Dossier temático «Mediación en la información»

Library catalogues and mediation. What role for catalogues in the 21st century?

Catálogos de bibliotecas y mediación. ¿Qué papel pueden desempeñar los catálogos en el siglo XXI?

Catálogos de bibliotecas e mediação. Qual o papel dos catálogos no século XXI?

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Abstract

The paper presents a reflection on the role of catalogues in contemporary reality. The analysis of catalogues as instruments of mediation between library collections and users is carried out starting from the birth of what is considered modern catalographic theory, in the mid-nineteenth century, and then focusing on the consequences of the advent of digital technology on catalogues and their role.

The analysis focuses on some factors considered relevant, such as the increase in information and bibliographic resources, the differentiation of users, the presence of other mediating tools between users and information and resources. Finally, we would like to propose some reflections on the possible positioning of catalogues in the changed digital ecosystem.

Keyword: cataloguing, mediation tools, knowledge organisation

Resumen

El artículo presenta una reflexión sobre el papel de los catálogos en la realidad contemporánea. El análisis de los catálogos como instrumentos de mediación entre los fondos bibliotecarios y los usuarios se realiza partiendo del nacimiento de lo que se considera la teoría catalográfica moderna, a mediados del siglo XIX, para centrarse después en las consecuencias de la llegada de la tecnología digital sobre los catálogos y su papel.

El análisis se centra en algunos factores considerados relevantes, como el aumento de la información y de los recursos bibliográficos, la diferenciación de los usuarios, la presencia de otras herramientas mediadoras entre los usuarios y la información y

los recursos. Por último, se proponen algunas reflexiones sobre el posible posicionamiento de los catálogos en el ecosistema digital transformado

Palabras clave: catalogación, herramientas de mediación, organización del conocimiento

Resumo

O artigo apresenta uma reflexão sobre o papel dos catálogos na realidade contemporânea. A análise dos catálogos como instrumentos de mediação entre os acervos das bibliotecas e os usuários é realizada a partir do nascimento do que se considera a moderna teoria catalográfica, em meados do século XIX, e, em seguida, com foco nas consequências do advento da tecnologia digital sobre os catálogos e seu papel.

A análise se concentra em alguns fatores considerados relevantes, como o aumento das informações e dos recursos bibliográficos, a diferenciação dos usuários, a presença de outras ferramentas de mediação entre os usuários e as informações e os recursos. Por fim, gostaríamos de propor algumas reflexões sobre o possível posicionamento dos catálogos no ecossistema digital alterado.

Palavras-chave: catalogação, ferramentas de mediação, organização do conhecimento

Introduction

Catalogues play a fundamental role as mediating tools between the recorded knowledge stored in library institutions and those who need access to it for various reasons.

An analysis of the role of library catalogues in the 21st century can be approached from different perspectives; here it has been decided to mainly consider catalogues in their role as mediation tools since the mid 19th century, the period in which contemporary theoretical elaboration on catalogues themselves began, with a hint at their evolution in the digital context, in order to arrive at an assessment of the main challenges cataloguing activities have to face in the digital ecosystem, which

is rapidly and continuously evolving, difficult to anticipate, where users' search methods and possible solutions to information needs are still in the making.

Catalogues and cataloguing

In order to address an assessment of the role of catalogues as mediation tools in the 21st century, it is appropriate, first of all, to give a definition of catalogue and cataloguing in order to clarify what the focus of the discourse is. As a starting point we can affirm, in Bianchini's words, that

> cataloguing is therefore the intellectual and technical activity that deals with the symbolic representation of a complex of documents in the form of codified records according to standardised norms and formats in order to set up the catalogue, i.e. the essential information mediation tool between the bibliographic universe and the reader's needs. (Bianchini 2007, p. 373)

Different, in part, is the approach proposed by Joudrey and Taylor (2015, p. 21), who consider cataloguing a subset of the field of information organisation, or bibliographic control: «Cataloging is a subset of a larger field that is called information organization (sometimes referred to as bibliographic control or as organization of information), and it is helpful to view it within that context». One can also approach the subject by considering the differences that exist between bibliography and cataloguing itself: starting with Tanselle's essay (1977), and ending with Serrai's works (1983, 1984, 1997), this approach has helped to define the specificities of cataloguing and to highlight the theoretical bases that should underlie any cataloguing organisation, and that should condition the definitions of the functions and objectives of catalogues themselves. Finally, Patrick Wilson's considerations (1968) can be an interesting cue to examine issues that are often overlooked, and which could be summarised as a qualitative, as well as enumerative and quantitative, function of catalogues. Given these premises, cataloguing is not a mere practical activity, easily performed by anyone, given the appropriate rules of reference, nor is it an activity independent of the historical cultural context in which it is carried out. Cataloguing is therefore first of all a theoretical activity and only later a practical one, whose purpose is to allow access to resources (physical or digital) and the intellectual content they convey, and which must at the same time allow those who use the product of this activity, i.e. catalogues, to be aware of the physical (or digital) and intellectual nature of what they have found during the

