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Representing and creating surrogates of heritage objects: the attributive function of curatorial work in digital collections

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Representing and creating of surrogates of heritage objects

SUMMARY

- 1. Introduction**
- 2. Publishing digital heritage collections over the web**
- 3. Analysis of the representation and creation of digital surrogates of heritage objects**
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1. Introduction

- Digital heritage collections are becoming more widely available online.
- **Problem:** What is the nature of the descriptive properties (metadata) attributed to digital heritage objects?
- **Objective:** To analyse the process of representing and creating digital surrogates of heritage objects (metadata records) within the context of curating digital heritage collections published on the web
- **Methodology:** two theoretical frameworks: - Peirce's Semiotic; and - Formal Ontology and Searle's ontology on the construction of social reality.

2. Publishing digital heritage collections over the web

Digital heritage objects published on the web constitute a new collection, which demands special theoretical framework for curatorial practice

Digital heritage collections have educational, cultural and citizenship potential; epistemic objects (Tybjerg 2017, 270) , Digital Humanities, (Padilla and Higgins 2014, 324-326; Terras 2022, 255-257)

LOD technologies increased the possibilities of direct access through PID, regardless of the provenance institution, interlinking digital heritage objects; 3D image technologies enable DHO be rotated to be seen from different angles, zoomed in and out. Such digital twins provide an even richer experience with additional functionalities for user than the direct observation of the object in a heritage institution (Niccolucci, Felicetti and Hermon 2022).

2. Publishing digital heritage collections on the web

The attributive function of the assignment of keywords and access points - metadata - in digital collections is becoming increasingly automated; semantic enrichment (Zeng 2019), (Europeana pro).

The web is a disintermediated environment.

DHO must provide users with as much rich contextual and interpretative information as possible.

Attributes (metadata) assigned to a DHO create potential access point and adds contextual and interpretative information.

3. Analysis of the representation and creation of digital surrogates of heritage objects

Representation is a cognitive activity that characterizes humanity

Creating digital surrogates is a complex task, a complex curatorial process.

How can the attributing of metadata to heritage objects be explained considering Semiotic, Formal Ontology and Searle's Ontology of Social Reality theories?

3.1. Theoretical frameworks - the Pierce's semiotics of representation

Represent is: “To stand for, that is, to be in such a relation to another that for certain purposes it is treated by some mind as if it were that other.” (Peirce 1931-1958, CP 2.273, p. 276).

“A sign, or Representamen, is a **First** which stands in such a genuine triadic relation to a **Second**, called its Object, as to be capable of determining a **Third**, called its Interpretant, to assume the same triadic relation to its Object in which it stands itself to the same Object.” (Peirce 1931-1958, CP 2.274, 276)

Representation is a **process—semiosis**—that involves a **triadic relationship** between three elements: a **representamen** takes the place of, or substitutes for, an **object**, affecting an interpreter and creating in he/she/it an **interpretant** as if it were that object itself.

3.1. Theoretical frameworks - the Pierce's semiotics of representation

The **limitations of the sign** and even of the process of representation, inherent to the **agents** involved in and **the context**: the **sender** of a sign to represent a given object in a given circumstance, and the **receiver** of this sign, also in a **given context**.

Representation has another aspect, the **intentionality** of the one who represents when creating the representation, i.e., **the effect of meaning the sender of a message wants to create in the receiver of the message**.

In communication contexts (Eco 2007), **representation** is an **intentional process of creating a message, a representation**

The **representation, the message, is a communicative artifact**, a cognitive tool, intentionally created to represent, replace, stand in for another

3.2. Ontological analysis and representation of heritage objects

Ontological analysis, OntoClean methodology, four metaproperties of unary properties, Identity, Unity, Rigidity, Dependence, Guarino and Welty (2000; 2009)

Such metaproperties – sortal-type properties - are used to organize taxonomies in ontologies.

Sortal-type properties define identity and existential (in)dependence criteria, are **essential properties**. They are observer-independent (Searle 2006), inherent to the object.

Searle (2006), the construction of social reality: things that exist by virtue of social conventions, ex: cultural values. e.g., artistic styles, movements, historical periods

(Digital) Heritage Objects are culturally constructed

4. Results and discussion

Descriptive properties (metadata) assigned to a DHO can be classified:

- **Ontological properties**, define the essence of the heritage object, e.g., **material**
- **Properties that are essence-consequences** (Dalhberg), e.g., **durability**
- **Descriptive properties** that constitute the result of the life span of the heritage object, e.g., **conservation, inscriptions, E10 Transfer of Custody** (CIDOC CRM),
- **Descriptive properties that are cultural values**, that constitute the **cultural context**, e.g., **style, artistic movement, historical period, technique**
- **Subject-related or contextual properties**

All such properties can be access points in IRS/Web environments

4. Results and discussion

The creation of surrogates within catalogs to provide access to library collections is a topic of interest in LIS/KO/IRS

Documents (Briet 2006) are semiotic objects, aimed to transmit messages

Heritage objects have properties that go beyond essential, ontological properties.

Based on museological research and on the institution's collection policy, **curators attribute metadata**, thus complementing the very nature of an object as a document, as a heritage object, as a DHO (metadata record)

Heritage objects and their corresponding **DHO can induce semiosis**, the **interpretants** of such semiosis are **contextual/cultural** broad information - **metadata** - attributed by **curators** as additional **access-points** and to **users** to gain a general and **context-rich understanding of the heritage object**.

5. Final remarks

Digital Heritage Objects (metadata records) are communicative artefacts aimed at transmitting messages between the sender (the curator, the heritage institution) and the receiver, the user browsing the Web

Digital Heritage Objects are sets of signs - descriptive metadata, images, sound, 3D, etc

Such signs are aimed to provide the user with rich cultural and contextual information, and access-points to retrieve the complete metadata record and more complex signs of the object, as images, 3D images, etc.

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