

# How to make urban archaeology understandable?

## Interpreting the heritage: from the stable panels to the new mobile devices

Irina GREVTSOVA

University of Barcelona, Spain

**Abstract:** The presentation of heritage situated in open air, specially the archaeological heritage presents serious problems of understanding for the public. This happens because of most part of the archaeological monuments are preserved in the form of ruins, without their original environment.

Since the late nineteenth century the interpreters of U.S. and Europe have applied educational strategies to find different solutions. One type of interpretative tool is organizing routes with interpretative panels as elements of educational communication.

On the one hand, the proposals of this paper are to analyze models of didactic intervention applied in urban archaeological contexts in Spain. This comparative analysis helps to identify the main characteristics and methods used in the field of archaeological heritage and to find an effective way to explain the heritage to the public. On the other hand the paper aims to study current trends that have emerged recently thanks to an information revolution. The new interpretative contents designed for mobile phones, titled "nomadic museography" are aimed at engaging the public interest on archaeological sites through user-friendly display. Currently these digital formats are changing the way we perceive and interpret the archaeological heritage and give new possibilities to link a user with a heritage. Its use has a special impact in urban context where the demand of cultural consumption is growing.

After studying several cases developed in Spain, the paper finished with a presentation of general conclusions around how the fix and mobile interpretative devices change the perception of archeological sites and which possible ways of development they could have in the future.

**Keywords:** archaeological heritage, heritage interpretation, museography, nomadic museography, Spain

### Introduction

Generally speaking the archaeological sites located in urban contexts have specific characteristics for its preservation and presentation to the public. From the point of view of heritage education, this type of open air heritage cause difficulties to imagine original historic sites and implies serious problems of its understanding for the general public. This situation can be explained by several reasons. On the one hand, the archaeological sites present mixed environments containing incomplete, decontextualized elements and structures that have lost their original appearance. On the other hand, because of a scattered urban chronology, archeological sites have lost their historic integrity also due to modern urban surroundings, and they present no abstract environments without its original function. Moreover, the location of archeological sites in different structural layers, where most part of its elements is hidden underground, complicates the general urban morphology of cities. Such a fragmented appearance also creates problems of accessibility and presentation of archeological heritage.

Since the late nineteenth century the American and later European interpreters have been applying educational strategies to find solutions about the problems of understanding heritage (BECK, CABLE 1998; MIRANDES 2001; SUREDA, MUNILLA 2004; SANTACANA, SERRAT 2005; CALAF I MASACHS 2009; GUERRA, FRANCISCO 2009). One type of interpretative tool, which is widely used, consists of organizing routes with interpretative panels as visual elements which improve communication between the user and the heritage site.

In this context, information signs that serve to reveal meanings and relationships of cultural and natural heritage to the public were implemented in the U.S. national parks. This type of interpretative resources was later widely spread in urban contexts (Fig.1). Very often they were applied in historic urban centers, where most part of the cultural heritage is conserved. In urban contexts the information sign was developed in conjunction with the design of urban informative signal systems and street furniture.



Fig.1 – Interpretative signs located in a medieval area, Barcelona

Finding its great distribution thanks to easy installation and maintenance, the information signs were the first static artifacts that served as cultural guides giving concise and brief information about the heritage sites and helping tourists and visitors for rapid orientation in the cities. In many European countries this type of interpretative resources was widely utilized with the beginning of the preservation of historic centers and its transformation into open air museums.

In archeological sites the problems of heritage interpretation have its own specific features. The research and innovation group of the University of Barcelona DIDPATRI (*Didactic of Heritage, Comprehensive Museography and New Technologies*) investigates this field and has designed new models of interpretive

resources named interpretative signs and interpretative stations that facilitate the intermediation between the public and the archaeological heritage (Fig.2). The distinguishing feature of this type of interpretive resource is the introduction of a special iconographic language and interactive tools enhancing the public participation. The interpretative signs and interpretative stations were introduced in some archaeological parks in Spain where their principal characteristics were tested.



Fig. 2 – Interpretative signs located in the medieval area in Calafell (Tarragona, Spain)

Thanks to the fast development and wide application of modern information technologies, new tendencies and possibilities for interpretation and presentation of archaeological heritage have appeared. New digital formulas have influenced the field of heritage interpretation and led to the creation of interpretative portable artifacts named *nomadic museography*. This technology has a number of advantages and gives new possibilities for interpretation of archaeological monuments that actually are changing our vision about cultural heritage (Fig.3).

