (Postulate EA10).** In some cases it seems to be simply the result of a given technological level or way of thinking or both. **A few basic colors are used in rock paintings all over the world, red being by far the most common in all continents (Postulate EA11).**

We may postulate that: **Even in the absence of direct communication between different populations, similar outcomes were reached in places far apart (Postulate EA12).** It cannot, therefore, be a question of external influence in all cases. We may thus hypothesize that certain convergences exist. These paradigms bring us into contact with our own submerged memory and may open the way to a fresh understanding of the human mind.

In the following chart we see summarized the main universal factors:

DOMINANT CHARACTERISTICS OF ROCK ART

Analysis Criteria	A. Archaic Hunters	B. Evolved Hunters	C. Pastoral Breeders	D. Complex Economy
Thematics	Ideograms, Psychograms, Pictograms. Large wild animal figures. Anthropomorphic and zoomorphic images. Human figures are often masked.	Pictograms, animal and human figures. Few ideograms. Psychograms are rare. Constant presence of imaginary beings	Pictograms, domesticated animals and anthropomorphic figures. Images of huts and other structures. Sporadic ideograms. Absence of Psychograms.	Human, animal, structures, implements and weapons; schemes and ideograms. Pictograms more varied than in previous categories. Psychograms only in some cultures.
Associative	Simple associations. Complex compositions exist but are rare. Hermetic and synthetic syntax. Scenes are rare.	Descriptive and anecdotal scenes are widespread. Simple syntax defined by the associations in the scenes and compositions.	Scenes and compositions. Prevalence of descriptive anecdotal scenes.	Compositions and scenes. Complex syntax with vernacular characteristics. Mythological scenes are widespread.
Stylistic	Generalized naturalistic figures and ideographic sequences.	Naturalistic and realistic ensembles.	Realistic groups with frequent tendency to generalization. Idealization of forms.	Schematic and abstract graphemes. Special interest in details. Vast use of metaphoric depictions.
Technical	Prevalence of paintings over engravings. Monochromatic ensembles. Polychromy's restricted to specific regional phenomena.	Prevalently painting also a lot of engravings. Most paintings in Eurasia are monochromatic. Polychromy widespread in Africa and S. America.	May be painting or engraving. Varies from zone to zone.	Engravings prevail but painting is preferred in some zones.
Location	Normally on vertical surfaces, and on roof or plafonds, with exceptions.	Normally on vertical surfaces.	On vertical or oblique surfaces.	On horizontal, oblique or vertical surfaces. Location more varied than in the other categories.

In Europe, Asia, Africa, the Americas and Australia the same range of figures may be found. Certain aspects of the environment, economy and social life simply do not enter into the artist's thematic range. The artists, hunters or otherwise, made precise choices in terms of the themes they chose to represent, they did not paint or engrave just anything.

Sometimes we may come upon themes of preference: The large representations of animals, life-size or more are almost exclusive to the hunting populations. With Pastoralists, they are only to be found in certain zones that today are deserts. They are especially present in Arabia and the Sahara where breeders practiced hunting as well. They are extremely rare in the rock art of Complex Economy populations. On the other hand, there are other phases in both Archaic and Evolved Hunters' art in which medium sized or even miniature animal representations are found. Another interesting phenomenon has been noted: When large animals are prevalent human figures are rare. When the animals are smaller the percentage of anthropomorphic figures is usually higher.

In all complexes primary and secondary subjects are to be found. There is an initial choice and then minor complementary themes. **There are repetitive elements, ideograms and pictograms, which appear to accompany the dominant figures** (*Postulate EA13*). It is frequently stated that the animal is the most commonly represented figure in European Palaeolithic art and that throughout the world animals are the main feature of Archaic Hunters' art. However, contrary to what is normally believed, isolated animal figures are practically non-existent. Animals are almost always accompanied by ideograms. Frequently animals occupy the largest space on the painted surface simply due to their size. But symbols (ideograms) vary in number and they frequently exceed the number of animal figures with which they are associated.

Animals, like other figures, both in prehistoric and in tribal art, often have metaphoric significance. They may have a totemic meaning, representing tribal groups or specific human beings. Or they may represent qualities or attributes. We know that a group of American Indians used to refer to their chief Black Bison by depicting his name rather than his profile; others used to indicate a liar by representing a

snake with a forked tongue. Even in our current language, qualities and attributes are represented by animals. When referring to a man, everybody would understand the different meanings of “he is a ...” dog, pig, shark, lion, eagle, jackal, monkey, snake, chicken. Or, referring to a woman, “she is a ...” gazelle, elephant, cat, bird, rabbit, bitch, rat, butterfly,”.

