

# Museum libraries: how digitization can enhance the value of the museum<sup>1</sup>

[Bibliotecas de museos: cómo la digitalización puede enriquecer el valor del museo]

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**Abstract:** It is the responsibility of the museum library to enhance the understanding of the museum collection and the role of museum objects as cultural documents. For many reasons, this role is only partially fulfilled, if at all. This is because in practice the library and its museum are insufficiently integrated to perform effectively together. We argue that in a digital world, the library and the museum can and should be re-integrated into a single cultural information system. However, since in practice digitization of the library and the museum follow different paths, museums and their libraries will have to change their thinking about how to proceed.

**Keywords:** museum libraries, museums, digitization.

**Resumen:** Es responsabilidad de la biblioteca de museo mejorar la comprensión de la colección del museo y el rol de los objetos de museo como documentos culturales. Por muchas razones, este rol solo se cumple parcialmente, si es que se cumple. Esto es debido a que en la práctica la biblioteca y el museo no están suficientemente integrados para actuar juntos de manera efectiva. Argumentamos que en un mundo digital, la biblioteca y el museo pueden y deben ser reintegrados en un único sistema de información cultural. Sin embargo, dado que en la práctica la digitalización de la biblioteca y del museo siguen diferentes caminos, los museos y sus bibliotecas tienen que cambiar su pensamiento acerca de cómo proceder.

**Palabras claves:** bibliotecas de museos, museos, digitalización.

## The context of museum libraries: an information system within an information system

Museum libraries are a type of library that has been little discussed in the literature. As we shall argue, however, they play an important role in the functioning of the museum. It is important to understand this role in view of the ongoing digitization of museums.



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A museum is "a depository for collecting and displaying objects having scientific or historical or artistic value" (Wordnet, <http://wordnetweb.princeton.edu>), a place where to find beautiful and interesting things. But the museum is also a special type of information system. Objects held in a museum are documents, i.e. objects collected and stored in order to inform, to provide information about the object itself, the type of object, its context and relationships to other objects (Buckland, 1991 and 1997). From an information science point of view, therefore, museums are very similar to other types of repositories such as libraries (books and other materials for reading and study) and archives (historical records and documents). However, information science has to a large extent neglected museums, possibly due to a restricted notion of the nature of information documents. Books, journals and archival records, even in their digital form, are readily accepted as carriers of information, i.e. as documents. The institutions that provide functions for the collection, storage and access of these documents are generally regarded as information systems in the wider sense, i.e. as the set of human and technical resources, procedures, methods and know-how that together perform one or more specific information functions.

But beautiful and interesting objects in a museum? How are these related to documents in a library or archive? The answer is to be found in the broad notion of 'document' as described by various 20th century European information scientists. Paul Otlet, the founder of the science of documentation, argued that any object can be regarded as a document (i.e. as an object that provides information) if one can obtain information about that object by observing it (Otlet, 1934). Susanne Briët, in her seminal work *What is a library?* published in 1951, added to Otlet's notion the idea that any object can be regarded as a document, provided that it is intended to inform: a document is "any physical or symbolic sign, preserved or recorded, intended to represent, to reconstruct, or to demonstrate a physical or conceptual phenomenon" (Briët, 1951 –translation by Buckland, 1997). Her famous example is that of the antelope. An antelope in the wild is not a document. But an antelope under observation, notably when held in a zoo (or preserved in a museum), is a document because it provides us with information about what an antelope actually is (its appearance, behaviour etc.), and how it differs from other animals.

Any museum object, therefore, whether it be a painting, a Tibetan death mask or a 19th century steam locomotive can be regarded as a document, in the very same sense as a book, journal or archival record. And in the very same sense as libraries and archives, museums can be regarded as information systems for collecting, storing and providing access to information objects.

