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The social dimension of Knowledge Organization and Representation: a domain analysis of the inventory of the Museo di Scienze Archeologiche and d'Arte of the Università Degli Studi di Padova.

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Abstract

The guiding question of this study is: how do the characteristics of the social dimension of Knowledge Organization and Representation present themselves in products derived from Museological Documentation? The objective is to reflect theoretically on the inventory of the *Museo di Scienze Archeologiche and d'Arte* at the *Università di Padova*, Italy, to understand it as a documentary product that can reveal processes of Knowledge Organization and Representation linked to specific social contexts. Domain Analysis was the method and approach defined for the execution of this research, following the methodological framework based on Freitas and Albuquerque (2017). The research is justified by the possibility of discussing, in theoretical and methodological terms, the elements that characterize the semantic structures of documentary products used in museological documentation, as well as understanding how such instruments are structured and presented to their users.

1.0 Introduction

This work is based on an approach centered on the social dimension of Knowledge Organization and Representation (KO&R) within the scope of Information Science. Therefore, it seeks to understand how the classification systems, conceptual schemes, and standards used to organize knowledge and information are influenced by the social, historical, and institutional conditions in which they are produced and applied.

As Barité (2001) states, information schemes and systems are embedded in "social knowledge situations"; that is, they do not exist in isolation but are developed, used, and interpreted within specific social contexts. This perspective allows for the recognition that modes of organizing knowledge reflect social practices, collective and historical interests, as well as disputes in the material and symbolic fields over what should be known, represented, and valued (Albuquerque & Crippa, 2026).

This orientation can be understood as the foundation of a social perspective on KO&R or a way of understanding the processes of knowledge and information organization and representation through the cultural, political, symbolic, and linguistic influences that permeate them. It involves a set of theoretical and applied assumptions that seek to problematize the choices involved in knowledge organization and representation across different environments, recognizing that these choices are neither neutral nor universal (Albuquerque & Crippa, 2026).

In this sense, the museum constitutes a living informational environment, in a constant process of updating and expanding its collection; based on material culture which forms the fundamental core of the process of acquisition, collection building, and selection narratives, as well as cultural and social identities, will be constructed (Bittencourt, 1989).

The museological objects, understood as documents, represent manifestations of human activity or natural records. Displaced from their original context, they become valuable testimonies that allow for readings in other interpretive keys, serving as sources of knowledge. According to Ferrez (1994), museums are essentially informational institutions, as their objects function as carriers and transmitters of meanings, and when studied, they enable the production of new interpretations and knowledge.

Thus, museological documentation corresponds to the systematization and recording of information regarding the collection's objects. It involves a set of procedures, methods, and instruments used to organize, manage, and facilitate access to information within museums, based on activities such as classification, cataloging, as well as descriptive and thematic analysis. According to Barbuy (2008), museological documentation “constitutes a broad information base that feeds research and curatorial actions, both internal and external, and is renewed by studies conducted on or from the collection” (p. 37).

As a result of this process, documentary products such as inventories, accession registers, catalogs, indexes, and databases stand out, as they materialize the decisions related to the organization and representation of museological knowledge and information. These products do not merely record information about the objects; they also express conceptual, terminological, and classificatory choices that reflect the social and institutional context in which they are produced (Nascimento, 1998; Brito, Campos and Costa, 2000; Yassuda, 2009).

In view of the above, the guiding question of this study is: how do the characteristics of the social dimension of Knowledge Organization and Representation present themselves in products derived from Museological Documentation?

The objective is to reflect theoretically on the inventory of the *Museo di Scienze Archeologiche and d'Arte* at the *Università di Padova*, Italy, so as to

understand it as a documentary product that can reveal processes of Knowledge Organization and Representation linked to specific social contexts.

The research is justified by the possibility of discussing, in theoretical and methodological terms, the elements that characterize the semantic structures of documentary products used in museological documentation, as well as understanding how such instruments are structured and presented to their users.

In this sense, the relevance of the topic lies in its potential to broaden the understanding of how documentary products reflect and express social dimensions present in organization and representation processes. This contributes to discussions concerning the construction and application of controlled vocabularies, subject heading lists, and thesauri within the scope of Knowledge Organization and Representation, considering the historical time, discourse community, and context in which they were produced and disseminated to users.