Myths, all over the world, have always included animals. The deer as messenger from the underworld and the dove as messenger from the sky, the scorpion as source of evil and the snake as a tempter have been represented in Europe for centuries. The frog in China as a symbol of courage or the elk in Siberia as a symbol of plenty, are likely to go back to prehistoric origins.

Such kinds of metaphors are used by people from different regions, different cultures and languages all over the world. They are likely to represent primordial trends of the associative processes.

As was already brought to evidence by A. Laming (1962) and A. Leroi-Gourhan (1965), in the Upper Palaeolithic cave art of Western Europe there are frequent cases of animal figures of different species being associated with each other.

There are two animal species, the bison and the horse, which are more frequently than others represented one in front of the other as the main theme; that is to say that they are preferred to other wild animals, repeated more frequently and would seem to imply something quite specific in the dialectic of associations.

In Tanzania, the Archaic Hunters' art contains representations of the elephant and giraffe which play a similar role, in terms of associations and quantitative proportion to other animals, such as the horse and bison in Europe. They are frequently associated with each other and are by far the most commonly represented animals (E. Anati 1986). Quite probably they played the same role within the conceptuality of the Tanzanian Archaic Hunters as the horse and bison did in the Franco-Cantabrian mentality in Europe. These are premises for yet another paradigm: **In the art of hunters there is the presence of dominant animal species with dialectic relationships between them** (*Postulate EA14*).

As for the meaning of such associations A. Laming and A. Leroi-Gourhan had proposed a possible connection to the concept of male-female interplay, one of the animals representing the male or male attributes, the other, the female or female attributes. Other theories have been proposed but no final conclusions have been reached. It is not unlikely that they reflect metaphors of binary relations. Whatever the case may be there can be little doubt that the European association of horse-bison shows grammatical and syntactic parallels in the African association of elephant-giraffe. It is therefore likely that they may reflect also conceptual analogies.

Such paradigms seem to reveal the existence of “logic constants” the study of which could lead research far. If we were to carry out a detailed analysis on a world scale a great deal of progress could be made on the study of paradigms. It is particularly important to develop a systematic analysis that defines the associations, compositions and scenes; that is to say the type of relationship between one grapheme and another in any given context. This would then provide some indications on the way of thinking and the conceptual dynamics reflected by the associations.

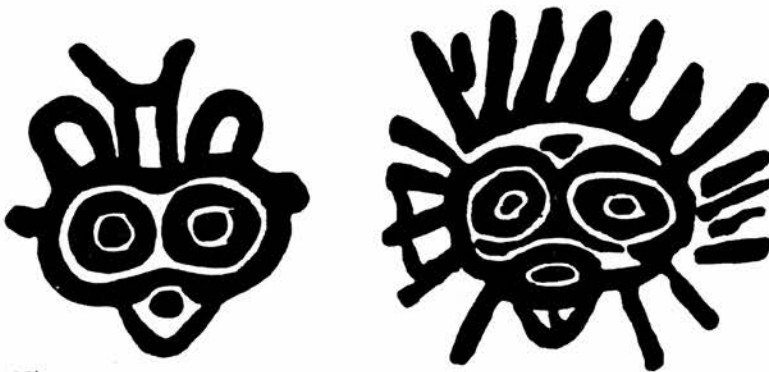


Fig. 12.
Masks and spirits of people with Food Producing economy. Rock engravings from Port Neville and Venn Passage, British Columbia, Canada. Resembling masks have been produced in wood for cult and evocative performances by coastal tribes until a few generations ago. Their tradition is partially persisting.

Similar masks are depicted in the rock art of northern China and Eastern Siberia Those have been connected to pottery decorated with mask figures belonging to a Neolithic culture of 7000 to 5000 years ago.
Source: B. & R. Hill, 1974, p. 266.
Area Code:F-I. Cat.: D-II.

ARCHETYPES

In the art of the Evolved Hunters there are common scenes such as hunting scenes, scenes of dancing, of other social events or of warfare. As for the Archaic Hunters, there do not appear to be any real descriptive scenes either in Europe or elsewhere. If the descriptive scenes do exist, we have not yet recognized them as such. However, associations in sequence do exist and they may represent some sort of "metaphoric scenes". Their conceptual structure is, in any case, the mirror of a mental process which has been submerged in urban societies. This holds true for all continents and is an intriguing psychological phenomenon.

