Communication of Cultural Heritage in Museum Environments

the challenges of the digital era

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The museum of the past must be set aside, reconstructed, transformed from a century of bric-a-brac into a nursery of living thought.

George Brown Goode, 1989
Some basic premises

- Museums deal with constructed experiences of objects; they
  - are *social spaces for knowledge transfer* through communication strategies.
    - which should involve *digital tools as cognitive technologies* for knowledge acquisition.
- Museums should be visitors oriented; as such,
  - engage the visitor by providing stimulating material which can be processed in a meaningful way, through all its senses (not only the visual one).
  - And allowing for its imagination to creatively and intelligently piece together the pieces of a particular narrative.
Actors in Action

cultural determinism, gender, marxism, structuralism, modernism...

art historians
philosophers

archaeologists
historians

museologists
architects

utilitarian

art
objects

architecture

cultural background
interests

knowledge

Each unique

visitors

Communication strategy

de-contextualized
context depend meaning

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A successful communication strategy

- Museums should act as "enablers" to the past, intellectually accessible and culturally relevant to their audience, despite social or ethnic background.
  - In order to include, rather than exclude, vast numbers of the population

- Relying on the ability to construct images, convey information, and engage the visitor
  - who will, through the mediation of technology, interact with each other and create the “social space of learning”.
Towards a successful communication strategy

- Exhibition are based on the formulation of an idea (of the curator), its information and its communication potential.
  - The interpretation (of CH objects) is the connecting mechanism between the visitor, the objects and curator's idea.

- A success factor is the amount and quality of knowledge acquired by visitors (non - measurable)
The triumvirate

of museum
A historiographic perspective
Deprived from their “past history”
Generalized as “exhibited stuff”

CH Objects

communication strategies

The communication idea

information

communication potential

Digital CH specialists

specialists

Lack intentional learning process
Largely IST illiterate

Technological determinism

Situated knowledge independent

Ignorant of visitors' needs
CH scientific narratives
Largely IST illiterate

IST specialists
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TO IST OR NOT TO IST
THAT IS THE QUESTION
IST in Action

- facilitate the recall of ideas
- support social narratives and contextuality
- enhance visitors experience (alternative paths to meaning making)
- provide educational scaffolding tools
- built personal links
  - inter-connect different facets of the artefact
- deconstruct curator’s point of view
  - hidden versus chosen to be displayed
- visualize new relationships
  - support different scientific “paradigms”
  - encourage the dialogue

Factors that affect the plan for a successful IST communication strategy in CH

- Traditional and contemporary museum needs
- Various types of the objectified concept of “visitor”
- ICT potentials perceived as architectures of activities
- Theoretical approaches for the interpretation of CH

Types of applications (either autonomous, web-based or ubiquitous)

- Hypertext
- Hypermedia
- Multimedia (including software, relational databases etc)
- GIS applications
- Interactive exhibitions (including digital video, digital animation etc)
- 3-D visualizations
Knowledge transfer and cognitive technologies

- Human beings are able to manage a limited number of concepts in their short-term memory.
  - Implication: how to choose the “right” concepts to trigger the process of long-term comprehension.

- IST as (digital) cognitive technologies for the activation of a process of knowledge construction by the visitor.
  - which will advance a meaningful engagement with the collection, and
  - will provide context to enrich the informational content of a museum experience
Possible consequences

- Instead of a passive passer-by, the visitor is stimulated to actively be involved to create his/her narrative regarding the exhibited objects, based on the information provided.
  - by choosing the “right” symbols which would form the “mimesis” between the visitor and objects.
  - and switching the attention from the objects to their embedded narratives

- Democratization of Cultural Heritage

- Knowledge for the masses
A framework for an ICT representation of tangible cultural heritage in museum environments

- IST potentials
- Affordances/constraints
- Communication strategy
- Museum's needs
- Visitor's needs
- Content-design based on scientific "paradigms"
- Learning outcomes
- Multi-facets of CH exhibits
- Cultural Heritage content

Time as a factor that can affect or transform the viability and quality of a CH ICT application. It is not an achronous framework.
Conditions that mediate services in a museum environment

**Socio-cultural**
- Cultural identification
- Conversation and story building
- Variation of stimulus
- Social interaction

**Cognitive**
- The creation of mindful activity
- Involvement and engagement
- Inner reflection and imagination
- Variation of stimulus to create a meaningful whole
- Perceived authenticity

**Psychological orientation**
- Scene setters
- Routeing and mapping

Interactive Storytelling (Brighton Fish Museum)

Virtual Humans

Semantic browsing of 3D artifacts

CityEngine

MAD

EPOCH Viewer

Smart museum tool chain
Case – study
Trajan's forum

- Aim: let visitors comprehend the history of research and its main research streams regarding Trajan's forum.
  - By creating a 3D modelling environment where visitors will
    - explore various reconstruction hypotheses
    - create their own interpretation on the “facts”
    - experience the forum as a “Roman social space”
An EPOCH tool – chain for Trajan’s forum project

- Digital acquisition of architectonic details
  - 3D WebService
- Data base and semantic query
  - MAD - SAD
- Interpretation
  - PhotoCloud MeshLab City Engine
- Building application – EPOCH viewer
- Interactive story – telling –
  - Brighton Fish museum experience
  - Virtual Humans
Challenges of the digital era

- Train Digital CH specialists
  - Develop and evaluate the potential of new technologies for CH
    - For an evolving Knowledge Society
- Define new paradigms of museum knowledge transfer
  - Taking into account innovative technologies
    - Addressed to as “digital cognitive technologies”
Thank you for the audience

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