

## ROCK ART CONSERVATION, EDUCATION, AND ETHICS

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### The state of preservation of Rock Art in the world

Rock Art is the most ancient and widespread sign of human spirituality and it is diffused all over the world, from the deep North to South, from the Far East to West.

Environmental and climatic conditions in which the various Rock Art expressions are placed are extremely varied and have changed during the time.

Although the common denominator of all sites is the presence of rock surfaces (in cave, in shelters or in open air), the geomorphological and mineralogical differences give rise to different typologies.

The choice of a site by a Rock Art creator is certainly defined by many factors, including an empirical knowledge of the characteristics and qualities of a certain surface, considered suitable or not to receive the Rock Art.

Obviously, it's now hard (if not impossible) to know if the creators of Rock Art compositions had also considered their lasting in time, foreseeing the conservation of their ephemeral condition.

The preservation of Rock Art today is, on the contrary, a universal matter, as it is now considered an irreplaceable and inalienable patrimony, a cultural heritage with an inestimable value.

### The progressive discovery of sites and the multiplication of Rock Art research

Although Rock Art was known in past centuries, from the ancient chronicles or in travellers' stories, only during the last century was it brought to the attention of the scientific community; its research has assumed world importance only in the last few decades.

The increase of surveys dedicated to Rock Art has become exponential, favoured by the intervention of mass media, the augmentation of specialised books and magazines, the diffusion of university courses, conferences and congresses centred on Prehistoric Art and Cognitive Rupestrian Archaeology.

### Diffusion, the common public, exploration, discovery and mass tourism

The increasing number of public appreciation spots on TV channels and in the newspapers has created a big demand for exoticism, antiquity, mystery, the unusual and "wild" or the "uncontaminated and primordial".

Travel agencies and tour-operators have taken advantage of the interest, inventing "tourists packages" *ad hoc*, leading more and more large groups of tourists to places that have Rock Art sites.

The situation is becoming increasingly more serious, especially in the emerging countries, where this tourism causes a negative impact on the environment and so constitutes a real danger for the preservation of Rock Art sites.

This public, usually with less cultural appreciation and education, does not know about and so does not respect preservation or conservation rules. The rock art surfaces are damaged in various ways (e.g. petroglyphs highlighted with stones or metals abrasion; paintings dampened with water, beer or cola, in order to take a picture as souvenir); the tourists' guide generally does not intervene; so, the sites are destined to rapidly deteriorate or are totally destroyed.

Most areas of archaeological Rock Art sites completely lack any type of safeguards.

### Classification of Rock Art sites

Referring to the actual population in certain territories, it is possible to classify Rock Art sites in three categories:

- a) Sites preserving traditional use and ritual or ceremonial visitation (living tradition),
- b) Sites not frequented for cult use, but preserve a historical memory (fossil tradition),
- c) Sites in which it's impossible to recover the relationship between Rock Art and population (extinguished tradition).

The study approach for *a* and *b* types can be of the ethnographical – anthropological type, for *c* type the prevailing scientific approach has to be archaeological.

#### Protection of sites

Paradoxically, we can affirm that the best-protected Rock Art site is the yet unknown one, but human tendencies are going towards a progressive augmentation of knowledge, so research activity is increasingly more developed and productive.

The first risk factor in the preservation of Rock Art is in scientific research, and it is not removable. The safeguarding of sites is directly related to the spread of knowledge about their location.

The more a site becomes well known, the more necessary it is to protect and to conserve it.

If only the insiders know the site location, there is minor risk, based on the scientific knowledge and the professional code of ethics of the researchers. Afterwards, the site will have to be presented to the scientific community and, then, to the common public. From that moment it is hoped that security measures have been devised by the institution of special parks or with the Rock Art included in general parks.

This procedure, involving local people, could even guarantee an economic income, and, then, funds for future scientific research.

Unfortunately, a great part of Rock Art is located in non-protected sites, left to the civic conscience of the visitors and to their awareness, respect and understanding of cultural heritage. Therefore, the risk of destruction and of environmental decay is very high.

Establishing the underlying connection among Rock Art, environment (natural and human) and landscape, it is clear that research and study planning can not, as has happened more than once in the past, isolate the Rock Art phenomenon, as if it is an autonomous matter. On the contrary, it is necessary to amplify the research field to a global archaeo-anthropological perspective, trying to recover each possible fact that links them.

The systemic approach depends on teamwork for the research, study and conservation of Rock Art. All the work strategies (mono-multi- inter- and trans- disciplinary) must be evaluated and clearly expressed during the research planning. The charming and mythical figure of the lonely Rock Art researcher must be definitively left to the memory book.