There are certain types of associations that resemble one another in different regions. The association between pictograms and ideograms is present in the art of hunters all over the world. An animal that has been added in a certain way in the context of other associated figures does not necessarily reflect a naturalistic reality as our present-day thinking would like to suggest. The animals are to be found repeatedly in similar relationships in accordance with rules that made sense for "them" but which do not correspond to the type of composition and vision of our contemporary culture.

There is apparently no concept of a "base" or "ground level" in most of the art of the Archaic Hunters. The large animals are placed on cave walls or on rock surfaces as if they were levitating or suspended in mid-air. It has often been asked if they are not the spirits of the animals rather than the animals themselves. We find this in Europe as well as in Tanzania, Australia and elsewhere.

The association between animal and symbol recurs with analogies in all Archaic Hunting populations; the animals as the subject, and the ideograms (the symbols) as a type of logic and reasoning around them. With the Evolved Hunters we find scenes which show a completely different mentality. According to our way of thinking the associations of the Evolved Hunters are more narrative, naturalistic and less abstract. But is it correct to consider the mentality of archaic hunters as more “abstract” than that of more evolved cultures? Sometimes the transition between the two is unpredictable. The tradition may be upset at a certain point and something new begins. In other contexts, however, the evolution is gradual and we may therefore detect the transitional phases.

Within this process we may catch a glimpse of the changes in the cognitive mechanism. One may postulate that: **Changes in style and associations in the visual arts illustrate changes in the cognitive processes which in turn reflect modifications in the choice of priorities** (*Postulate EA15*). This postulate may well apply to all kinds of art including dance and music, to all continents and to all times (E. Anati 1983).

From an analysis of thematics, typology of the figures, marks and graphemes, patterns emerge which constitute the “grammar” of rock art as if the images were words in sentences or in composite concepts. Isolated marks are extremely rare as isolated words are rare in a conversation. In rock art there are groups which reflect systems of associations that we might refer to as the syntax. They are sentences composed of groupings or sequences of graphemes just like in the spoken and written languages of today. Herein may be hidden the key to reading the rock art, the key to an ideology with universal characteristics or at least a sequence of constant associations which go beyond, indeed precede, the limits of linguistics. Thus, **the existence of logical archetypes may be postulated** (*Postulate EA16*). This is a base for future understanding: **Through rock art we may come to recognize some of the fundamental elements of man’s cognitive dynamics** (*Postulate EA17*).

If, on the other hand, one continues to analyze isolated figures without looking at the context and associations, we will end up with a catalogue in which each figure is apart from the rest. It would be like

reading each word in a sentence separately without seeing the sentence as having grammatical sense and logical syntax. It is not always an easy task because there are superimpositions, composite associations and cognitive accumulations which come about in the course of time.

Sometimes the process is extremely complex. Looking at a panel we may find that there were only three figures to begin with, two animals one in front of the other and an accompanying ideogram; after some generations another figure was added, two thousand years later on another four marks may have been added. The primordial association should be singled out, the repetitive elements verified, analogies and comparisons should be studied in order to evaluate whether it consists of fortuitous or intentional superimposition.

In many instances accumulations of marks appear to be intentional even if they are from different periods. Others appear not to be intentional or at least are unrecognizable as such. In both cases, however, we frequently discover that language is expressed by these signs. Sometimes previous graphemes may have been considered as part of the support like the natural shapes of the rock. These may have been used or not in the association of graphemes of the superimposed depictions.

Over and above the specific characteristics found in the Spanish Levant, Valcamonica, Tanzania, Madhya Pradesh, or in the decorated Palaeolithic caves of France and Spain, a type of language is found. This language touches upon prototypes of a universal nature. Provincial characteristics also exist which we refer to as "vernacular". It is of course easy to attribute a dialectal nature to all that we do not understand as language. However, we are increasingly aware of the fact that universal paradigms and archetypes occupy an extremely relevant place in all art of all times.