The *nomadic museography* is based on the theory of the French writer and economist Jacques Attali, explained in 1985. He used the concept of "nomadic objects" to describe miniature machines which are able to retain, store and transmit information at high speed (sound, image and data). With the use of mobile devices, a visitor locates and identifies points of heritage interest directly in a cultural site. Thanks to intuitive display and interactive interface, the mini nomadic devices allow consulting the most diverse educational contents for providing understandable different heritage elements.

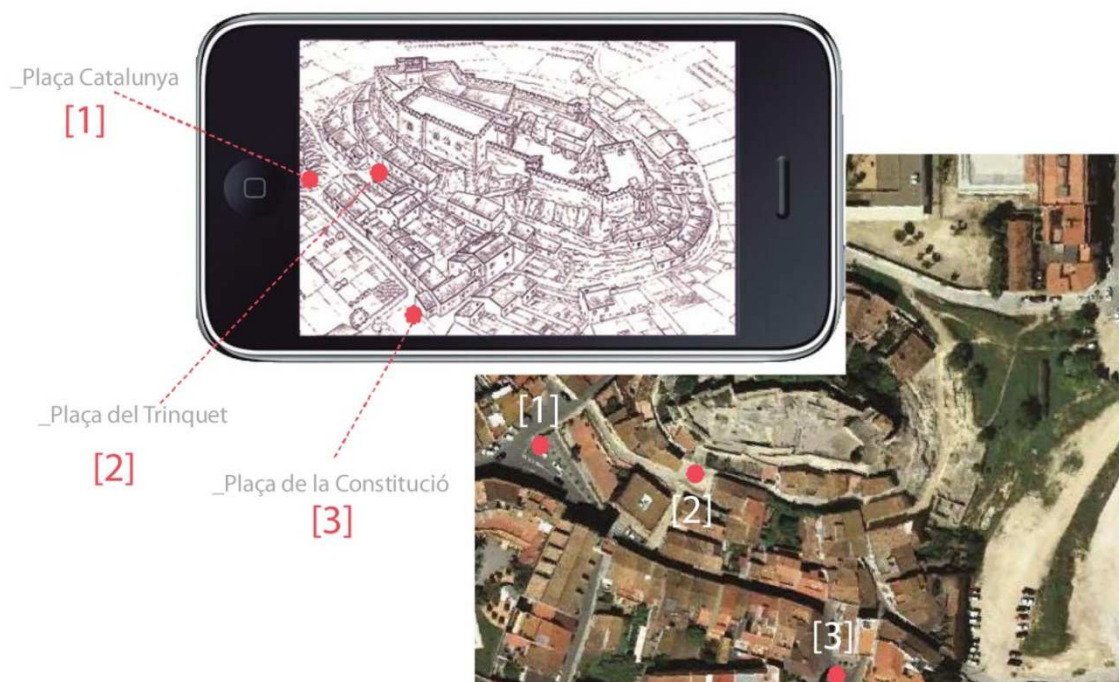


Fig. 3 – Nomadic museography

## Approaches

The general objectives that are raised in this paper are basically three:

1. Analyze the evolution of interpretation sign systems located in urban archaeological contexts in Spain.
2. Identify the principal stages of the general evolution of this interpretative system and its main models; describe its general characteristics and parameters.
3. Design analytic tables and figures for analysis and compare their principal characteristics.

## Methodology

In this paper the general analysis of the evolution of interpretative sign models used in archaeological sites in cities in Spain is presented and is based on two principal studies. The first study was realized using the scientific study made by the research group DIDPATRI that was published in the book “Didactic Museography. Teaching and interpretation of archaeological sites” (HERNANDEZ ROJO 2011). The main subject of this research was the analysis of static and mobile interpretative models and application that have been installed in some archeological areas located in natural contexts, as well as in urban contexts in Spain. In this study, more attention has been paid to the analysis of prototypes of didactic furniture, the design of which was developed by the scientific group.

The second source used is the master thesis “Modelling and interpretation of open air heritage. The case study of the Calafell Castle Archaeological Park” made by the author in 2011 (GREVTSOVA 2012). The museography project of this case has a great educational value thanks to the innovation proposal in terms of implementation of new technologies and for the first time the use of new mobile technologies was proposed applying new interactive resources of *nomadic museography*. The study also gives the first attempt to

analyze the evolution of the use of different interpretative models in the same context –the Castle of the Archaeological Park of Calafell. This work showed that the application of information technologies has a range of advantages under other interpretative models such as didactic furniture. It presents the advantages of using *nomadic museography* such as communicating the significance of the archeological site without physical impact on the site, the possibilities to create interpretative contents with easy access to additional information.