What is then the role of the museum library, as an information system within an information system? In order to understand the *raison d'être* of the museum library we have to look more closely at the nature of information in its documentary form. How do we in fact obtain information from an object? Information as process begins with the descriptive facts obtained through observation. We may observe a tree and count eighty growth rings. These are the facts or data. From these facts we derive the information (i.e. we now know) that the trunk is eighty years old. However, this information is not derived from the facts alone. We can only do that because we possess background knowledge, the rule or constraint (Devlin, 1991) that age equals number of growth rings. And yet this is not sufficient. The tree may have been felled a hundred years ago and the trunk perfectly conserved. The third element in the information process is context, in this case the relationship between the tree trunk and the original tree. These are the three ingredients of any information process: data, general background knowledge and specific context knowledge.

In the museum, the objects are the data, they provide the facts. But in order to go beyond mere admiration of the object and to understand its meaning, i.e. to derive meaningful information from it, one needs background knowledge (e.g. of artistic periods or certain technologies) and specific contextual knowledge about the object at hand (e.g. by whom, when, where, for what purpose it has been created). Basic descriptive data is usually provided by curators and included in the metadata attached to the object. But providing additional contextual knowledge, and especially general background knowledge, is the function of the museum library. The documents in the library provide general historical, technical, biographical etc. information pertaining to the collection as a whole, as well as information on individual objects in the collection and on the connections between objects. This specific relationship between the library and the museum objects is the main characteristic that differentiates the museum library from many other types of libraries.

In the physical world, the special relationship between the museum and its library is often limited by spatial and organizational constraints. The library as an important component of the museum-as-information-system may not be readily available to museum visitors, and is often only accessible to specialists. What we shall argue in the final section of this paper, is that digitization can and should re-integrate the library into the museum in a way that will enhance the informational value of the museum in important ways.

## Museum libraries in history

There are interesting historical examples of the interrelationship between museums and their libraries. An earlier example of a museum linking its library collections to the exhibits can be found at the Peabody Academy of Science in Salem, Massachusetts, at the end of the 19<sup>th</sup> century.

"At close intervals throughout the entire [museum] collection special colored labels are displayed, calling attention, by title and shelf number, to books in the public library referring to the immediate group; so that a student... need only transcribe on a bit of paper a set of numbers, and present it at the delivery window of the public library, to be provided at once with the books on the special subject desired" (Edward Morse, 1893, in Genoways and Andrei, 2008, p. 168).

This approach, of converging collections for the user (visitor or researcher), would seem a natural solution. After all, museums and libraries are both created as repositories of objects meant to represent the knowledge from around the world, and their complementary collections would suggest a more integrated approach. From the ancient account about the library of Alexandria and its museum, dating back from the 3<sup>rd</sup> century BC, Strabo writes in his *Geography* (from ca. 18 AD) that men of learning could enjoy the royal palaces, the public walk, the botanical gardens, the lecture halls, and the laboratories for scientific studies. Collected objects would serve to support the information process in "a kind of institute of advanced study with many prominent scholars in residence" (Alexander, 1996, p. 6).

Throughout history, there have been multiple projects and efforts to collect universal knowledge. Johann Valentin Andreae's *Christianopolis* (1619), Tomasso Campanella's *City of the Sun* (1623), and Sir Francis Bacon's *New Atlantis* (1627), are examples of Utopian institutions designed for that aim.

A much later Utopian collection is Paul Otlet and Henri La Fontaine's *Mundaneum*, opened in 1910 as encyclopedia of 'universal knowledge'. This Belgian project managed to collect and catalogue an impressive 17 million information documents

from around the world and from various time periods. The collection would be displayed per country and per subject (of general interest) to become a library and museum together, a center of international associations (Rayward, 1998).

In a historic review of museums, McClellan states that "from the Renaissance onward, the museum has been envisioned as a compendium of the world, a microcosm of the macrocosm, and a symbol of a harmonious, well ordered society" and libraries as "elaborate institution for the collection, production, and dissemination of knowledge... [both institutions were believed to belong] at the heart of a perfect society" (McClellan, 2008, p. 16).

Understanding that information could be collected in text documents as well as through other sort of objects, and with the increasing fascination of classifying foreign finds, the collections of curiosities can be seen as a necessary complement for the collection of knowledge. The museum would then complement the library rather than the other way round.

