Linked Objects: Relational Memory of Design at Barcelona Design Museum

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'Linked Objects' is the title of a project promoted by the Documentation Centre of the Barcelona Design Museum that has two main purposes: to show the objects of the museum's collections in an enhanced consultation environment, and to facilitate access to essential materials in order to promote research. The project is based on the enrichment and establishment of relations between the museum catalogues (bibliographic, archival and objects), as well as on other internal and external documentary sources that allow us to discover and establish new links between designers and works, helping us make decisions in the processes of increasing heritage and opening up new paths to research.

In the first stage, we analysed the processes related to the life cycle of the objects in the product design collection. We studied the way of materialising them taking as a starting point established bibliographic, archival and documentary descriptions. The necessary relationships and enrichment have been created to provide contextual information, seeking a balance between the descriptive tasks and the project's sustainability. Finally, we made a first digital development in order to visualise the results.

[1] Sudjic, D. (27/3/2014), *Live at Southbank Centre: Contemporary Curating, World Thinkers, The Language of Peace. Free Thinking.* BBC Radio 3. http://www.bbc.co.uk/programmes/b03yqt1b (last accessed 14/06/2018).

Introduction

Museums are systems in which objects, their representations and the resources that help interpret and contextualise them shape a set of pieces that are not always sufficiently well assembled (Jones, 2018: 5). The uniqueness of museums devoted to design, whose objective is far removed from that of pure contemplation, adds pressure to these mechanisms.

In such museums it is essential to explore and reveal processes, to show 'how things are made'.[1] The object intrinsically incorporates the idea of process, and with this purpose in mind documentary proof is gathered, more or less deliberately or systematically, to support its referential record.

Museums gradually discover the value of documents that nevertheless seem to be condemned to lead a life separate to those of objects, forming documentary subsystems with a secondary, instrumental function and a physical, technical and technological isolation: different spaces and conditions of conservation, different reference catalogues and specialised work teams and different databases subject to different descriptive traditions, etc.

The progressive digitisation of heritage enables what in the late nineties was almost utopian: the availability of a single access point to a range of materials (Rayward, 1998: 214). In the case of a museum, this would mean facilitating searches throughout the various collections and archives without necessarily having any previous knowledge of their internal organisation or having to resort to different catalogues or search environments. Digital representations of objects and documents free them of the physical characteristics that distinguished them, and the interoperability between databases opens up new paths to establish relationships between different resources (Waibel and Erway, 2009: 323).

The question that remains is whether, by satisfying the 'ideal of universal and democratic access to information' (Robinson, 2014: 211), we have reached the end of the path that leads to meeting the needs and expectations of a broad and diverse community of users or whether, as we have suggested at Barcelona's Design Museum, we are just starting out on the journey.

The Documentation Centre at the Barcelona Design Museum

The Documentation Centre at the Design Museum in Barcelona combines the functions of a specialised library and an archive centre. It was officially opened in April 2014 and brought together the bibliographic, archival and documentary collections of the Museu de les Arts Decoratives, the Museu Tèxtil i d'Indumentària, the Museu de Ceràmica and the Gabinet de les Arts Gràfiques. These collections are complemented by the libraries and archives of private individuals, companies and institutions that over the years have either been donated as gifts or deposited as long-term loans, such as the library of the Barcelona Design Centre (BCD, for its initials in Catalan), the archives of the Association of Industrial Designers at Fostering Arts and Design, or ADI–FAD, (for its Catalan initials), the archives of designers like Miguel Milá, André Ricard and Yves Zimmermann, among others, and of companies such as Vinçon. The centre also compiles monographs, periodical publications and commercial catalogues, and fulfils the main mission of supporting the characteristic functions of the institution, like virtually all museum libraries and archives. However, the expansion to new external audiences is a commitment that, as in other European muse-

ums, is becoming increasingly relevant. In our case, we also address the entire community of students, researchers and workers in the field of design.[2]

Be that as it may, we should not forget the chief objective of the Barcelona Design Museum, and therefore of its documentation centre: the protection, custody and dissemination of design-related heritage (Vélez, 2014: 20–23) in order to promote new knowledge.[3] In this sense, the Documentation Centre has focused on preserving the archives of designers, companies and institutions related to the discipline. We have drawn up a work plan in which we prioritise the inclusion of archives important for furthering knowledge of the discipline, archives that are at risk either because their producers are reaching the end of their careers, because they are about to disappear out of neglect, or because the institutions or private individuals who preserve them can no longer bear that responsibility. To obtain as much information as possible in order to further our knowledge of the objects in the museum's collections is also, of course, of primary importance.