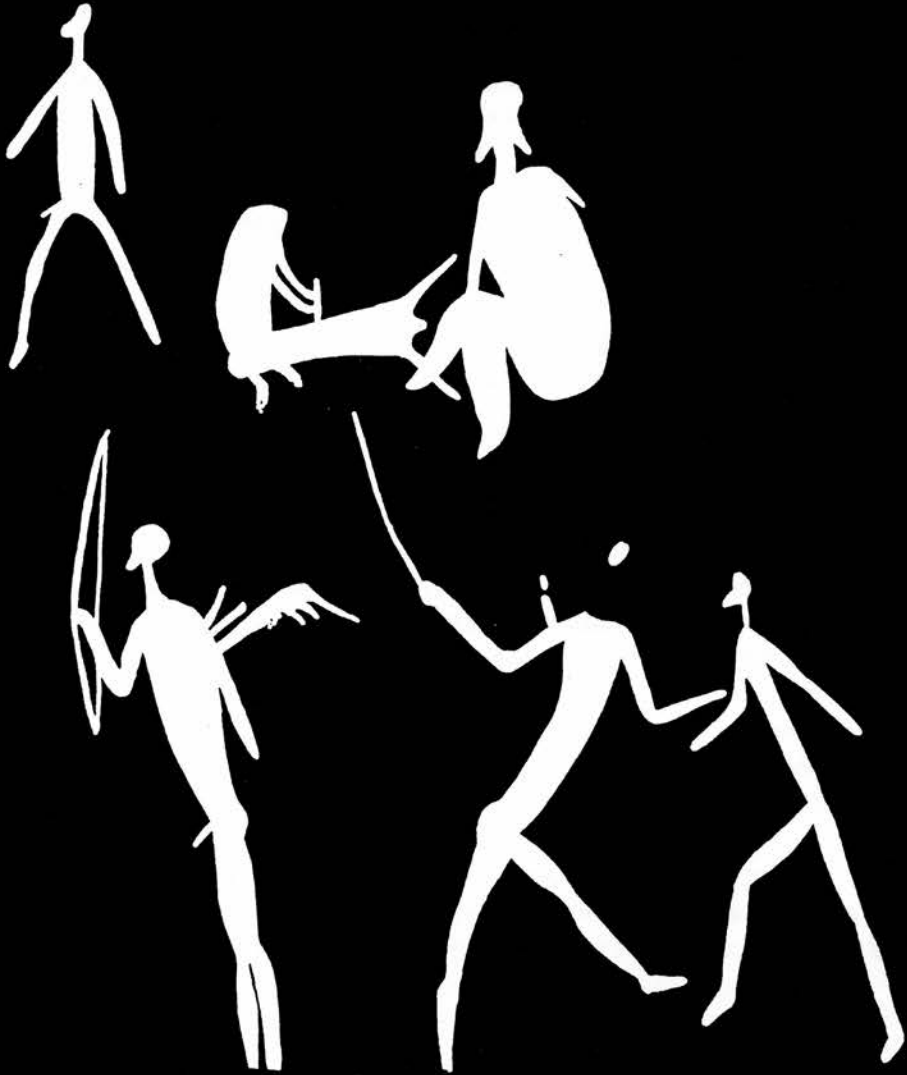


Fig. 13.

Story telling in rock paintings of Evolved Hunters. Fergie Cave, Giant's Castle, Natal Drakensberg, South Africa. In the upper part two persons are working on an antelope skin. A masked man is walking away. In the lower part, two people are talking to each other; one of them, with a stick in his hand, has the head detached from the body (state of trance or of

communication with the spirits); he is giving some hints or indication to the masked man. To their left, the masked man has a bow and wings (flying away). The walking direction of the masked man is likely to give the sequence of the story. Source: J.D. Lewis-Williams, 1983, p.17. Area Code: D-IV. Cat.: B-I.

ATTEMPTING A WORLD VISION

Sequences with certain constant features have emerged in the Sahara, Tanzania, the Nile Valley, the Near East, Madhya Pradesh in India, Russian Central Asia and elsewhere. The four categories already mentioned, Archaic Hunters, Evolved Hunters, Animal Breeders and Complex Economy groups usually are present in the same chronological order. In Australia, however, no Pastoralist-Animal Breeders rock art has yet been found. The Australian sequence is mainly composed all over of the Archaic Hunters, and in sporadic areas in the north of the Evolved Hunters. The Complex Economy category is represented in only a few very recent cases.

