



EPOCH

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OF EXCELLENCE IN
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DOCUMENTATION & SEMANTIC STANDARDS FOR THE ARCHAEOLOGICAL RESOURCES MANAGEMENT

1. INTRODUCTION

The problematic of the documentation of archaeological heritage are progressively assuming a key role in the debate on the protection and conservation of the historic – artistic heritage. Standards, rules and laws are keywords in this process aimed at assuring the organisation and management of information regarding the local and international archaeological heritage. Documenting means above all knowing. Whereas cataloguing and classifying represent fundamental phases of the process of study and analysis of the material culture, standardizing its description (be it an object or a cultural landscape) firstly means making its levels of knowledge understandable to a large community, apart the scientific community and its preservation along time, by means of a simple management, maintenance and consultation.

Recently, at national level (central, regional and local), new methodologies for establishing a General Catalogue were developed; even though these are based on different organisational systems and data representation, they can be linked to a series of shared principles, which go from the organisation of supports for their storage, custody and conservation, to the constitution of simplified forms for the research and consultation of external users, to the increment of archives by means of acquisition of new historic collections and ending with the valorisation in innovative forms of the archaeological heritage.

If the general catalogue represents the conclusion of a methodological reflection aimed at recognizing the process of cataloguing as a fundamental moment for the reconstruction of the value of the material culture object, re-inserting it the original context of its historical and spatial relations and preserved up to their nowadays situation, the standard constitutes a reference frame so that vision of reconstruction and re-contextualization of the object's life will be described through a common and univocal process of formalization characterized by a specific terminology for each type of objects.

As for the formalization of the activities of archaeological excavation, the analysis of the phases that characterize field activities generated the elaboration of a vast number of forms aimed at recording the sum of the activities performed in an archaeological dig, from the excavation to the analysis of the material culture, be them structures or objects. The introduction of informatics in the process of the registration of information gathered during the field work made even more complicated the cataloguing of the archaeological heritage, adding to the various standards of documentation profound differences in formats, software or operating systems as well. A fast analysis of the computational applications available for the archaeological excavation highlights some obvious limitations to the accessibility, circulation and sharing of data. Not having the software that generated the database, it is practically impossible to access o this data. Even though nowadays there are many “computerized” excavations, very few of these are accessible and available on-line. The large availability of standards, competitive among themselves, reduces even more the possibility of gathering and consultation of information.

To the profound differences caused by national and local standards, by different operating platforms and software, we must add also problems related to different languages, which often obstacle the collaboration between international teams which work together at the same archaeological site. Lastly, even though standards became necessary for cataloguing, the experience or the tradition of individual archaeologists enormously influences the process of filing the forms, which derive from the methodology or the scientific background adopted by the researchers during their investigations.

From this short introduction it is immediately clear how difficult, if not impossible, to assure a real sharing of data, apart from creating huge databases, containing all types of information. We are not talking therefore about the recognition and highlight of shared fields of different structures present in written documents and/or on the forms (for example: place, locality, period, chronology, phase, stratigraphic relation, etc.), as it may sound by a simplistic definition of metadata, but about the extraction from each form the representation of the conceptual model which the archaeologist followed during the field activity and which has been translated to a specific activity of documentation. This process results mostly relevant when one tries to re-use a past documentation, often defined according to different systems and excavation methodologies than the principles of stratigraphic archaeology.

Considering the danger in converting old data in a new digital or paper format, as any translation performed in another language, without knowing its grammar, we must guarantee the interoperability of different archives without modifying, altering or sacrificing the archives compiled by each individual archaeologist, preserving in fact not only the data and the documentation gathered, but also the applied methodology. The absence of shared data, until recently caused by the multiplicity of platforms, software and different formats, is nowadays determined mostly by a profound semantic diversity, only partially solved by the definition and circulation of thesauri and thematic dictionaries. Probably what really reduces a real and true interoperability between the on-line resources is the absence of a clear formal representation of knowledge models.

2. COURSE OBJECTIVES

The aim of the course is to provide to participants an introduction to the problematic of data normalization through formal structures which, instead of “caging” the information due to forms or frames, are instead particularly adapted to a formalization of the archaeological knowledge. In order to “describe” in codified way the archaeologist’s activity in the field, we can use ontologies that synthetically are defined as formal models of knowledge in a given domain. Each methodology can be therefore described as a task – ontology, which produces, as aim of its activity, a specific documentation.

In September 2006 the standard ISO-21117-CIDOC-CRM has been launched, which represents a model aimed at providing a semantic definition necessary to transform a dispersed heritage of local information into a global, coherent frame; the CIDOC – CRM is a formal ontology that facilitates the integration, mediation and exchange of relative resources and heterogeneous content related to the archaeological heritage the CIDOC – CRM does not intend to provide a vocabulary or a reference dictionary, not a list of common terms, but a system that, assuring the semantic definition of the informative registered sources, allows a real “interoperability” of the archaeological data.

3. PROPOSAL FOR THE FORMATION PATH

The formative path consists of an introduction to the thematic of documentation, followed by a detailed description of CIDOC – CRM. Through case – studies, suggested by the participants themselves, a correct use of CIDOC – CRM will be taught, in the specific field of the field documentation and formalized according to different standards (national, local, etc.). Procedures for the creation of digital archives will be examined, and their conversion (mapping) according the standard CIDOC – CRM.