The Uses of Documentation

Documents permit multiple readings of the objects in collections, ranging from the documentation related to the creation and distribution of products to that of the specific objects kept in museums, not to mention the contextual information of a social and cultural nature. All these elements favour research, reflection and new creations.[4]

Archives are key factors in the work of historians and design theoreticians, as starting from these primary sources they are able to develop their research. Documents allow them to discover or compare data, resolve doubts and delve into the knowledge of their producers. For designers, this documentation is a source of inspiration and practical knowledge, in the sense that it enables them to find the answer to similar problems to those they had faced during the development of a design. Hence, the knowledge and study of archives triggers new historical studies, new design theories and even new products.[5]

Yet besides the research, the Documentation Centre of the Barcelona Design Museum has another key objective: dissemination. In order to fulfil both goals, we follow a digital strategy that allows us to provide open access through the Internet, when there are no restrictions derived from applicable law, and to preserve and facilitate access to the documentation we consider more sensitive. With this objective in mind, over the past two years we have digitised 131,911 pages that correspond to the collection of heritage books (650 books) and four archives (Litografía Bastard, Taller Joan Busquets, Antoni Badrinas and Rigalt, Granell i Cia) (La Vanguardia, 2017). All these documents are compiled in a digital repository and can be consulted in catalogues from the museum library and archive, located on its website.[6]

The next objective is to bring the museum's contents closer to citizens, transcending the 'internal' vision of the collections which is more related to their management than to their dissemination. In this way we hope to address the issue of the different types of public—general and specialised—who come into contact with the museum and its contents without necessarily having any previous information regarding its organisation. We feel the need to find a different path that will trigger dialogue between the objects in collections and bibliographic and documentary resources, a new form of gaining access to all these digital contents so that their present and future links can also be registered and thus become genuine tools of knowledge concerning the museum's ob-

[2] Taking information from 2017, 94% of the more than 7,000 in-person enquiries made at the documentary collections of the Design Museum in Barcelona were made by people from outside the institution. *Museu del Disseny de Barcelona (2018). Memòria 2017.* http://ajuntament.barcelona.cat/museudeldisseny/ca/memories-anuals (last accessed 14/06/18).

[3] Other countries like the Netherlands have adopted extensive patrimonial policies, considering that design is an important engine for innovation that bridges the gap between economy and culture. See the article by Tollenaar, A., Meihuizen, J. (2016) 'No Future Without a Past: the Dutch National Design Archive (NDA)', *Journal of Design History.* 29 (3): 287–295.
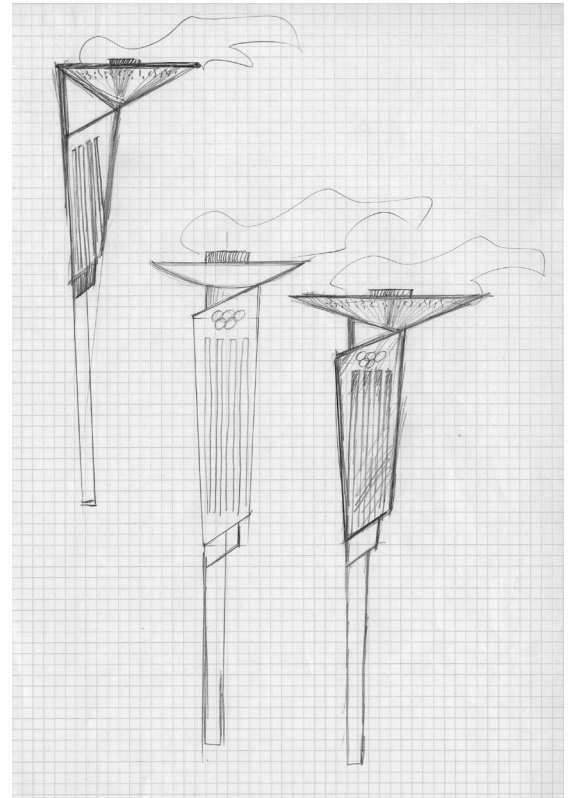

Fig. 1 Sketches of the Barcelona '92 Olympic torch (c. 1990) that reveal the creative process of the object (© Barcelona Design Museum. André Ricard Archive).