In South Africa the main rock art zones comprise a sequence with little evidence of Archaic Hunters; rather they appear farther north in Namibia, Zimbabwe and Tanzania. The greatest artistic activity of this zone (probably the richest in rock art thus far known in the world) emerges as the work of the Evolved Hunters from about 13,000 years ago. They maintained the same visual language with only minor modifications up until the present century. Pastoralists-Animal Breeders and Complex Economy groups are also present. Rock art shows the existence of these Pastoralist and Early Farming populations while in most of the territory the Evolved Hunters' way of life persisted (J.D. Lewis-Williams, 1983).

In Tanzania during the Archaic Hunters' period we come upon a short parenthesis of a vegetarian culture whose economy was based on the gathering of fruits and berries. A wealth of vegetal elements are concentrated in this phase while they are practically absent in all other periods. Zoomorphic and anthropomorphic images are depicted as monsters. Humans have zoomorphic features and animals have

anthropomorphic features. Analogous creative episodes occur elsewhere. In the Central Sahara the same type of rock art seems to reflect a population whose lifestyle depended largely on gathering and who quite probably made extensive usage of drugs. A similar phenomenon is recognized along the Pecos river and in the Seminole Canyon in Texas. Chronologically, in the areas mentioned this phase is located between the Archaic and the Evolved Hunters, though the absolute dating varies from one area to the other.

In Near Eastern deserts the rock art shows sporadic examples related to a Complex Economy, that is to say of Food Producers and Agriculturalists. In the Negev desert there is even the engraving of a plough. This was a brief episode during the Roman period; the stratigraphy of overlappings and superpositions shows that the artists both before and after were Pastoralists. In itself, the existence of a few drawings which indicate a Complex Economy does not always mean the beginning of a new era. Rock art indeed provides segments of history though we have to admit that history is not always as simple and linear as we would like it to be.

Food, sex and defence for survival appear to have been, in all contexts of all times, the main concerns of the human species and the ones which are most frequently expressed by rock art (E. Anati, 1992). A series of elements in the comparative study of rock art is being set out. It is now necessary to organize our sporadic knowledge by checking for validity, recognizing which elements are of a universal nature and which are regional.

Local features become more common when a Complex Economy is indicated. Though the meaning of local variants must be considered, universal paradigms prevail in the art of the hunting populations. Clearly it would be extremely unlikely to find representations of llamas in Australia or of kangaroos in Argentina but within the general framework we come upon animal subjects which are invested with the same kinds of values and similar metaphors for different species in different parts of the world. The clearest evidence for the presence of universal paradigms lies in the ideograms which are found as constants the world over. Vulvar, phallic, cruciform, stick-like, egg-like ideograms, cup marks, cup and ring marks, hand prints, foot prints and animal tracks are to be found in the Palaeolithic

art of Europe as well as in the context of Archaic Hunters' art on all continents.

The art of the Archaic Hunters appears to have broad universal characteristics in terms of the subject matter, types of associations and stylistic trends. That of the Evolved Hunters has many more local features. The real Tower of Babel comes into being when the Hunting and Gathering era approaches its end. As we know, this happened at various dates. In parts of the Near East, complex economies and food production developed 10,000 years ago while in some corners of the world the same horizon penetrates this century.

Art, like most other aspects of culture, becomes then increasingly provincial and more conditioned by surrounding influences. However on the whole many common denominators persist. The most obvious is the very fact of producing rock art at all and then, as we have seen, there are analogous typologies, choice of subjects, types of associations, constant uses of certain colors, repeated preference for certain kinds of rock surfaces. To be added to these basic elements are details, embellishments and the different stylistic approaches used by the various categories of people. The most essential differences seem to reside in the seasoning rather than the substance.

I have attempted to present the general framework of rock art research that is in progress. It has been necessary to elaborate a methodology requiring a greater use of information which would have been unthinkable only a few years ago. Rock art has been considered as a phenomenon to be treated globally and not simply as a series of local phenomena with no connection to each other. The continuation of research will enable us to verify this approach.