#### Ethics and research

##### *Introduction to Ethics*

“Ethics” is a term introduced in the philosophical language by Aristotle (thinking for the first time to an *ethike theoria*) meaning that part of philosophy which studies human behaviour and the judgement standards of human attitudes and choices (in Greek language *ethicos* derives from *ethos*, that means *behaviour, custom*).

It is possible to distinguish two aspects of ethics: a first one normative, a second descriptive; then, another distinction shall be made between morality and ethicality.

Generally, the philosophical reflection on ethical problems develops especially during periods of values crisis, when the usual rules are being questioned.

Currently 20th Century’s ethics studies have tried to concentrate on the consequences of the absence of an ethic subject, by suggesting different solutions. Nevertheless, in all these trends, an ethic is just a critical point of reference, no longer the doctrine of imperative and good, but the doctrine of social dialogue, with individual and group values ever developing and destroying themselves.

##### *Some considerations on Human Condition*

Where do we come from? Who we are? Where are we going? These are three essential questions for the human race. Fifteen milliards (billion years) have passed since the Big-Bang, the beginning of the universe, 5 milliards since the Solar System’s origin, 4.5 milliards since the Earth’s formation, 3 milliards and 700 million years from the primordial ocean, 3 milliards and 200 million years from the first blue alga, 500 million years since the first vertebrates, 340 million years since the first mammalian, and just 65 million years since the first primates.

Humanity is now at a turning point, probably with no return, if considering that our (animal) species is the one placing the greatest pressure on natural habitat. The technological evolution that has caused this situation has not been linear, as it has had an exponential growth trend. Man, from more than 4 million years, has remained in a constant balance with the natural resources and the environment, supported by a gathering, hunting and fishing economy. The Neolithic revolution, which began just 10,000 years ago, has brought a new economic, technological and social set-up characterized by sedentary life, farming, raising sheep, the invention of pottery and then metallurgy. The relationship between man and environment has started to change, with a more intensive use of natural habitat and consequent ecological alterations, sometimes irreversible, caused by technological discoveries and demographic explosion.

Nevertheless, science and technology haven't had an explosive effect on nature until the 18th Century, when with the Industrial Revolution, the way of life of the human race was radically changed, by the conquest of the submarine and extraterrestrial worlds in only two centuries.

The limitation of world resources and world space now confront each other with the destructive attack of contemporary technology to all ecosystems. Pollution (smog, acid rains, etc.) caused by industrial production cycles damage animal and vegetable life, corroding and destroying ancient monuments. The storage of carbon dioxide in the atmosphere and the consequent increase of temperature cause unforeseeable modifications in all ecosystems, a slow transformation of world surfaces and climates, and a progressive melting of ice caps. Geological instability, floods, urbanization and desertification, industrial and urban waste (New York produces 40,000 tons of rubbish in one day), are just a few examples of the problems humanity is called on to solve as soon as possible. Politicians, scientists, economists, technocrats, biologists, geologists, and engineers must understand the science and consequence of these macro-problems, of the positive and negative synergies, of the entire phenomenon connected to the internationalization of their actions. They have to find possible solutions,

according to the prevailing ethics and contemporary morals, to allow human survival.

#### *Ethics and research*

Today, it's necessary that scientific research, as the sum of sectional researches in a inter-trans- and multi-disciplinary perspective, study compatible development matter, suggesting solutions to transform the traditional ethic, still dominating the economical, political and mass media world. Scientific knowledge of the past and of natural human history, from *Australopithecus* to *sapiens sapiens*, is an indispensable factor for understanding the present situation and to support future planning. A future which is able to control the exploitation of world resources: from the phase of wealth hoarded by individuals or groups, which has characterised our century, to a balanced regularization of the demographic explosion and of the industrial production is sought.

Scientific research has to expand itself (universities, laboratories, centers of studies must receive suitable financial resources); technological divisions and production sectors have to be reorganised, to obtain positive ecological results.

This new consciousness must express a new ideal, a new social pact among men, a new "Holy Alliance" between us and the world we're living in. We are the "arbiters" and we have to become the "warrantors" of our planet too.

This new way of researching and making "knowledge" (not only "knowledges") is directly connected to the success of a new contemporary ethics. Man has to become his own planner: starting from *Homo sapiens sapiens* he has to change into *Homo sapiens sapiens sapiens*: from Hobbes' idea *homo omini lupus*, from K. Lorenz "man is a chimpanzee armed with sub-machine gun in the underground", and from E. Morin's *sapiens demens*, to a new human dimension.

The link between man's curiosity and creativity creates a particular feature, possessed only by our species, that is the aptitude for scientific research. The scientific researcher - who produces knowledge (while the simple technician produces patents) - has to assume ethical, social and political

responsibilities. Actual scientific research cannot forget the profits and damages that scientific and technological discoveries are provoking on our earthly Biosphere, and therefore on human beings.

