

ΣΥΜΠΟΣΙΟ
ΝΕΕΣ ΤΕΧΝΟΛΟΓΙΕΣ ΣΤΗΝ ΥΠΗΡΕΣΙΑ
ΤΗΣ ΑΡΧΑΙΟΓΝΩΣΤΙΚΗΣ ΕΡΕΥΝΑΣ

SYMPOSIUM
NEW TECHNOLOGIES IN SERVICE
TO OUR KNOWLEDGE OF ANTIQUITY

Education and Culture in the era of New Technologies.
Museum of Byzantine Culture of Thessaloniki

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Ladies & Gentlemen delegates,

First of all, I would like to welcome you to Thessaloniki and the Museum of Byzantine Culture, a place of education and culture. Since 1997 the Museum of Byzantine Culture has been an independent special regional service of the Ministry of Culture & Sports which belongs to the General Directorate of Antiquities and Heritage.

In a period of dramatic technological and social change, experts working in the field of education and culture need to foster a variety of new types of tools and ways to make cultural education relevant to the demands of a new millennium. New technologies are altering every aspect of our society and culture. We need to comprehend and make use of them both to understand and transform our worlds¹.

The Commission of the European Communities seeks through various initiatives to accelerate the development of education and training for Europe's transition to a knowledge society. A first important step in this transition is the acquisition of European citizens in the new tools that allow access to knowledge and the widespread development of digital literacy in order to achieve greater equality of opportunity in a world in which digital functions are proliferating².

The children and adolescents in the 21st century will live as adults in a different and vibrant world, which is shaped by technology through multilateral processes and must be prepared for this. It is necessary to know how to learn continuously throughout their life. The philosopher John Dewey believed that: "The purpose of education is empowering and enabling individuals to continue their education." As society changes, so does the skills needed to deal with life's difficulties³.

Literacy nowadays (ICT literacy) is defined as "the ability to use digital technology, communication tools and networks to approach, manage, conclude, evaluate and create information in order to function in society of knowledge. Thus, ICT is now recognized as a new literacy, so important for the future of students, as they were previously reading and writing. The term Information and Communication Technologies (ICT briefly) refers to technologies of computing and communications to engage each other more and more day by day⁴. Multimedia technology in the educational process offers a new dimension in interactive communication, enhancing access to all users. It also supports

¹ D. Kellner, New Technologies/New Literacies: reconstructing education for the new millenium, *Teaching Education*, Vol. 11, No. 3, 2000, 245-265.

² Commission of the European Communities, COM (2000) 318 final. Abstract from the Introduction of the Commission's Announcement «eLearning- Thinking about Education of Tomorrow».

³ Β. Δημητρόπουλος, Τεχνολογίες Πληροφορίας και Επικοινωνιών (ΤΠΕ) και Θεωρίες Μάθησης, Ημερίδα «Οι Τεχνολογίες Πληροφορίας και Επικοινωνιών στη Διδακτική Πράξη», Αμερικανικό Κολλέγιο Ελλάδας, Αθήνα 4-2-2006, 2pek.att.sch.gr/.../Technologies_Plhroforias_kai_Epikoinonion.pdf.

⁴ Digital Transformation, A Framework for ICT Literacy, A Report of the International ICT Literacy Panel, 2002, p. 2. www.ets.org/research/ictliteracy, Copyright © 2002 by Educational Testing Service, U.S.A. 2007.

common / batch processing solutions within the group, helping students to become socialized. This is very important for the quality of life of students, particularly those with special needs, since it allows them to integrate more smoothly and with fewer problems in society⁵.

Nowadays cultural and historical heritage and technology are two in dissociable concepts. We have to utilize information technology and telecommunications for: Digitization, documentation, management and promotion of culture using new technologies for scientific and administrative documentation of monuments, collections in museums and galleries, documents and other cultural products. Technical achievements are expected to identify the traditional role of museums and institutions that manage and own cultural heritage in terms of documentation, presentation and promotion to the general public⁶.

The use of new technologies is important towards the modernization of Greek museums and of our Museum of course that has had an innovative character since its establishment. The building, a work of art and a historically listed monument, was constructed between 1989 and 1993 based on the plans of the talented architect Kyriakos Krokos. Its architectural elements blend modernism along with Greek architectural heritage. The edifice has received a special mention by the international committee of the competition Awards 2000 of the Hellenic Institute for Architecture. In 2005, the Museum of Byzantine Culture was awarded the "Museum Prize" of the Council of Europe, which was given for the first time in its history to a Greek public museum. The Museum received this distinction because of its "visitors-friendly" and educational character⁷. The Museum has been a pioneer in the important change observed in the last twenty-five years which regards the exhibitional practices of Greek museums. These changes aim to the abolition of static images and try to achieve a new approach of the world through movement, light and interactivity. The development of various educational programs and the organization of temporary exhibitions together with the increase in the number of publishing and in general with the upgrade of the providing services are moving towards the same direction, that is the "opening" of the museums to the public⁸.