"Collections of curiosities illustrate the appropriation of knowledge with particular clarity" (Burke, 2000, p. 190). Objects hold latent knowledge in that they represent multiple stories and can be used to represent multiple areas of knowledge depending on the given context. This is reflected in the meaning given to a metal spoon, where the same object can represent a different story if presented in an art museum (as fine art, industrial art, or decorative art), a natural history museum (as a metal), or an ethnographic museum (as a tool). The organization of objects within a context has changed in time, so that classifications can be seen as the mirror of our knowledge systems. It is later in the 20<sup>th</sup> century that collections, of museums and libraries, are understood as partial views of information systems, in the words of McClellan (2008, p. 113), where "no collection is ever complete".

### Museum libraries in practice: examples from the Netherlands

There is no single concept of what a museum library should be. They differ from each other as to their origin, the make-up of their collections, the way they are organized and funded, and the nature of their relation to the museum (parent institution). They all share the institutional role of managing acquisition and preservation of supporting materials for the museum collection is, yet the way to go about this differs widely. For instance, museum libraries can function as the archive of the museum by collecting materials about the museum as an institution, or can take an initiating role by collecting materials anticipating interest in a particular subject by staff and the public (e.g. as is done at the Van Abbe museum library in Eindhoven, the Netherlands). Based on a number of cases from the Netherlands, this section will analyze these characteristics (origin, the nature of collections and relationship with the museum) and juxtapose them against the role of the museum and the library in history.

The museum library can emerge, in a sense, from multiple minor collections brought together while the major collections are directed to the museum. For example, the Rijksmuseum library grew from the print collection of Willem V, bought and brought into the Dutch Kingdom in 1806. The collection of prints and books was to support the royal collection of paintings, antiques, artworks and medals, but in 1962 the print collection was separated from the library and incorporated into the museum collection (Koot, 2007 p. 35-51). Historically, print rooms have a close relationship with museum libraries, one generally starting as department of the other. Print rooms and libraries do not collect exactly the same materials yet the borderline can be

difficult to define. Reference books, technical manuals including original prints (i.e. etchings, engravings, lithographs) and emblem books can be housed at the museum print room or at the museum library. This is because the majority of prints between 1470 and 1960 are to be found in bound volumes or in books (Robinson, 2007).

The origin of the museum library is not always recorded. One example is the Stedelijk Museum library appearing in the (museum) institutional yearly report at least 40 years after its first acquisition. The exact date of opening is unknown. Early acquisition (gifts and bought) and loan activities can be surmised from found correspondence (Nijhoff, 2007, p. 113-129). Not surprisingly, museum libraries are not always considered part of the resources to be made available to the public. The Van Abbe museum library, for example, was open to the public by appointment only twenty years after the opening of the museum. The first librarian was hired ten years after that (or thirty years after the opening of the museum) so that the museum library could be made open to the public during regular opening hours (Franssen, 2007, p. 99-111). The Stedelijk Museum library managed to attract large visitor numbers through a magazine collection in the period between 1959 to 1982, later discontinued due to questions regarding appropriateness of the use of the library (Nijhoff, 2007, p. 113-129)

Conversely, the Van Gogh museum library was envisioned from the start as one of the three pillars to shape the institution together with the museum and the Van Gogh archive. The Van Gogh museum library has grown to become an independent research institute about Vincent van Gogh and contemporaries (Vriend, 2007, p. 143-155).

Museum libraries' collections can be made up of books used for research related to the museum subject (i.e. art, iconography, history), related to the activities in the museum (e.g. conservation, restoration), as well as including broader subjects (i.e. art sociology and art politics). Other materials collected include objects (perhaps) found in books, such as prints, maps and drawings, as well as supporting images found in video art, film, and posters. Occasionally, the museum library collects artists' objects, such as personal letters. The Van Gogh Museum Library in Amsterdam is a unique example, having digitized and made available the complete collection of letters to and from Vincent van Gogh, translated and linked to the related art works ([www.vangoghletters.org](http://www.vangoghletters.org)). Exhibition catalogues serve to illustrate objects (particularly objects not available in a digital database), but can also serve as research publications and as document of the activities of the museum. The Stedelijk Museum library has an important exhibit catalogue collection (Nijhoff, 2007). Catalogues and object indexes used to find objects can be used for the dissemination of information, replacing the availability of objects. This was particularly the case in the 16<sup>th</sup> and 17<sup>th</sup> century (Burke, 2000) but catalogues continue to be an important information carrier when the object is not available.