catalogue search phase. Cataloguing activities in fact consist of identifying the significant aspects of resources in order to identify and distinguish them from similar resources. In this way, catalogue searchers are able to identify resources, select them, and then access them, regardless of the reasons why they are searching. The amount and type of data that enables this to be done may vary depending on the type of resource being searched.

Catalogues, therefore, as mediating tools, should not be mere juxtapositions of bibliographic records accompanied by the appropriate access points, but structures capable of communicating the organisation of knowledge, whatever it may be, as long as it is culturally grounded, and the methodologies underlying the organisation itself, so as to allow critical use by users. The lack of an organisational structure regarding knowledge penalises not only those who work on the catalogues, preventing them from having a vision of what they are doing, and thus reducing the information potential of the tools thus created, but above all the users, unable to find a more general sense of the individual fragments retrieved, and potentially bewildered by the mass of data and information obtained through searches, within which finding a sense and some form of organisation is difficult, if not almost impossible.

The specificity of cataloguing, therefore, apart from the fact that in a pre-internet era only libraries and a few other institutions were able to provide access to documents and information, and that therefore catalogues were the main information tool for users, scholars in primis, lies in the organisation of information in a logically ordered structure, or so it should be.

Role of catalogues

Library catalogues were the main tools for mediating and organising knowledge until the contemporary age, that is, until the development of the Web and in particular of search engines changed the way of approaching and searching for information. The centrality of the catalogue tool, both in its nominal and systematic form, was challenged by the advent of other tools - mainly search engines - capable of responding to information needs of any kind, in real time, and without the need for special knowledge and skills, apparently. Even before the birth of the Internet

and the subsequent development of other mediation tools, the birth of the documentation discipline partially undermined the cataloguing tool, but did not undermine its predominant role. By this I mean the fact that even when we speak of documentation, we are in any case dealing with instruments of a catalographic type but with a broader documentary coverage, and, in the intentions, capable of responding more rapidly to the information needs of scientific and disciplinary communities that needed more rapid mediation, in line with the equally rapid development of the disciplines themselves. In any case, even with all the limitations that can be identified in library catalogues, they have been the tool to turn to when one had information needs that went beyond what could be called quick reference.

Modern reflection on catalogues and cataloguing (specifically in English) is traced back to the earliest examples of cataloguing norms and the first definitions of catalogue objectives and functions, dating back to the second half of the nineteenth century (with some approximation, since Panizzi's CXI rules predate them), called by Gorman (2000) 'Great tradition'. Although this is one of the possible categorisations of the history of cataloguing, it identifies a key moment of transition from a cataloguing practice without explicit rules to a theoretical reflection on the practice itself and on the need to identify and circumscribe the scope of cataloguing itself.

By way of example, the 19th century debate on catalogues focused above all on the importance of having (inexpensive) printed catalogues and rapid cataloguing. These needs are closely linked to the importance of the catalogue as the main mediation tool, but with an indispensable premise: catalogues were often not freely available to the public and the mediation of librarians was necessary to access resources. This is why the issue of catalogue printing is particularly felt and involves not only professionals in the field but also users (considering that we are talking about libraries destined for a cultured public of scholars, who felt absolutely able to intervene and propose solutions, or at least point out shortcomings and needs). Emblematic in this case is the issue of the printing of the British Museum's catalogue, which saw a wide-ranging discussion witnessed above all by the Reports on the British Museum (1850) and the Public Libraries (1849, 1850), but also interventions in the widely circulated periodical press.

The problem of printed catalogues is not limited to the British Museum; an example of this can be found in the Report on PL of 1849 when it explicitly states that

> 'There is no doubt that every Library should have a printed Catalogue, and that all Catalogues should (as far as possible) be published for general consultation. A man may find great use in a printed Catalogue, without going into a Library. It shows him what he can procure, and where he can procure it'. (Report Public Libraries 1849, p.xii)

The debate of the period in England, moreover, is particularly interesting from a theoretical point of view because for the first time there are questions not only about catalogues and their use, but also about what the role of catalogues should be in the newly created public libraries, as they are, by their nature, intended for a different public than most existing libraries.