The 11 rooms of the permanent exhibition opened gradually to the public from 1997 to early 2004. The last room entitled "Discovering the Past" is an "epilogue" to the permanent display. By displaying archaeological material and using digital applications, this last room traces the journey made by an ancient object from the excavation where it is discovered to the museum where it is displayed. The intervening stages are the one of recording, of study and conservation. The history of museums is also presented via two computer units and touch screens.

The permanent exhibition on the history of city of Thessaloniki, as this is hosted by the White Tower, namely the most popular historic building and symbol of Thessaloniki, is also a part of the Museum of Byzantine Culture. The exhibition traces the history of the city since its founding in 316/15 until modern times, through various aspects of its culture. The difficult task of presenting a 23-century history in a space of 450m² was accomplished through the use of new technologies: Information is presented mainly through impressive multimedia interactive applications of image and sound (video, slides-show, projections, touch screens, light boxes, sound documents) along with

⁵ Ν. Βερναδάκης, Α. Αυγερινός, Ε. Ζέτου, Μ. Γιαννούση, Ευθ. Κιουμουρτζόγλου, *Μαθαίνοντας με την Τεχνολογία των Πολυμέσων – Υπόσχεση ή Πραγματικότητα; Αναζητήσεις στη Φυσική Αγωγή & τον Αθλητισμό, τόμος 4 (2), 2006, 326 – 340.*

⁶ www.infosoc.gr/NR/rdonlyres/1E1D7E12.../politismos51203_ktp.ppt: Ο ΠΟΛΙΤΙΣΜΟΣ ΣΤΟ ΚΕΝΤΡΟ ΤΗΣ ΚτΠ, ΘΕΣΣΑΛΟΝΙΚΗ 4-5/12/03, Βασιλική Κολυβά, Προϊσταμένη της Μονάδας Β1, ΕΥΔ ΕΠ ΚτΠ.

⁷ Award of the Council of Europe "Museum Prize" to the Museum of Byzantine Culture, *Ποικίλα Σημειώματα, Μουσείο Βυζαντινού Πολιτισμού 12, 2005, 119-127.*

⁸ Ε. Kourkoutidou-Nikolaidou, A Museum is born, Aims and Orientations, *Μουσείο Βυζαντινού Πολιτισμού 1, 1994, 14-20.*

printed graphic compositions, all harmonically combined with the limited number of objects displayed. For foreign visitors there is also an audio tour in English⁹.

Additional information is provided through a DVD-ROM as well on the museum's website www.lpth.org. The DVD-ROM, which encompasses all the applications and information, is distributed to schools. Visitors of the website have the opportunity to view a digital map of the city with monuments and museums, a timeline with events relevant to Thessaloniki, scientific articles of distinguished historians and archaeologists, bibliography on the city and recipes revealing the diversity which characterizes the city's culinary identity.

The department of Educational Programs of the Museum of Byzantine Culture has been planning and implementing educational activities since 1998. The programs are addressed to kindergarten pupils, primary and secondary school students, teachers, families, as well as children and adults with disabilities. For each group various educational activities are organized; these aim to create amusing and constructive visits to the Museum featuring several interactive and educational games and putting the participants in different roles. Teachers are also encouraged to organize educational visits themselves with the help of "books for the teacher", which is also published by the museum.

The Department of Educational Programs of our Museum also participates and organizes workshops, seminars, university courses, with announcements promoting education policy, presenting educational activities of the Museum and training of teachers in approach of museum objects, while encouraging school actions on the experiential approach of aspects of Byzantine culture¹⁰.

In this year we have been working with Universities of Thessaloniki for the integration to the program «Culture in Education» of the action: "Culture as development basis of the New School". There will be designed and implemented a digital database which will document a wide range of monuments of the city of Thessaloniki and movable objects from museum collections belonging to different historical periods, from prehistory to modern times. The database will be accessed by users via smart phone and tablet. Through targeted designed interactive educational activities this database will be an innovative educational tool which will promote participatory and experiential learning and is geared towards connecting different learning objects to cultural subjects. The use of Information and Communication Technologies in the development and use of digitized educational material will create conditions to support future educational activities.

In the lobby of our Museum visitors have the opportunity to be informed through the help of an application of an electronic platform under the title "Exploring the world of Byzantium", a production of the European Centre of Byzantine and Post Byzantine Monuments, which fully corresponds to the museological approach of our Museum and its educational character.

