## INTERNATIONAL FEDERATION OF ROCK ART ORGANIZATIONS IFRAO

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Unlike open air sites, which are subject to several erosion factors, whether natural or anthropogenic, that accelerate their deterioration and their disappearance, caves are fabulous preservatives of human and animal traces, artefacts and other archeological remains.

These « karst archives », to use a now common phrase, constitute a remarkable patrimony and provide us with an amazing study potential for the understanding of the history of mankind.

If the case of prehistoric decorated caves is overall well known and enjoys protection measures which are more or less adapted depending on the countries, the history of caves cannot be reduced to that single aspect. From prehistoric times on, human and animal occupancies are numerous and manyfold. These incursions into the subterranean environment have stemmed from various motives, whether religious or symbolic (sanctuary caves, decorated caves, sepulchral ones), utilitary (habitat, exploitation of of water or mineral resources, hideaway and defense...), or more recently touristic or speleologic. The anthropogenic activities, the faunistic occupancies, and the karst dynamic deposit have left a significant amount of traces, artifacts or elements which have slowly gotten integrated and blended in the slow evolution of hypogeum landscapes.

A genuine work of archeological research can only be based on observation, study and documentation of these elements. As a matter of fact, the actual value of an archeological artifact has to be evaluated in a contextual fashion, through the comparison with a chronology, a culture or a civilization, in order to be able to understand and interpret its meaning or its function.

The current pluridisciplinary studies show the relevance of the consideration of the site as a whole. The concretions and the fillings are necessary to date sites and their occupancies, but also to give information about the paleoenvironments. Geomorphology will describe the current landscapes and make it possible to understand the process of their evolution. The understanding of a cave painting requires the study of its environmental context and other

testimonies. It is inseparable from a human footprint as well as the route followed inside the cavity, marked at times by torch drying ups, an animal track the human subject might have crossed, remains of diverse activities (hearth destined to provide light, flint or bone made artifacts left on the floor, exploiation of faunic remains, and so on). The slightest trace can prove meaningful, and bear evidence about the date of a passage, any human behaviour, any gesture and therefore any motivation that might have originated this mark left by the human being.

For instance, a flint tool contributes to the dating of a human occupancy, and makes it possible to put together hypotheses. It loses most of its informative value if excluded from other vestiges, which also contribute to its dating, as well as to the understanding of the human beings that occupied it and their society.

The archeological understanding of a cave site therefore relies on a bundle of arguments, on the comparison of proofs. That is why the history of a cavity and the entirity of the cultural and natural testimonies available have to be taken into account in the process of preservation and protection of a site.

Finally, the samples necessary for scientific studies, which contribute to the datation of vestiges and to the understanding of the material that were used, their nature and their origin, should be regulated in order to minimize their impact upon vestiges. The contact free methods are more and more commonly used when possible and give good results, for they avoid damaging the vestiges by taking samples of matter. The sampling operations have to be argued for, documented and archived, in order to always be able to trace the place where the sample was taken and the results obtained.

The protection of cavities and their content is guaranteed by various laws which gradually tend to take into account, on a legislative level, the whole of their content in terms of natural resources and archeologic content.

In most european countries, as in France, testimonies of the history and prehistory of mankind bearing a scientific, historical or environmental interest (vestiges and archeological artifacts, structures, animal and human remains, anthropogenic constructions) are protected from constructions and unauthorized research by a consistant set of laws with regard to the environment (sites, landscapes, caves) and the patrimony (paleontological and archeological excavations) that complement each other.

Nevertheless, the european plans should be standardized in order to put an end to the illegal and never ending objects trade, which is harmful to the development of scientific research in that it irreversibly damages some unrenewable stocks of natural and archeological resources. It is for this purpose that we call up the various decision-making bodies of the European Union.