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**Metadata Standards for Archaeological Objects  
in Museum Catalogues**

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***Abstract:*** *The report is the result of studies made in 2009, concerning the use of existing metadata standards for description of museum collections. Particular attention is paid to the structure of the documents connected with archaeological sites and additional requirements for submitting them to digitize collections. The ability to use certain standards for metadata, e.g. Dublin Core, to describe the objects of the considered collection is outlined.*

**1 Metadata Standards for Museum Collections**

In the description of museum collections "metadata" is used in a broader sense: they are the necessary data structures to describe collections of physical objects. So that individual information records (in paper or digital form), identifying physical objects in museum collections specify them in their service.

Modern museums store and serve two kinds of collections: physical and digital collections. Most of the digital copies of artifacts become the digital images. Textual description of the subject of digital image is regarded as metadata associated with the image.

Metadata associated with digital images are used for:

- management and administration of the collection (copyright, etc.);
- description of the image used in search processes (describing the content of the image);
- information service (creation date of the digital object, file format, etc.);
- registration of the using of objects, and respectively changes of the digital object (color processing, enhancing contrast, brightness of images and more).

Metadata that provide information about physical objects are used for:

- managing of the collections – metadata about the physical location of the site carried out conservation works and others;
- describing and identifying of museum objects in the collection in order to ensure reliable search and safety;
- defining metadata for the site creator (artist, sculptor, architect), for the name of the site; for its physical description, etc.

- documenting the use of objects – for instance, for the exhibitions in which the object has been exposed, etc.

## 2 Metadata Standards for Archaeological Collections

The process of creation of the system for keeping and extracting metadata for archaeological sites it is obligatory to take into account the established world standards. Here we will stop our attention on some of them:

- **CIDOC** is international standard, concerning data for archaeological sites. The standard was created by the working group of CIDOC, in cooperation with the archaeological and architectural working groups of the Committee for Cultural Heritage at the Council of Europe. This standard defines the minimum categories of information required to assess the archaeological site or monument in the planning, management, science research or other activities. CIDOC is used as a part of the European Archaeology Directive on of the Council of Europe. CIDOC includes the fields for identification, reference, title, iconography, descriptions, materials, equipment, size, shape, archaeological context, author and cultural environment, signs and marks, date/epoch and preservation data;
- **MIDAS Heritage** are part of information standards in the field of cultural heritage in Great Britain;
- **Méthode d'inventaire informatique – Archéologie** is used by French museums for inventory of archaeological sites.

### 2.1 Systems for Metadata Generation

There are good examples in a world practice of using automatic generating metadata systems for describing museum collections. For instance:

- **DC-dot** automatically generates Dublin Core metadata as HTML meta-tags or as RDF/XML descriptions;
- **CHIN MetaCollector** is a system for creating catalogs which allows easily generating of metadata from museum specialists. The meta-collector creates online HTML-form for metadata, after that it can be used for the applications, including collecting in the database for local search.

## 3 Current State of the Art of Studied Sources of Archaeological Sites

During our study we ran into the following major groups of objects that specify the work of describing of archaeological monuments:

- **Monuments IN SITU** – one of the treasures in the archaeological monuments in Bulgaria are mounds (settlement and burial). They hide the prehistory and antiquity of the country. Revealed cultural monuments are ground and underground. The goal is to create a structure description for

this kind of sites with information on location and the ways of their attaining, as well as the determining the type and content of the objects found there;

- ***Exposed Monuments*** – museum exhibitions and stock repositories are completed by the above-mentioned archaeological sites. Building the relationships between the data of both structures reveals new useful information;
- ***Destroyed Monuments*** – the information of some sites exists only "on a paper", but in practice they are destroyed. With the methods of modern technology, they can be well described in order to help further research;
- ***Unstudied Monuments*** – there are monuments that are known to science, but for one or another reason are not studied yet;
- ***Private Collections*** – the changes in the law of cultural heritage protection for the first time allows private collections to be included in the database.

#### **4 Achieved Results**

Due to the importance of cultural heritage and real opportunities to access information sources, we directed our interest to the description of data for some settlement and burial mounds.

We received access to catalogs of the Plovdiv Archaeological Museum and to the researchers' archive of mound culture in Thrace. Useful information is extracted also from published papers for the stratigraphy of the mound in Thrace. In particular, the findings described in the settlement and burial mounds around Muldava village, Asenovgrad municipality were observed.

It was found that sufficient information is available for applying one of the known standards for the description of archaeological sites - CIDOC Core Data Standard for Archaeological Objects, namely:

- Official identification;
- Details of the museum institution that holds objects (including the exhibition, where the originals are staying);
- Inventory and other service data for exhibits in the collection;
- Category and name of the site;
- Materials and techniques;
- Shapes and sizes;
- Information about the place and method of detection;
- Data for the age and cultural background;
- Method of acquisition;
- Methods of restoration and preservation.

At this stage, using conventional environment description database, such information is filled for eighteen sites.

## **5 Conclusions**

At this moment our museums do not use modern technology to keep up to date database with information for museum exhibits. This is a serious problem in compliance with the requirements for working with digital archives of museum collections and the creation of virtual museums.

Using the standard model for presenting the data describing artifacts if the museum collection is indispensable – it becomes the basis of automated systems and WEB based applications, including creation of virtual museums of ancient culture monuments.

## **Acknowledgement**

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