The importance of printed catalogues or catalogue-type repertoires continues until the catalogues themselves are put online. The revolutionary significance of the OPAC is not perceptible today, as we have become accustomed (or have been forced to become accustomed) to using the web for many different kinds of activities, but it was an epochal step, the consequences of which were not entirely clear at first, in my opinion. I say this because at the time when the automation of libraries and catalogues exploded, both the creation of catalographic software and often the provision of catalographic services tout court itself were outsourced, and this progressively distanced libraries from technology (libraries essentially do not participate except sporadically in the decision-making processes underlying the software implementations they use), with the result that those who use catalographic tools have no power over their creation and structuring.

The evolution of electronic catalogues has been characterised by changes in search functions as well as data processing, showing a gradual move away from what was traditionally understood as a catalogue. In this sense, three generations of catalogues have been identified: from the first, which essentially reproduced in electronic form the consultation methods found in paper catalogues, to the latest generation, where searches unthinkable in analogue catalogues are possible. Electronic catalogues allow the use of keywords and Boolean operators, allow several indexes to be cross-referenced, filter searches and query parts of the bibliographic description that were previously unsearchable. Furthermore, it is

possible to enrich the traditional bibliographic record with indexes, summaries and full text whenever possible (Weston 2002; Marchitelli, Frigimelica 2012). The evolution also concerned the interfaces, which since the 1990s have gone from being exclusively textual to being graphic interfaces, i.e. those we are used to using and considering 'normal'.

All these changes, together with the emergence of a theoretical elaboration that has led to the creation of conceptual models for describing the bibliographic universe, have also entailed a rethinking of the catalogue's functions, the issuing of new cataloguing regulations and standards capable of actively incorporating the new emerging scenarios (e.g., FRBR, IFLA LRM, ICP, and RDA). The most striking example in this sense is represented by *RDA, Resource Description and Access*, which radically changes the approach to catalographic practice, or to metadata as explicitly stated by the standard itself. In fact, as Oliver states:

> RDA, Resource Description and Access, is an international metadata standard designed to enable the discovery of library and cultural heritage resources in both traditional and linked data environments. It evolved out of the Anglo-American Cataloguing Rules, 2nd edition (AACR2), but RDA is quite different. It presents a new way of thinking about bibliographic data. It is based on a theoretical framework, it is designed as a standard for the digital environment, and it is developed as a global standard appropriate for use in many contexts. (Oliver 2021, p.13)

Such a situation, however, has not necessarily favoured user search and catalogue use, despite optimistic predictions[1]. Although it was carried out on a different tool than the OPAC, i.e. the AlmaStart Discovery tool of the Alma Mater Studiorum - University of Bologna, a recent survey acknowledged that the search methods adopted by users are aimed at reaching the full text of a resource whose existence is already known. Although it is a tool designed for a specific audience with specific needs, even this finding cannot but make one reflect on the actual use of catalogues or similar tools by users (Quaquarelli 2022).

The current situation

In contemporary reality, as mentioned above, the situation has radically changed and this fact has not only relegated catalogues to an informational niche, but will or

must inevitably have, in my opinion, repercussions on their creation, management and consequently use by users. As I said a few years ago,

> the bursting onto the scene of new subjects and new ways of searching and finding information has entailed and is entailing a repositioning of libraries and catalogues, the scope of which is certainly far-reaching but the effects and consequences of which have yet to be verified and demonstrated (Sardo 2021, p. 164).

The new players are at least agencies supplying bibliographic data to libraries, referential or full-text bibliographic databases produced by service providers, and the new modalities relate to the development of the Internet, but above all to the emergence and growth of the Semantic Web, and the data encoding and sharing methods typical of this reality. This is undoubtedly the most relevant novelty for the world of libraries, which are used to being among the few institutions that hold the theories and techniques for cataloguing and making resources available.

In a context of this kind, I believe it is appropriate to begin by highlighting what are the critical aspects, or at least some of them, of catalogues as they have evolved, and what could be the solutions to be adopted to encourage their use and to enhance the work, both theoretical and practical, that underlies their creation and maintenance. Let us recall that the perceived crisis of catalographic mediation can be traced back at least to the 1940s (Osborn 1941), and since then there has been no lack of critical voices on the limitations of catalogues addressed from multiple points of view, both from the cataloguer's point of view and from the point of view of users and the difficulties they encounter in using OPACs (Serrai, 1980; Borgman 1996; Hoffman 2009).