2.0 Methodology and application of the methodological framework

Domain Analysis was adopted as the theoretical-methodological approach guiding this research, as it seeks to understand a specific informational context by examining the communication patterns, knowledge structures, and relevance criteria established within a given community. This approach is grounded in the concept of discourse communities, which are groups of individuals united by shared goals, specialized language, and common practices and bodies of knowledge. Swales (1990) defines discourse communities as highly specialized groups that employ a specific technical vocabulary and communicate through their own established channels.As Dias (2015) explains, discourse communities are social constructions composed of individuals with shared cultural, social, and historical dimensions. Furthermore, Amorim and Café (2016) state that they form the basis for understanding documentary discourses, as they produce, process, and provide information within representation and retrieval system.

Hjørland (2002) proposes eleven approaches that can be used to analyze specific domains, demonstrating the diversity of strategies available for studying and structuring knowledge domains and providing a foundation for the development of more effective information systems. These approaches are characterized as follows: (1) production of literature guides; (2) production of special classifications; (3) indexing and information retrieval research in specialized domains; (4) empirical user studies in different fields; (5) bibliometric studies; (6) historical studies of information exchange; (7) document and genre studies; (8) epistemological and critical studies; (9) terminology studies, Languages for Special Purposes (LSP), and discourse studies; (10) studies of structures and institutions in scholarly communication; and (11) domain analysis in professional cognition and artificial intelligence.

Although these eleven approaches can be applied independently, combining two or more approaches within the same domain may provide a more

comprehensive and coherent understanding of its underlying dynamics.

For the planning and identification of the inventory of the *Museo di Scienze Archeologiche e d'Arte* at the *Università di Padova*, Italy, an adaptation of the methodological framework developed by Freitas and Albuquerque (2017) was followed. In its original model, this proposal is based on Domain Analysis for the development of archival classification schemes. It was found that the framework provides support and was utilized following its original stages: discourse community analysis, documentary analysis, and the characterization of museological documentation.

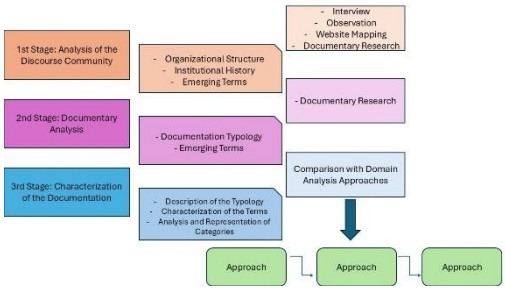

Figure 1. Methodological framework based on Freitas & Albuquerque (2017)

As can be observed in Figure 1, the methodological framework demonstrates the stages of the process in line with the approaches proposed by Hjørland (2002).

The methodological framework begins with the first stage, in which the principles of Domain Analysis are operationalized through the discourse community approach. This stage focuses on examining the organizational structure, the institution's history, and emerging terms by employing techniques such as interviews, observation, website mapping, and documentary research.

In the second stage, documentary analysis, the process is based on the typology of the documentation or on emerging terms to carry out the documentary research technique.

In the third stage, characterization of museological documentation, the process is based on the description of typology, the characterization of terms, or the analysis and representation of categories, so that the comparison with Domain Analysis approaches is developed discursively, considering the entire process.

The investigation and data collection were conducted through a technical visit to the Università di Padova, where the existence of 6 (six) inventories was verified. All of them were produced in the 20th century and are handwritten, divided into the following periods: 1903-1912, 1912-1921, 1921-1924, 1925-1930, 1932-1938, and 1938-1946. The inventory selected for this analysis was the one from 1932-1938, specifically focusing on the year 1932.



Figure 2. Analyzed inventory. Photograph by the authors.

The following section presents some characteristics of the Museological Documentation and the discussions developed according to the elements of the framework, considering the information collected.

3.0 Aspects of Museological Documentation

The historical origin of museological documentation dates to Antiquity and the Middle Ages when inventories were used as a means of control and record-keeping for collections. Marín Torres (2002) highlights that, in the context of private collecting especially during the 15th and 16th centuries registration books contained meticulous descriptions, such as the date of entry and object attributes, enabling their identification and, subsequently, the reconstruction of the original collections.

According to Marín Torres (2002), the evolution of museological documentation also reflects changes in how societies understand the world. The criteria for selection, ordering, and exhibition applied to objects and their catalogs express distinct epistemological principles and historical transformations in the forms of classification.