Museum libraries can also collect materials that document the history of the museum as an institution, the building and the collectors linked to the collections. The Van Abbe museum library acquired the legal archive of the museum, after being temporarily separated, made up of the collection, exhibition and management archives. By managing both archive and library collections, the museum library is able to give access to the "whole" story, including primary and secondary sources (Franssen, 2007:99-111).

The collection acquisition strategy followed by museum libraries also differs per institution. Generally, it is the museum that defines the specialization area (e.g. contemporary art, musical instruments) and the museum library that complements that with reference and supporting materials. The selection of works to be placed in

one or other collection (the museum or the museum library) seems to depend on the perceived reference or artistic value of the piece. Objects with artistic value would join the museum collection. Sometimes the museum library has various departments, where the staff museum library contains specialist literature used regularly for research. Such is the case with what is called the "Library at hand" (*Handboekerij*) at the Tropenmuseum, containing only up to date materials essential for current museum policy (all outdated material is transfer to the central museum library). This sub-museum library department is perceived closer to the museum than to the museum library, making its holdings appear as part of the museum collection (Beumer, 2008).

Museum libraries can struggle with an imposed or a changing acquisitions policy, as well as with limited resources directed that give priority to museum rather than library activities. The Van Abbe museum library is a unique example in that it has established an acquisitions policy following certain subject lines but with enough freedom to anticipate staff and public interest (Franssen, 2007, p. 99-111).

The relation between the museum library and its museum is generally that of subordination. Museum library collections are placed second to the object museum collection in the use of resources. For instance, digitization of collections has priority over the library catalogue (Franssen, 2007, p. 99-111). At the same time, the size of the collections is of different magnitude, in part due to the nature of the collections. For example, a museum may hold 3,000 paintings and 3,000 sculptures but the museum library may hold 12,000 drawings and 62,000 prints (Robinson, 2007). The Stedelijk museum holds about 90,000 objects while the museum library holds 170,000 books and exhibit catalogs. The Tropenmuseum holds about 330,000 objects (including photographs, posters, postcards, drawings, books and documents) while the library includes 350,000 monographs, 27,000 maps and 21,000 journal titles (Beumer, 2008; Levi, 2009).

Museum libraries support the work of scientific museum staff giving context to objects, as well as researchers from outside the museum and to other interested museum visitors. The museum library is also often in charge of documentation preservation and many digitization projects (initiated as strategy for preservation) have been organized by museum libraries. The museum library is generally spatially isolated from the museum collection, and often not considered part of the museum experience as such. The Van Abbe museum library is a notable exception as it is physically and conceptually present throughout the museum. After years of being closed, the library reopened in a three level space right by the entrance of the new museum building to offer its collection (considered one of the best in the country for modern and contemporary art) to museum visitors. The library permeates the entire museum with a role of an active production center, physically through a series of activities including library exhibitions as well as conceptually supporting research projects such as the living archive (Franssen, 2007, p. 99-111).

In short, museum libraries are particular information systems inside another information system, the museum. They are flexible and respond to different collection and institutional needs. With a diverse history, policy for acquisition, nature of collections, and relationship to the parent museum institution, the museum library presents unique institutional characteristics. Common to all museum libraries is the overarching role of supporting the museum activities and collections, enhancing the understanding of the objects preserved by the museum, as expertise research center, with leading or in a subordinated position. Looking back in history, the museum library shares the core goal and purpose of other type of libraries and of museums; that of collecting, preserving and providing access to information materials.

## Digitization of collections: objects in context

With the adoption of digital information technology for the management of collections and information, museum libraries and museums are digitizing their collections. Digitization, together with digital publishing, increases the need for context in order to better access museum objects. The museum library plays a key role in providing the various necessary contexts sought by the user (staff, researcher, visitor).