We are currently working on a project entitled "Digitization of Cultural Heritage and Promotion of the Museum of Byzantine Culture" that is integrated in the Operational Program Digital Convergence (Call 31). The project will attempt to digitize a 95 % of the artifacts of our museum. This endeavor will contribute to the best management and use of the exhibits and collections in a friendly and accessible way for the public. We want also to approximate teenagers through the renewal of our web-site and the following promotion of our exhibitions and activities in an attractive way and through interactive digital applications. Among others this project also includes creation of virtual tours with panoramas, digital interactive maps, educational applications, digital timeline, "Best Mu-

⁹ D. Nalpantis, White Tower, Thessaloniki, Athens 2013.

¹⁰ Αγαθονίκη Τσιλιπάκου, Η δράση ενός δημόσιου ελληνικού Μουσείου την περίοδο της κρίσης. Το έργο του Μουσείου Βυζαντινού Πολιτισμού το έτος 2012, *Το Αρχαιολογικό Έργο στη Μακεδονία και Θράκη, ΚΣΤ' Επιστημονική Συνάντηση, 20-22 Μαρτίου 2013.*

seum" - application for smartphones and tablets, entries at Wikipedia¹¹. We also want to organize in the future digital thematic temporary exhibitions, e- exhibitions, and specially designed routes in our permanent exhibition for people with eyesight disabilities.

At the same time, we wish to promote the work of our conservation laboratories, which are characterized by their staff's experience and the implementation of diagnostic and conservation methods. The documentation methodology is applied in ways dictated by the relevant international conventions: classification, pathology diagnosis, manufacture technology examination and specification of maintenance condition. In sequence, the conservation procedure integrates with practises accepted by the international scientific community.

A multi-level "Βυζάντιο" ("Byzantium") bottom up system has been designed in 2001 by the Department of Computer Science of the Aristotle's University of Thessaloniki and developed such as a powerful multi-information database tool, to systemize and manage the documentation data from the various stages of the conservation procedure. This system unifies the registration and documentation of all the art objects belonging to the collections of the Museum, throughout all stages of the work undertaken in the conservation laboratories, the photographic workshop, the temporary and permanent storage areas and the exhibition galleries¹².

Further partnerships are planned, as there are proposals to join several European research programs. Our aim is to promote scientific research and diagnosis on suffering exhibits, mainly from organic materials. Another field of research of these programs is the security of exhibits with the use of innovative, pioneering and non-destructive methods in the fields of research and technology of painting during the Byzantine and Post-Byzantine period.

We have a cooperation with research centres such as the Institute of Engineering Seismology and Earthquake Engineering) to encounter static problems of museum exhibits in case of earthquakes¹³ (measurements in situ, simulation, analysis, sizing). We investigate fastening solutions and possibilities of their stability reinforcement without altering their current image due to the particular seismic hazard of the region.

We also need a bioclimatic study (bioclimatic cooling, heating) to achieve the ideal climatic conditions in the Museum and the White Tower. We have to optimize the desired climatic conditions, stabilization of the microclimate for the safety of exhibits and items generally stored in the museum and exhibits - vulnerable machines in the White Tower exhibition. Our target is to reduce energy consumption with the highest possible energy efficiency and to achieve resources' economy maintaining stable microclimate required (renewable energy sources RES).

We need to develop innovative safety methods, automatic control and intervention in environmental parameters (microclimate) of our Museum and the White Tower throughout installation of a) an

¹¹ Αγ. Τσιλιπάκου, Ψηφιοποίηση και Ανάδειξη πολιτιστικού Αποθέματος του Μουσείου Βυζαντινού Πολιτισμού, *Αναβαθμίζοντας λειτουργίες και υπηρεσίες: δράσεις για τη δημιουργία και διαχείριση πολιτιστικού αποθέματος*, ΥΠΙΑΘΠΙΑ, Γενική Γραμματεία Πολιτισμού, ΕΥΠΙΟΤ, ΑΕΑΜ, *Ενημερωτική Ημερίδα*, Βυζαντινό και Χριστιανικό Μουσείο, 20-12-2012, Αθήνα.

¹² D. Lazidou, G. Karagiannis, D. Mamaginis, "BYZANTIO": An ontology based system for the conservation treatment documentation of artworks, International Meeting, Icons: Approaches to Research, Conservation and Ethical Issues, ICOM, Hellenic National Committee, Benaki Museum, Athens 3-7 December 2006. Δ. Λαζίδου, Ε. Σαμολαδά, Μουσείο Βυζαντινού Πολιτισμού, "Βυζάντιο": Ψηφιακή Βάση Δεδομένων, Διεθνές Συνέδριο CIDOC 2008, Ετήσιο Συνέδριο της Διεθνούς Επιτροπής Τεκμηρίωσης της Διεθνούς Επιτροπής Μουσείων (ICOM), Μουσείο Μπενάκη, Αθήνα, 15/9/2008 - 18/9/2008.