Catalogs, inventories, accession registers, and digital databases are concrete examples of documentary products derived from information processing in museums. Cerávolo and Tálamo (2007) observe that, throughout history, such records were produced by scholars and specialists who possessed deep knowledge of their collections, demonstrating that informational curatorship requires specialized expertise.

The systematization of information in documentary products resulting from Museological Documentation processes enables the generation of new knowledge and the articulation between various museum sectors.

The Museological Documentation process, therefore, involves an interdisciplinary team composed of museologists, curators, historians, conservators, and librarians, who contribute distinct perspectives and expertise to ensure the completeness of the recorded information (Yassuda, 2009).

The museological documentary processing, when guided by appropriate standards and consistent tools, ensures that museological objects are not only physically preserved but also informationally represented in an accessible, contextualized, and scientific manner, thus consolidating the social and educational function of museums.

4.0 Analysis and discussion of results

The analysis and discussion of the results were structured around the three stages of the methodological framework, as follows:

Stage 1: Concerning the discourse community analysis

For the first stage, the organizational structure and the institution's history were examined, and the terms that emerged through observation techniques and documentary research were observed.

The first stage of the analysis focused on identifying the discourse community responsible for the production and use of museological documentation within the context of the *Museo di Scienze Archeologiche and d'Arte* at the *Università di Padova*. For this stage, the Domain Analysis approach that best aligned with the analysis was Approach 10, relating to the study of structures and scientific communities. This approach allows for the understanding of knowledge domains based on the institutions, groups of specialists, and scientific practices that produce and use specific information systems. According to Guimarães (2014, p. 18), "in a broader dimension, the study of the structures and institutions of scientific communication allows for a better understanding of the main actors and institutions according to the internal division of labor within the domain".

The observation of the institutional structure of the university's museum system revealed that the museum is integrated into the Centro di Ateneo per i Musei (CAM), which is responsible for the coordination and management of the institution's museological collections. The museum formally began to integrate into the university structure at the end of the 19th century, when the Institute and Museum of Anthropology was established, linked to the university's scientific and didactic activities (Salvadori, 2024). This structure highlights that the analyzed inventory was produced within a university scientific community composed of archaeologists, anthropologists, and historians at the beginning of the 20th century, as well as curators and technicians responsible for collection management. It is important to emphasize the historical period in which the inventory was produced.

According to Tomasella (2024), it was long asserted that Italian museography during the Fascist years did not keep pace with the transformations and innovations occurring in Europe, and that the regime was far more interested in organizing temporary exhibitions with a strong propagandistic character than in modernizing museums. However, the author highlights the commitment and internationalization of museum directors in connecting with scientific developments in other countries. Thus, the processes of recording and organizing information about collection objects cannot be understood in isolation; they must be interpreted considering the academic and scientific practices that characterize this community.

In this context, the analysis allowed for the identification of five institutional dimensions that guided the museum's documentary practices: administrative, scientific, technical-documentary, communicational, and

pedagogical. These dimensions indicate that the documentary instruments are structured to simultaneously meet the demands of collection management, the needs of scientific research, and the educational and cultural functions of the institution.

In this way, the organization and representation of knowledge observed in the inventory directly reflect the priorities and values of the scientific community of that time, which was responsible for its creation. This highlights that museological documentary products are socially constructed within specific institutional contexts.

Stage 2: Concerning Documentary Analysis

The second stage of the analysis focused on the investigation of the selected inventory as a historical and scientific document, considering its composition, its registration criteria, and the types of objects described. For this stage, the analysis engages primarily with two Domain Analysis approaches proposed by Hjørland: 6 (six), which refers to historical studies, and 7 (seven), which refers to document and genre studies.

The historical studies approach, according to Guimarães (2014), is also directed toward epistemological and critical studies, analyzing knowledge domains based on their construction trajectory and theoretical and methodological foundations, while also considering the dialogues that can be established with other fields of knowledge.

In this way, approach 6 (six) allows for the understanding of the inventory as a product of a specific period of scientific production, marked by the development of physical anthropology and archaeology in the early 20th century. In this context, the records present in the inventory reveal a scientific interest focused on the classification of human diversity through biological and anthropometric criteria. The presence of materials such as skulls, human remains, and traces from archaeological excavations, marked in the inventory itself, highlights the influence of anthropological research practices of the time, which sought to document and compare the physical characteristics of different populations.