## Results

As we said earlier, the aim of the presented paper is to analyze the evolution of interpretation models applied in urban archaeological contexts in Spain and identify the principal stages. So, there were analyzed and compared characteristics of different interpretative models common analytic table where all data was visually presented (Fig.4). According to the analysis of the general parameters there were defined three principal models. The table contains the basic parameters of each model – location, design, contents, audience, etc. and gives a brief description of each element. The table allows analyzing data in two directions: vertically, considering the characteristics of each model, as well as horizontally, giving a clear view on how the process of evolution has advanced. In the last row the value and contribution of each model in the general evolution of interpretative signs system is included as well.

Finally, in figure 5 the principle features of the interpretative model nomadic museography are being presented. It shows the main benefits of this model as the management of archeological sites, contents, mobility, user experience and interactive features. It defines the principal directions for its future development. According to this data, the figure shows a significant advantage over other systems. The done research has showed that the interpretative resources used in heritage contexts go through three main stages that clearly define three main models - information signs, interpretative signs and stations, interpretative portable artifacts. Each model has a number of common characteristics and parameters that differ from the rest. The three principal models of interpretation signs and portable resources are presented in an analytical table that shows its main features by which each model can be identified. The table demonstrates the adaptation of interpretative models to the needs of society during of time and the specific contribution of each model in the overall evolution process. It also shows a gradual increase of interactive qualities from Model 1 to Model 3.

Aspect	Model 1	Model 2	Model 3
<b>Name</b>	<b>Information signs</b>	<b>Interpretative signs and stations</b>	<b>Interpretative portable artifacts: <i>nomadic museography</i></b>
<b>Origin</b>	Street furniture, urban informative signals system	Information signs	Computers, laptops, e-readers, game consoles, audio guides, city guides etc.
<b>Concept</b>	They are used as a guide and informational support in heritage contexts, providing guidance and transmitting the basic information about monuments.	They show a technological and interpretative evolution of information panels. It helps to interpret the heritage with an understandable iconography and through various interactive and manipulative possibilities	The <i>nomadic museography</i> consists of an intermediation device between user and heritage corresponding to the new demand of the information society.
<b>Location and characteristics of space</b>	The panels and the boards are normally located in points of interest and are fixed in the ground, on the facades of buildings and other structures. In some cases the panels are organized in thematic routes.	They are located at key points on a heritage site, in front or on one side of the heritage element with the aim to make its characteristics understandable. Normally the interactive signs are grouped into thematic itineraries.	Interpretative portable artifacts are portable devices, as smartphones or tablets that have characteristics of mobile phones with advanced computing capabilities that give great opportunities for mobility and freedom to the user. The additional characteristics like geolocation calculate the exact position of the user providing a richer experience. It orientates the user in new contexts, to find places, to report location to other users and associates a real place with the location of other users.
<b>Type</b>	Directional Identification Interpretative	Interpretation stations Interpretative sign (panel with a triangular rotary drum, interpretative iconography, boards with textual information) Iconoscope wheel	There are different formats online and offline access to functions of virtual reality, augmented reality, QR codes, geolocation, 3D reconstructions, etc.
<b>Design</b>	Rectangular vertical or horizontal panel. Material - metals, plastics, wood, glass, acrylic, etc.	They combine different interactive elements: panel, artifacts, models, replicas.	A smartphone or tablet has a touch screen that presents digital contents in a very intuitive and attractive way
<b>Content</b>	It transmits short messages with the use of a clear and concise language. The message calls a visitor's attention, holds his interest. It provokes actions: observation, contemplation and visual analysis.	Messages have interactive and explicative character about various aspects of heritage. They allow to compare historical evolutions, see interiors, explain processes, and see the images of the past. Rotating wheels allow to correlate a different kind of information about the history.	They allow specialized messages based on the needs of a user. They are portable tools that allow performing various tasks and installing programs, through which the user does extend more capabilities and functionality of the device.
	Iconic (picture language: pictograms, drawings, symbols) and textual.	Iconography and cartography, sound	They allow to deliver content in various formats: multimedia, textual, audio, visual, etc.
<b>Management and maintenance</b>	The accessibility characteristics are important, also the visual impact on the environment, climate vandal resistance in use.	High hardness and resistance, very low impact on the landscape	They are user-owned devices therefore the costs of management and maintenance are optimized.
<b>Audiences</b>	Different audiences. Especially tourists.	Different audiences. It has a special interest for school groups.	Different audiences. It has a special interest for young people.
<b>Adaptation to the public (Interactivity)</b>	It is adapted to people with physical and sensory disabilities.	Stimulates physical participation, they have interactive elements of mechanical use: inclined plates, tumblers, etc. It is adapted to people with physical and sensory disabilities.	It offers an intuitive and personal interactivity, It allows free manipulating contents Some programs are adapted to people with physical and sensory disabilities.
<b>Values for interactive evolution</b>	It has defined and established general rules of planning the points of interest and tourist tours in cultural heritage contexts.	It has developed several prototypes designed for archaeological and urban contexts, and interactive content that facilitates the transmission of the message to the receiver	It has great potential as an interactive resource which nowadays is being tested