Medieval alchemist, alone in his laboratory, with his furnace and alembics, searching for the "philosophical Stone" for changing metals into gold, perhaps found the way to his own spiritual elevation and not the way to material enrichment, thanks to the paradigm of the "Big Work": the VITRIOL, that is sulphuric acid but also the acronym of *Visita Interiora Terrae Rectificando Invenies Occultum Lapidem*. The actual alchemists, the scientists, have to open their laboratories, pull down the *turris eburnea* of disciplinary division and try to find the unity of conscience; her cement is the new ethics, that must unify and synthesize the positive and global relationship between man and nature.

The antinomies Good-Evil, Freedom-Constraint, Justice-Injustice, True-False, Responsible-Irresponsible illustrate the value system that is the basis of our code of ethics. From the first forms of ethics, concerning relationship among men (*Clan's Ethics*), humanity has started to regulate relationships between men and society and has formulated the concept of democracy (*State's Ethics*). The level we actually aim for is that one which extends attention and responsibilities to all relations and interactions between Men and Nature, between Man and Earth (*Bio-Planetary Ethics*).

Ancient opposition between Humanistic Culture and Technical-Scientific Culture is going to be resolved in a New Renaissance Culture; it's a synthesis which finds again the uniqueness of man and his "good and fair" position in Nature, peering into a remote future.

#### World Level and Intellectual's Role

We're part of the world, we're universal. Intellectuals, schools, universities are the first realities that are opening at a world level: this international forum "COALITION", dedicated to Rock Art, proves that individual and institutions understand the importance of comparison and common planning.

The different languages we speak have to remain a wealth, the inheritance of the

difference. Each of these languages must have a future in the world, to propagate the ideals that were born in the recent past: the rights of man and citizen, the state based on laws, orderly administration and respect for private life, tolerance, solidarity towards different people or persecuted people, equality and freedom of people, faith in human's reason.

Today's intellectuals have an important mission and function (as well as medieval clerks had): this mission is to publicly discuss fundamental problems of culture, of research and science and mostly of ethics.

Wonderful professional, technocrat, specialist pressures tend to reduce and to destroy intellectuals' role. The specialist, who possesses only a fragment of knowledge, is unable to think of society; the ignorance of big problems causes intellectual emptiness. Our society needs open-minded people, who know general problems and the total reality: they must be specialised in non-specialization.

The "naked monkey" has to definitively go out from the obscurity of the underground railway, has to leave his sub-machine gun and find again the way towards "lost Paradise". The exit from Prehistory and the return to the Origin must be our compass for the Third Millennium.

Humanity is currently facing a formidable challenge: that of guaranteeing all the inhabitants of the world a better quality of life while, at the same time, ensuring the quality and the future of the environment of Earth for the next generations.

This challenge involves all the countries of the world, both the industrialized nations and the developing ones: all the people, all the citizens, need to adopt a strong, new ethical and moral state of mind.

Human Culture at the beginning of the Third Millennium must be called into question, because extraordinary cultural improvement is required, comparable to that which accompanied the Prehistoric Neolithic Revolution, and the Industrial Revolution of the 18<sup>th</sup> Century.

The new imperative is "Sustainable Development"; this calls for a new partnership between environment and development, so

that our current needs can be satisfied without preventing future generations from having an improved quality of life.

In the uncertain march towards the new culture, intellectuals, scholars and scientists must play the role of pioneers and vanguards.

Rock Art comprises the most ancient signs of human spirituality, and those which are most widespread in every continent, but it is also one of the most fragile cultural resources; it must be conserved, studied and made known to the younger generations.

Many important Rock Art areas are located in developing countries. The economic development and the exploitation of the environmental resources of a territory must consider its cultural heritage, and not pose a threat to conservation.

Political and economic programs for the regional development of rural and urban areas must take Rock Art and archaeological sites into consideration, since these constitute a factor in the wealth and sustainable development of the local communities as well as of the country as a whole.

The scientific, administrative and political authorities of every country and every region must commit themselves to the creation and planning of projects in sustainable development centred on "Rock Art and the Environment".

Some points can be considered indispensable in these regional projects:

- Consultation with, and involvement of, Rock Art's international authorities, and particularly IFRAO, the International Federation of Rock Art Organizations.
- Involvement of national and regional Rock Art organizations.
- Drafting of regional programs of research, study, scientific documentation, preservation and conservation of Rock Art.
- Programs for site development, cultural diffusion and regional economic-tourist development.

- Training programs for school and university teachers and for those in cultural or tourists posts who could be employed as guardians or guides for the sites, parks, museums and tourist resorts.