With approach 7 (seven), the emphasis is on the analysis of the documentary typologies characteristic of a given domain, seeking to understand how concepts are articulated and materialized in the different types of documents produced throughout the tradition of that domain (Guimarães, 2014). Therefore, the analysis of the inventory as a documentary type allows for the observation of the ways in which specific scientific communities produce and use types of documents to record and communicate knowledge. Thus, the inventory can be understood as a documentary genre characteristic of Museological Documentation, structured to systematically record information about the collection's objects, such as identification, provenance, and material characteristics.

In this sense, Ballardo (2022) explains that Museological Documentation is not

limited to the informational recording of objects and their technical description. When considering the contexts in which the objects were produced, used, and preserved, broader dimensions involving systems of associated values, symbols, and meanings come into play (Nascimento, 1998).
It is understood that just as relevant as the objects themselves are the relationships established between the subjects who created and used them, the connections of these subjects with the objects, and furthermore, the relationships that the objects themselves establish with one another (Ballardo, 2022).
These relationships are not restricted to descriptive aspects, such as the spaces in which the objects circulated, the individuals who interacted with them, or the historical moments they witnessed. The Museological Documentation also seeks to record, more coherently, the traces of human presence over time, enabling these records to contribute to the understanding of human experiences and to broader reflections on human existence itself (Nascimento, 1998; Ballardo, 2022).

The 1932 inventory includes records of various Egyptian objects, a fact explained by Menegazzi and Zara (2024). They report that the acquisitions made within the scope of excavation and research activities in Egypt between 1930 and 1936 brought a series of artifacts intended for research and teaching activities. These were predominantly recovered during excavations carried out by explorer teams and acquired in antiquarian markets during the period of the Italian Archaeological Mission in Egypt.

Thus, the documentary analysis highlights that the inventory is not merely a technical instrument for heritage registration, but also a document that expresses the scientific modes and documentary practices of its time. Therefore, the criteria for selection, description, and organization reflect the modes of production of anthropological and archaeological knowledge within the historical context in which the document was created.

Stage 3: Concerning the characterization of documentation

The organization of information in the inventory involves terminological and classificatory decisions that structure the informational representation of museological objects. In this sense, the analysis was conducted considering approach 9 (nine), terminological and discourse studies, which, in each domain, serve to analyze how concepts are named and how words, texts, and statements are organized according to semantic and pragmatic criteria (Guimarães, 2014). To complement this, approach 10 (ten), historical studies, was also considered.

Regarding classificatory decisions, one can cite the use of thesauri for standardization to clearly represent the museum's universe and collection (Padilha, 2014). These decisions include the choice of description categories, the definition of relevant attributes for recording, and the organization of data into a documentary structure that enables the identification of and access to information about the collection. This allows the inventory to be understood

as a product of museological documentation that utilizes a specialized documentary language to represent objects and their meanings within the institution's scientific context.

In terms of terminological decisions, these reflect the scientific paradigms, research interests, and institutional practices that guide museological documentation. Thus, the inventory's semantic structure expresses the ways in which the scientific community responsible for the museum's management understands and organizes knowledge about the objects in its collection. (Albuquerque & Crippa, 2026).

In this way, the characterization of museological documentation allows for the understanding of the inventory as a documentary system that materializes historically situated processes of knowledge organization and representation. This perspective reinforces the understanding that museological documentary products constitute privileged spaces for observing the manifestation of the social dimension of Knowledge Organization and Representation, as they incorporate the scientific, institutional, and cultural conceptions of the communities that produce and use them.

5.0 Conclusions

It is considered that representation is not neutral; it is delimited by strategies aimed at establishing the authority of one group over others. It is important to observe and analyze how representations of cultural and linguistic diversity occur in products that represent knowledge, especially when dealing with historical documents that serve pedagogical purposes.

Based on these points regarding the inventories, one can cite the perspectives that enable an interrelation between Knowledge Organization and Representation (KOR) and its social dimension, when applied to the processes performed for the creation of museum catalogs: classification; ontologies; metadata; digital curatorship; digital humanities; conceptual models; conceptual articulation; and the warrants that guided the semantics of the creation of knowledge organization systems: cultural, literary, scientific, philosophical, and educational warrant.

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