¹³ Σ. Γκιώση, Θ. Μαραγκού, *Μουσειακές Συλλογές, στο: Σεισμοί και αρχαιότητες, Προληπτικά και πρώτα σωστικά μέτρα*, Υπουργείο Πολιτισμού, Γενική Διεύθυνση Αρχαιοτήτων, Διεύθυνση Συντήρησης Αρχαιοτήτων, Αθήνα 2002, 45-72.

alarm system - by removing artifacts from their position, b) automatic command in air conditioning system in order to control the microclimate and preparation of a study about air quality control.

Our Museum is an innovative museum both in its display of objects and in its activities. One of our goals is to organize exhibitions with institutions located both in Greece and abroad. We aim at establishing unique events promoting not only scholarly research, but also the dissemination of knowledge to a wider public. The Museum's overall work involves a variety of subjects related to the Byzantine and Post-Byzantine culture, the mutual influences between Orthodox and non-Orthodox peoples within the ecumenical Byzantine Empire and -last but not least- the role of Thessaloniki as the most important political, economic, intellectual, and artistic centre after Constantinople.

Within our temporary exhibition "The veneration of Saint Mamas in the Mediterranean: A traveler border defender saint", participating thus in the events of Thessaloniki's 4th Biennale of Contemporary Art, realized within the framework of the "5 Museums' Movement in Thessaloniki" (5M), we collaborated with the Greek Institute of Holography in a pilot program for the production of analog holograms-exhibits of selected objects from the above mentioned temporary exhibition and of our permanent one. The technique of holography offers the most realistic and believable way to reflect a three-dimensional object. The analog holograms created by the Greek Institute of Holography capture and then represent the exact light wave reflecting the surface of an object. Result of this recording is the hologram which illuminated with a suitable way, reproduces an exact copy - dimensional image of the object.

Our overall goal is to make the museum an appealing destination for all ages, taking into consideration the public's interests and regardless of their level of education, **a museum accessible, centered to the human being**¹⁴. We seek to integrate the museum within the city's cultural life, organizing literary and artistic events, conferences and workshops with modern themes related to culture. Our collaborators are mainly museums, institutions and organizations in Thessaloniki, but we also reinforce our collaborations with various institutions from abroad.

Through the support we receive from the Association of Friends of the Museum, through collaborations, sponsoring and above all through our passion to promote our culture, the Museum of Byzantine Culture remains active, as a healthy public service in a period of crisis¹⁵.

¹⁴ J. Dodd, - R. Sandell, *Building Bridges: Guidance on Developing Audiences*, London 1998 · Δ. Κωνσταντίος, Η πρόκληση των Μουσείων στον 21ο αιώνα, *Πρακτικά 4ου Συνεδρίου, Το μέλλον του παρελθόντος μας, Ανιχνεύοντας τις προοπτικές της Αρχαιολογικής Υπηρεσίας*, Αθήνα 24-26 Νοεμβρίου 2000, Σύλλογος Ελλήνων Αρχαιολόγων, Αθήνα 2002, 174-176 · Μ. Οικονόμου, *Μουσεία: Αποθήκη ή ζωντανός οργανισμός*, Αθήνα 2003 · G. Black, *The engaging Museum, Developing Museums for visitor involvement*, London 2006 · E. Coxall, Open minds: Inclusive Practise. In : *Genowski, H.H. (ed.), Museum Philosophy for the 21st Century*, Altapira Press 2007 · X. Χάιτας - Β. Ιωαννίδη, Προς μια δια βίου εκπαίδευση ειδικών ομάδων πληθυσμού στο πλαίσιο του μουσείου: Σύνδεση και κατάργηση ορίων. Το παράδειγμα των ανήλικων παραβατών, *Πρακτικά Πανελληνίου Επιστημονικού Συνεδρίου με Διεθνή Συμμετοχή με θέμα: Δια βίου μάθηση για την ανάπτυξη, την απασχόληση και την κοινωνική συνοχή*, Βόλος, 31 Μαρτίου - 2 Απριλίου, Αθήνα, Ιούλιος 2008, 341-347.

¹⁵ Agathoniki Tsilipakou, Museum of Byzantine Culture Thessaloniki, Culture Management, *Galata Greek School Workshops, Voids in the City, Exploring Vacancy and Re-use: Galata Greek School, Greek School Colloquium - Programme, Culture management and re-programming, Galata Greek School Foundation, Netherlands Architecture Institute, 19 November 2012, Istanbul* Αγαθονίκη Τσιλιπάκου, Η δράση ενός δημόσιου ελληνικού Μουσείου την περίοδο της κρίσης. Το έργο του Μουσείου Βυζαντινού Πολιτισμού το έτος 2012, *Το Αρχαιολογικό Έργο στη Μακεδονία και Θράκη, ΚΣΤ' Επιστημονική Συνάντηση, Θεσσαλονίκη*, 20-22 Μαρτίου 2013.