Fig. 4 – Analytic table of the evolution process of the fix and portable interpretative resources

Figure 5 summarizes all main results derived by the previous two figures and shows some main positive characteristics of Model 3.

Management of archeological site	Mobility	Contents	User experience and interactive features
<ul style="list-style-type: none"> <li>• It optimizes maintenance costs</li> <li>• It improves the institutional image</li> </ul>	<ul style="list-style-type: none"> <li>• It interprets <i>in situ</i>: it locates and identifies points of cultural/tourist interest</li> <li>• It gives the possibility of free selection of itineraries</li> </ul>	<ul style="list-style-type: none"> <li>• It allows to compare archaeological elements with its past / present / future evolution</li> <li>• It allows to combine the captured image with additional information</li> <li>• It gives a wide range of 3D historical recreations, multimedia contents and interactive games</li> </ul>	<ul style="list-style-type: none"> <li>• It is a user-owned device that allows the user to know very well its operations.</li> <li>• Intuitive and attractive intermediation tool</li> <li>• Possibilities for creating / editing / managing information</li> </ul>

Fig. 5 – Advantages of the model “nomadic museography”

## Conclusions

This paper analyses the general evolution of static and portable interpretative resources, serving to the presentation and interpretation of archeological heritage in urban contexts in Spain.

The presented study shows that Model 3 presenting new interpretative portable artifacts has a number of advantages and above all, an interest to be used thanks to diverse interactive features. The application of new information technologies in the field of heritage can bring the concept of heritage interpretation to a new level, which during time will definitely reduce the distance between the user and the cultural monument and solve most part of the problems of understanding the archaeological sites. The stage of *nomadic museography* has actually been of great interest among scientists.

## References

- Beck L, Cable T. Interpretation for the 21st Century, Fifteen Guiding Principles for Interpreting Nature and Culture. Sagamore Publishing, Champaign. USA. 1998.
- Calaf i Masachs R. Didáctica del patrimonio: epistemología, metodología y estudio de casos. Gijón. 2009.
- Guerra R., Francisco J. Interpretación del patrimonio: diseño de programas de ámbito municipal. UOC. Barcelona. 2009.
- Grevtsova I. Modelización e interpretación del patrimonio all' aperto. Estudio del caso del caso Parque Arqueológico Castillo de Calafell. Editorial Académica Espanola. ISBN 978-3-8484-7649-7.2012.
- Hernandez FX, Rojo MC. Museografía didáctica e interpretación de espacios arqueológicos. Trea, Gijón. 2012
- Mirandes JM. Guía Práctica para la Interpretación del Patrimonio - El Arte de Acercar el Legado Natural y Cultural al Público Visitante. Consejería de Cultura, Junta de Andalucía y TRAGSA. 2001.
- Santacana JM, Serrat N.A. Museografía didáctica. Ariel. Barcelona. 2005.
- Santacana JM, Hernandez FX .Museología Crítica. Trea, Gijón.2007.
- Sureda J., Munilla G. Interpretacion ambiental y del patrimonio: comunicar, participar, disfrutar: fundamentos y marco conceptual de la interpretación. Barcelona. 2004
- Tilden F. Interpreting our Heritage . University of North Carolina Press. North Carolina. 1957.

**Imprint:**

Proceedings of the 17th International Conference on Cultural Heritage and New Technologies 2012 (CHNT 17, 2012)

Vienna 2013

<http://www.chnt.at/proceedings-chnt-17/>

ISBN 978-3-200-03281-1

Editor/Publisher: Museen der Stadt Wien – Stadtarchäologie

Editorial Team: Wolfgang Börner, Susanne Uhlirz

The editor's office is not responsible for the linguistic correctness of the manuscripts.

Authors are responsible for the contents and copyrights of the illustrations/photographs.