[4] One of the main objectives of the Documentation Centre of the Barcelona Design Museum is to publicise the resources preserved in its collection and put them in the service of design research in the sense suggested by authors like Bruce Archer: research about practice, research for the purpose of practice and research through practice.

[5] The articles by Elisabetta Terragni, Louis Snoad and Federico Vacca provide examples of each of these cases. See Snoad, L. (2010). 'Step into the Past'. *Design Week.* 23 (22); Terragni, E. (2012). 'Twist and Shout'. *Abitare,* 527: 38–41; Vacca, F. (2015). 'Knowledge in Memory: Corporate and Museum Archives', Fashion Practice'. *The Journal of Design, Creative Process & the Fashion Industry.* 6 (2): 273–288.

[6] http://ajuntament.barcelona.cat/museudeldisseny/es/centredoc.

jects. The project entitled 'Linked Objects: Relational Memory of Design' was born out of this reflection under the leadership of the museum's Documentation Centre.

Linked Objects: Relational Memory of Design

This project is based on the enrichment and establishment of relations between the main catalogues of the museum (bibliographic, archival and objects) complemented by other documentary sources, both internal and external, that will allow us to create connections, discover gaps and open up new paths for investigation both within and without the museum.

The intention of the project is to ensure that the knowledge acquired during the various processes of documentation and cataloguing of the museum's collections is registered in such a way that makes it reusable, providing the necessary context for a better understanding of some of the objects shaping them. The collaboration between the different teams involved in carrying out this task and establishing links between objects and documents is essential and helps us form the first connections, outlining what could easily become a network of relations thanks to future interactions with internal and external researchers and which could extend to extremes hitherto virtually unimaginable.

In technical terms, 'Linked Objects' is a project designed to integrate data from different catalogues and digital resources through ETL (Extracting, Transforming and Loading) processes. The data are extracted from different sources and then homogenised and enriched in a process based on the CIDOC Conceptual Reference Model (CIDOC CRM), barely interfering in the usual standardised processes of cataloguing contents. This makes it easy to reuse data to respond to the new needs of exploitation. It was also important to normalise the controlled vocabularies so that each object, person or feature received the same name in all places. The correspondences established between names have formed a knowledge base that, in turn, is the element that allows the automation of all the emerging changes and adaptations.

Before developing the project, we gave much thought to choosing the most appropriate way of initiating the process of informative and search enrichment, and which collection or collections will allow us to achieve our aim as best and as quickly as possible. Analysing the different documentary sources at our disposal and the state of their processes of cataloguing and digitization, we realised that product design was the discipline that enabled us to better construct representative narratives of several decades of design, although the compilation and treatment of documentation related to graphic design, interior design, fashion and textile design are among our other objectives. This led us to initially steer the project towards industrial design. After much reflection and a number of tests, we decided we would analyse the objects starting from their life cycle: the different phases of the design process (commission, creation, production), the commercialisation (advertising, fairs, retail outlets and systems) and commercial and social impact (prizes, exhibitions, media exposure, publications, consumption and use). Taking this premise as a starting point, we also managed to generate a product capable of helping construct narratives on design, often unknown or unpublished, and transforming them into indispensable research tools. The project is useful for revising history through objects and their analysis from multiple points of view—ideological (ideas), formal, aesthetic, cultural, technological (technical changes and technological advances)—favouring reflections on how design influences companies (modernisation, changes in work systems), communication, the markets (popular, luxury, exportation), what they reveal about

Fig. 2 Designer Carles Riart assembling one of his items of modular furniture at Sala Vinçon in Barcelona (1974). This photograph would appear in the commercial and social impact phase of the product's life cycle (© Barcelona Design Museum. Carles Riart Archive. Photograph: America Sanchez).

consumers (tastes, modernisation of habits, needs) and, last but not least, the influence of the media and critics on the product and its history.[7]

'Linked Objects' is therefore constructed starting from the object and its life cycle, which we decided to condense into five phases: commission, creative process, manufacture, commercialisation and commercial and social impact. All this information is offered thanks to the different resources kept by the Documentation Centre: archives belonging to designers, companies and institutions; commercial catalogues, specialised bibliography, etc. (BALCELLS and DÍAZ, 2016). Reflecting on these stages, trying to answer questions such as who, why and how a product is created, who manufactured, commercialised or consumed it, we reached the conclusion that in order to improve the dialogue between the collections of objects and documents we needed to reconsider and enhance the descriptions of their individual components, establishing meaningful relations between these.