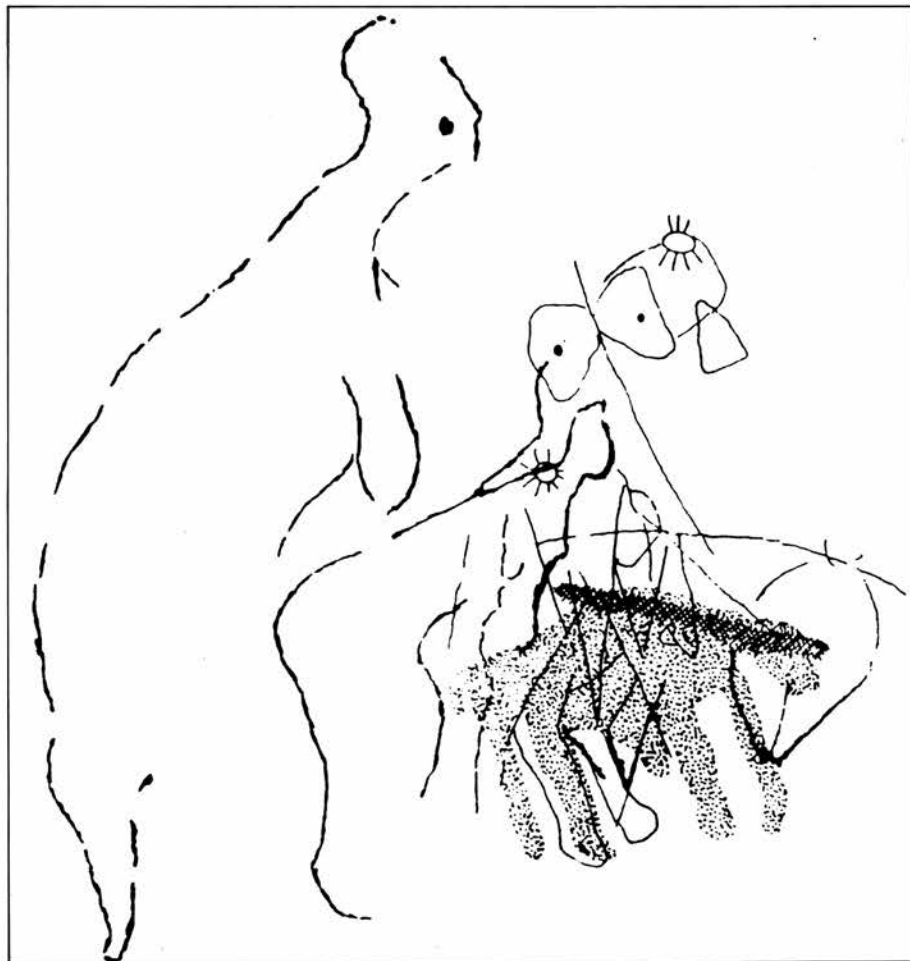


Fig. 14.
 Sequence of superimpositions. Rock engravings of Palanlı Cave, Anatolia, Turkey. 1-two female outlines, one quadruped, and other signs in Early Hunters' style. 2- Pecked animal figure from Evolved Hunters. 3- Non-figurative line drawings. 4- Line drawings of solar disks, "butterfly", axe and other signs of Incipient Agriculturists (Chalcolithic or Bronze Age).

Source: E. Anati, 1972, p.32.

Area Code: B-I. Cat.: A-V; B-I; D-II.

ANATI'S POSTULATES ON ROCK ART

1. The fundamental human processes of association and “logic” developed throughout the ages in which the human species acquired its basic behavioural patterns.
2. Universal reflections conditioned by way of life influence behaviour, thought, ideology, associative processes, and consequently artistic manifestations.
3. Rock art is a phenomenon of non-urban, non-literate societies.
4. In all the examined zones there are areas of great concentration of rock art which do not reflect an analogous concentration of people.
5. Each of the four categories of rock art (representing respectively the production of Archaic Hunters, Evolved Hunters, Pastoralists and people with a Complex Economy) displays a limited typological range of subjects which recurs in the rock art of all continents .
6. Three types of signs are to be found grammatically different from each other. They are pictograms, ideograms and psychograms.
7. Repetitiveness and constants of association seem to indicate the presence of conventional concepts in a number of ideograms.
8. In the rock art of non-literate people, pictograms are of four main themes: 1. Anthropomorphic; 2. Zoomorphic; 3. Topographic and Tectiforms; 4. Implements and Weapons.
9. In the cases in which the meanings of the ideogram can be traced back to a single common core a universal pattern is established.
10. Certain rock art techniques are broadly repeated throughout the world which do not seem to reflect processes of acculturation or diffusion.
11. A few basic colors are used in rock paintings all over the world, red being by far the most common in all continents.
12. Even in the absence of direct communication between different populations similar outcomes were reached in places far apart.
13. There are repetitive elements, ideograms and pictograms, which appear to accompany the dominant figures.
14. In the art of hunters there is the presence of dominant animal species with dialectic relationships between them.
15. Changes in style and associations in the visual arts illustrate changes in the cognitive processes which in turn reflect modifications in the choice of priorities.
16. The existence of logical archetypes may be postulated.
17. Through rock art we may come to recognize some of the fundamental elements of man's cognitive dynamics.