Contextualization of collections has long been perceived as essential for in the understanding of museum objects. This can already be seen from an account referring to the information placed at the exhibit to convey object meaning, in the words of John George Wood:

"Oh! The dullness of museums! Can anything be duller than a collection of coins when viewed by those who are absolutely ignorant of numismatics, know next to nothing of modern and nothing at all of ancient history, and can only appreciate a coin by its intrinsic value. They would perhaps admire a doubloon or a five-guinea piece, but would think very little of a daric" (Wood, 1887 in Genoways and Andrei, 2008, p. 217).

Museum objects have a polysemic nature in that "they possess the potential to be interpreted in a variety of ways... An object's meaning, or indeed its classification, is not self-evident or singular, but is imposed on it" (Cameron and Robinson, 2007, p. 171). Museum objects are collected from a context and stored to later be placed in other contexts and among additional objects. Materials collected can serve as 'time capsules' that can represent an invaluable scientific inventory.

Museums can facilitate the interpretation of objects in a number of different ways. Orna and Pettitt (in Marty & Burton-Jones, 2008, p. 30) make a distinction between objects can be linked to information along a scale of raw data (basic facts i.e. size, name, origin, materials, image), refined data (e.g. keywords, classification codes, tags), and mediated information (narrative or interpretative text). Unfortunately, digitization projects have mainly focused on the raw data and left museum objects in digital databases with only partial keywords and a glaring lack of mediated information. For example, the Tropenmuseum reported in 2007 having a collection of 254,000 objects, all of which are digitally inventoried (raw data), close to half are registered (refined data), and less than 10% are documented (mediated information data). A strategic plan has been devised to increase the level of documentation per object together with an increased connection between all institutional records, including the museum library's collection. This is because digital access is now conceived by the museum in the broader sense, where basic registration (or raw data) is regarded as insufficient. Instead, the user (staff, researcher or visitor) will be able to access the institutional knowledge documented in object descriptions (raw, refined and mediated), (historic) research publications, biographical data, and exhibition development (Beumer, 2008). In this view, access would benefit from a large number of entry points (or links) to the collections, defined by the users' information needs.

The polysemic nature of objects and the increased access to objects based on possible links, illustrate the importance of contextual information provided by the library. With an increased amount of documentation linked to museum objects, and therefore of narrative and interpretative data per object, it will become possible to use the library directly as an access path to the museum collections and vice versa. The distinction between the two information systems would dissolve and evolve into one

single information system. The concept of two collections will no longer distract users who would instead enjoy increased access to both types of collections.

Digitization allows the (virtual) integration of (physically) separated information and objects in collections, even if these objects are from different departments. Digitization would further solve the concern of defining where the collections are to be managed, by the museum or by the museum library, reducing the problematic of the artificial division of collections (e.g. Rembrandt etchings issued as print as distinct from those issued in books).

## Conclusions

Museum collections can best be supported by museum library collections when information can be accessed seamlessly, from one single, unified system that identifies objects in both collections, and allows the user to move from object to context, and vice versa. Digitization should therefore be approached as a converging activity, where information about object and context is brought together within a single system. On the Internet, the distinction between information types has virtually disappeared. Books, articles, reports, images and videos as well as facts and interpretations are interlinked and brought together on the basis of relevance rankings. This greatly enhances the interpretation and understanding of objects and issues for all users, from the inexperienced novice to the highly knowledgeable specialist. The requirement of bringing together in a single information system objects, descriptions, background and contextual information also holds for museums. For many reasons, this principle has in general not been applied in practice, and we have seen many situations where digitization of the museum collection and of the museum library are totally unrelated. The distinction (spatial, managerial and financial) between the museum collection and the library has not done justice to the potential of the museum as a source of knowledge.

Museums need to change their thinking about how to integrate the museum and the library in a digital context. Users have already changed their thinking and expect to access information without having to concern themselves with a multiplicity of sources. It is now up to museums and their libraries to meet that expectation. In short: digitization can serve to re-integrate the museum with its library, to bring together the object and the knowledge about the object, and therefore to enhance both access to and the appreciation of our cultural heritage.

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