The regional projects in sustainable development should enable the local communities to launch processes of social and economical development through respect for the environment, in order to guarantee the future.

All rock art experts, scholars and development specialists are invited to take part in what represents a new opportunity for the 3rd Millennium: we want to preserve our blue skies for the human race, for our children and our children's children.

#### Environment and Education

Schools today, taken in their broadest sense, should be privileged places characterized by a profound interaction between teachers and learners; sacred places where conscious and unconscious can fuse together, centres for the furthering of wisdom, through words, gestures and examples, a melting pot which creates more energy than it absorbs; prodigious places, perhaps the last places where human survival can be planned and guaranteed. Schools must be able to open up to the continuing change in society, what's more, they should be able to significantly control the process of change. The word "environment", as all words, is ambiguous and has multiple meanings: we should take it to mean "anthropological field or deposit" (there are practically no more real natural fields left on earth) with special physical and cultural stratification; the word means the site of the "personal history" of all men, of all those who inhabit the world, and have their individual "niche" in it; it is a database, an Eco-museum, a source of information, education, evocation, intuition; the environment is an anthology, a reader, an ABC book of behaviour; a stage on which we play out the daily tragic-comedy of life, forever suspended between macrocosm and microcosm, between costs and revenue, expansion and annihilation, reality and fantasy. Schools, with a capital "S", are part of the landscape, of the territory, of space and time: a definite space and a definite time. The interconnecting "filaments" of the multitude of infinite elements that make up each environment can and must pass through

schools and become the subject of experiments, trials, tentative connections between differing threads, so as to find a hypothetical order which can give us the illusion that we are emerging from chaos. Through the use of the environment as a resource, schools must become open institutions, which have a formidably equipped laboratory at hand, practically free of charge: the environment. Schools must learn to use this pedagogical/didactic supermarket as a source of information which is extraordinarily useful, popular, accessible, and to accomplish an innovative task: the repossessing of anthropological culture, of individual and group identity, social identity on the part of each learner, all students, all human beings. The invitation to take part in this Copernican - pacific - revolution is being sent to teachers at all schools, researchers, students, and will offer the chance to compare methodology, experiences, programs and projects in the field of Cultural Assets, and its links to teaching and education, so as to plot and define the role of schools in forming the conscience of young people; hopefully their sense of civic duty and their solid scientific background will make up the strongest factor in the protection, conservation and appreciation of the cultural heritage that Rock Art Archaeology discovers, researches, and consigns to future generations. The environment in general, and Rock Art in particular, should be considered as something we have borrowed from our children, rather than inherited from our parents. All over the world, teachers and schools can play a fundamental role, in trying to win the wager for the progress of Man.



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## CUEVA DE ALTAMIRA AND THE PRESERVATION OF ITS PALAEOOLITHIC ART

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### A Summary or Introduction

It might be thought that Palaeolithic paintings have some special characteristic which makes them particularly long-lasting, and because of this they are almost eternal. Nothing could be

further from the truth. Their elementary composition based on ochre (or other natural minerals), charcoal and water (as an agglutinant or solvent), makes them rather fragile and vulnerable. If they have reached our days, after an existence of 14,000 or 20,000 years, like the paintings at Altamira, it is owing to the fact that they have been immersed in favourable or virtually non-aggressive environmental conditions. The cause for these is the natural stability of cave environments and because, at Altamira, a roof collapse sealed the cave entrance about 13,000 years ago. Thus it is necessary to maintain the microclimate - certain humidity and temperature regimes - and in general, maintain the natural conditions that have existed in the cave until the present time, in order to guarantee the survival of our early art. These conditions and their stability can be changed both directly by actions inside the cave and indirectly by actions in the area outside which affect the interior (area of influence or impluvial area).

The temperature, humidity and their combined action create the greatest risks of deterioration and destruction. A rise in the inside temperature with the consequent fall in the humidity can by itself result in pigment peeling off the rock surface. The water vapour that condenses on the paintings or the rock may cause the pigments to be washed away or result in the precipitation of an opaque layer of calcite over the paintings. A rise in the temperature in a humid environment could increase the presence or activity of microorganisms; these are also favoured by artificial lighting and by the entry of visitors (who spread microbial flora and fauna). In conclusion, there are many well-known problems that arise when the fragile dynamic balance between humidity, temperature and water conditions, and those which affect fungi and bacteria, are broken. And yet this balance has been broken, changing the natural environmental conditions, in every cave open to the public, and it continues to be broken.

### Cueva de Altamira: an extremely popular ancient monument

Cueva de Altamira was the first place where Palaeolithic art was identified, in 1879 (Heras 2002). The finding was greeted with certain scepticism as it raised new questions about human evolution, which at that time was still poorly understood, and about the intellectual