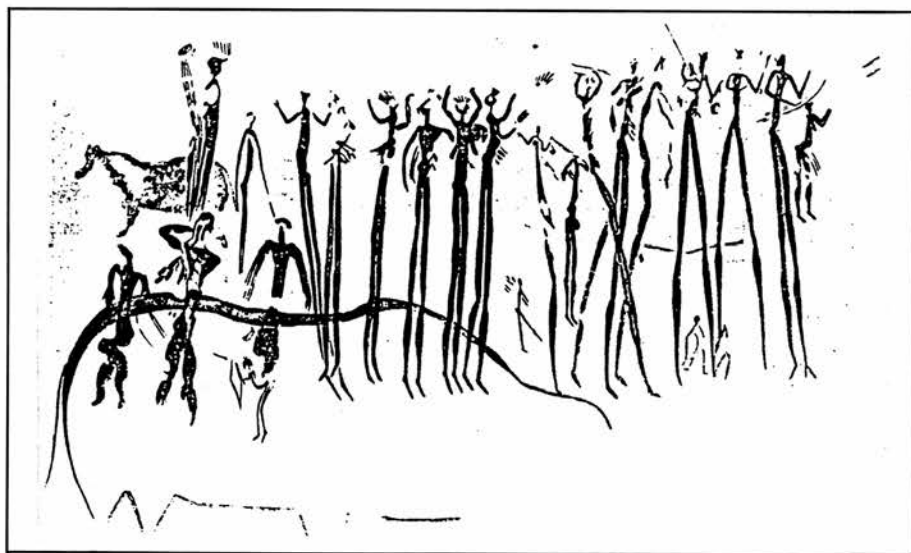
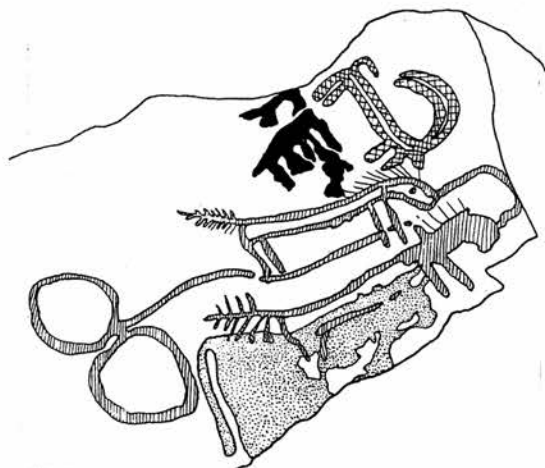


Fig. 15.
Upper. Evolution and style in rock art. A succession of four phases of rock engravings at Kadash Barnea, northern Egyptian Sinai. Besides the superimpositions, the difference in age is determined by the shade of patina. The early phase shows the picture of a bovine, then comes a chariot with horses, an antelope follows and, at last, a schematized quadruped (reproduced in black). The sequence is likely to cover no more than 4,000 years, from 3,000 BC to 1,000 AD.

Source: E. Anati, 1979, p. 20.
Area Code: B-II. Cat.: C-II, C-III, D-II.

Fig. 16.
Lower. Superimpositions of ages. Rock paintings of Domboshawa Cave, Zimbabwe. At least three different phases of Evolved Hunters are overlapping paintings of Early Hunters.
Source: E. Goodall et al., 1959, p. 6.
Area Code: D-V. Cat.: A-III; A-V; B-I.

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Note: This bibliography is primarily ment to allow elaboration of pertinent items mentioned but not dealt with in the present frame because their discussion is provided by the cited texts. A world bibliography of meaningful books, papers and articles in rock art published in the last ten years, includes over 1500 references. It would probably make a volume thicker than this one. Because of the specific purpose of this bibliography, many valuable and important works, relevant to the study of rock art but not pertinent to the aims of this text, could not be mentioned. For the same reason, several of my own previous monographic studies are not cited. My apologies go to all those friends and colleagues who are not mentioned. They will be cited in future reports when pertinent.