Thanks to the aggregating quality of this new tool, the addition of few new data in the different catalogues helps establish the most obvious relationships between objects and

[7] Some of these parameters appear in what Anna Calvera has defined as the 'Barcelona Design System'. See CALVERA, A. (Coord.) (2014). *La formació del sistema disseny Barcelona* (1914–2014), *Un camí de modernitat.* Barcelona: Universitat de Barcelona.
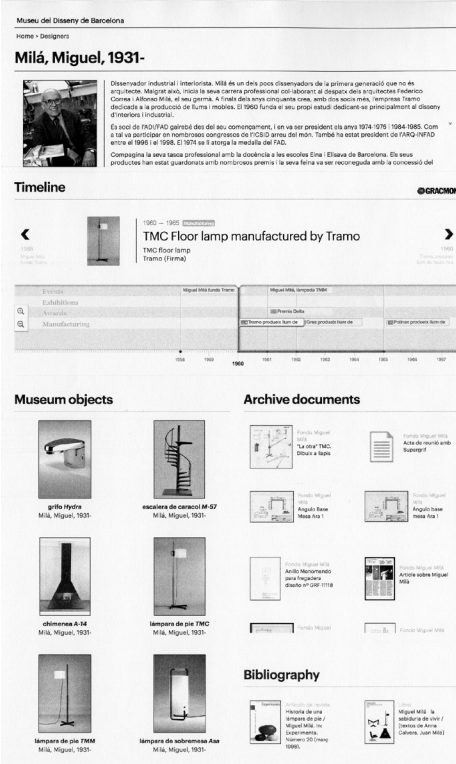
Fig. 3 Screenshot of 'Linked Objects' that gathers all the information about designer Miguel Milá (biography, timeline, objects in the collections, archival and bibliographic documents in the museum) (© Barcelona Design Museum).

documents, but it also favours the emergence of other links that are not so obvious as a result of the different combinatorial possibilities between documents and objects that eventually trigger connections between designers, institutions, etc.

The interoperability of the tool also allows us to add the contents of catalogues or databases generated by other organisations with whom we may reach collaboration agreements. Thus, from the very beginning we have included the chronology of design drawn up a few years ago by GRACMON research group in history of art and design at the University of Barcelona. CronoSDB is an interactive search environment accessible from the research group's website.[8] Once their data are integrated in 'Linked Objects', they strongly encourage researchers to approach the museum's contents and promote their comprehension. This reveals all the events related to a given object or designer, and to all that has taken place in design since the 1950s.

Unlike other relational environments in the spheres of design and archives where links are established by and between design professionals, as in the case of the University of Brighton,[9] the core of our project is objects that bring different narratives to the surface according to the itinerary followed by each user. Despite being in an embryonic stage of the project, these links between objects and documents in the museum's collections have so far been useful for identifying and certifying the authorship of new acquisitions, learning and correcting the dates certain products were made, certifying awards and recognitions, documenting and contextualising objects on display in exhibitions, facilitating documentary material for educational activities, and so on. As a tool of dissemination, the system is designed for surfing and discovering rather than for seeking information and allows users to follow different paths through the museum's contents. Visitors will come across dynamic descriptive files that explain the life cycle of objects based on the descriptions found in archive or bibliographic documents.

A deeper study will lead users to the museum's standardised catalogues (library, archive and object collections), in which researchers can view other similar documents (such as commercial catalogues or magazines) or the entire dossier of a specific object as it appears in the archive of the designer who created it, the company that produced it, the institution that awarded it a prize, the shop that distributed it, etc.

For this first phase we have chosen approximately fifty objects from the product design collection that allow us to survey the most outstanding typologies, decades, designers, companies, prizes, exhibitions and events in the history of our design. This information enables users to choose their own itinerary through the different stages in the life cycle of the chosen product, which are represented by the various documents kept in the documentation centre, such as drawings, plans, photographs, correspondence, briefs, technical reports, commercial catalogues, advertisements, press dossiers or award diplomas. Thanks to the descriptive systems used, the tracking of the documents sheds light on the relations between the object and the different agents involved in its life cycle. So, observing a production plan, for instance, will reveal information about the manufacturing company and lead us to other products in the collection manufactured by the same firm, or other documents concerning the company that can be accessed. Clicking on a manufacturer will show all those documents related to the object and the firm, such as plans, commercial catalogues, photographs, diplomas, etc. On the other hand, when we have no documentary proof of a specific stage in the object's life cycle, either because no such evidence

[8] http://www.ub.edu/gracmon/docs/cronosdb/

[9] In 2015, the University of Brighton, that has an important archival collection gathered from design institutions and professionals, announced the project entitled 'Exploring British Design' (http://exploredesign.archiveshub.ac.uk./) that connects the information from the various archives in its custody in order to reveal the professional ties between designers.

Fig. 4 When we click on the name of one of the manufacturers of the TMC floor lamp, the only documents that appear are those related to this company (© Barcelona Design Museum. Miguel Milá Archive).
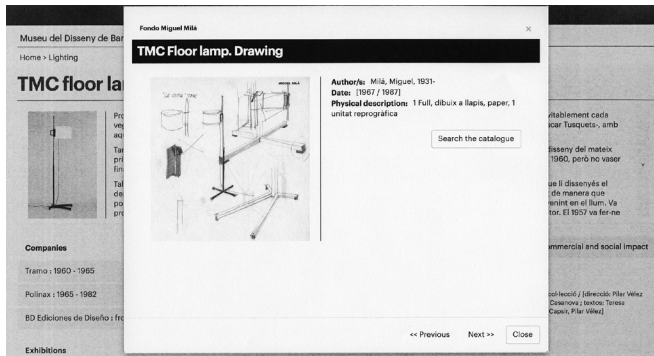
Fig. 5 Description of a sketch for the TMC floor lamp. It provides direct access to the complete catalogue of the designer's archive, revealing all the documents in the report on the TMC lamp (© Barcelona Design Museum. Miguel Milá Archive).

has survived or else it has been impossible to obtain, whenever possible we resort to oral sources, recording statements by the chief exponents who provide the required information. André Ricard, for instance, told us about the commission—or self-commission—of his ice-cube tongs. Entrepreneurs can explain the manufacturing or editing of their products, and users can describe how and why they use them. We have confirmed that such audiovisual content, conveniently indexed and transcribed, can be integrated and combined with other resources, thereby favouring concrete answers to specific questions in the right contexts. For all these reasons, even though the initiative of the project comes from the documentation centre at the Design Museum in Barcelona, a number of designers and companies have offered us their collaboration, providing the maximum information to enable optimal development.

The project, envisaged as an important instrument of communication of the collections, is also a tool for research and discovery. The fact that users can choose their own itineraries through the objects, documents, designers, companies, institutions and events they find more appealing, is an attractive feature that can spark the curiosity and interest of visitors and that of audiences in search of new knowledge, as the number of possible itineraries is endless.

One of our main intentions is that 'Linked Objects' be an important tool for design professionals from all points of view, enabling them to revisit products, designers and companies, i.e., the history of design, but also that it be a source of inspiration for new products, a place for finding solutions and, of course, an indispensable means in design teaching.

Conclusions and Continuity of the Project
From here onwards through 'Linked Objects' we should be able to 'link' and connect with products from other design disciplines (graphic, textile, etc.), and thereby reveal the relationships that have emerged over the years, representing a much more comprehensible reality in which there are no isolated elements. A much more cross-curricular and contextualised vision of design from the city of Barcelona.

With 'Linked Objects', the Documentation Centre of the Barcelona Design Museum furthers the development of the museum's organisational culture that builds bridges between the different professional traditions it contains, in the service of common objectives for disseminating and promoting research and generating new knowledge around design in Barcelona. We have attempted to bring citizens to the museum's contents without dividing them up according to the physical characteristics of the preserved heritage, or to the professional profiles of the authors describing them, yet always showing the utmost respect for the different traditions, professional roles and standardised working methods.[10]

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[10] Translation from Spanish by Josephine Watson.