Issues under discussion

The first question concerns, in general, the type of mediation performed by catalogues.

The catalogue, unlike other digitally available tools, is a tool that mediates by its very nature predefined and static. Predefined in that the searchable dataset is defined a priori by the cataloguer, based on the regulations and standards in force, and on the possibilities offered by the system in use; static in that the data created are not modified or augmented based on interactions with the system itself. This

mode of mediation, radically different from those to which one is accustomed in the reality of online searches using, for example, search engines, can be particularly daunting for users approaching a catalogue-type search for the first time. Indeed, in situations of this kind, the user may find himself in a situation of communication difficulties. As Galeffi states,

> it is very rare for catalographic communication to be symmetrical. In order to carry out a search that allows one to take full advantage of the heritage behind a catalogue, it would be optimal for the user to know both the subject one wants to investigate (so as to know the terminology, the fundamental authors or the most authoritative journals) and the search and navigation techniques. It is quite common, therefore, that the user finds himself in an asymmetrical relationship with the catalogue [...] that places him on an inferiority plane (Galeffi 2017, p. 245).

As mentioned above, since the catalogue is not an adaptable tool, it is of necessity the users who have to learn to master the 'language of the catalogue' (i.e. how catalogues are constructed) given the impossibility, at present, of the opposite. Search engines, for instance, may be less precise, but they are able to adapt themselves more to users (if only starting from the fact that they allow typing errors, and provide suggestions in the event that the search string formulated is not considered 'valid'), while still providing a result to the search carried out in almost all cases (only in the case of particularly structured and complex searches there may be situations in which the result is zero, but these are decidedly rare in the most common search situations. Moreover, based on the amount of data and information that we constantly provide by using them, they seem to perform better and better able to answer the questions asked. The integration of AI systems into search engines, which is already under way, will be a huge factor of change in the coming years, the effects of which are difficult to predict at the moment, but will certainly be significant, as it has been in all the services that already integrate this type of functionality (Grant 2024)

The complexity of cataloguing structures and their difficult interpretation without a basic knowledge of principles, rules, standards, how subject headings are constructed and how classification schemes are organised negatively affect their use and can discourage their use. Few users use, for instance, the advanced search masks and from the data obtained from the search words of users of library systems consisting mainly of public libraries, it clearly emerges that searches are often made

using authors' names, simple terms deduced from titles (which could also be keywords, or subject headings, but as it is not possible to know the intentions of the queryer, but only the results of the query, doubt remains as to the semantic value of the terms used)[2].

The problem of mediation also concerns the interfaces that enable mediation itself. The interfaces of online catalogues, unfortunately, given the complexity of the source structures, are often complex interfaces with large amounts of information to be decoded, or 'Google like' interfaces that are only similar to Google in that they only have the search box, but in this the similarities are exhausted, because the answers that users get are lists ordered with criteria that are not immediately comprehensible and with multiple refinement and filtering possibilities, of little use when one is searching without a precise result in mind. In the case of discovery tools, integration with databases from external providers results, for non-expert users, in increased responses, but without an increase in accuracy: only noise and consequently frustration increases.

The second problem concerns catalogue data per se, both qualitatively and quantitatively.

Catalographic data are created on the basis of rules and standards, codified with special schemes, and their choice is based on what is stated in the cataloguing principles. The quality of the data in a catalogue depends on the operators whose task it is to create, import or modify the data. The policies that have characterised cataloguing since at least the beginning of the 1960s have been aimed at promoting programmes and standards that would allow cataloguing data to be shared internationally and nationally, fostering the creation of data at the level of national cataloguing agencies and their re-use by other libraries. As it turned out, these efforts did not lead to an effective realisation of what was envisioned, due to both the costs of cataloguing and the scarce resources available to many national agencies.

This has meant that the benefits of cooperation at an international and national level have been mitigated if not completely minimised and has resulted in the continuous creation and re-creation of catalogue data by staff with different levels of expertise, and with different types of contracts, which inevitably leads to the creation of

inaccurate, incomplete or in extreme cases incorrect data[3]. Moreover, data quality is not taken for granted and acquired once and for all, and the maintenance of catalogues is an activity that should be carried out constantly and not sporadically, in order to guarantee the maintenance of high quality standards that meet users' needs.

Closely related to the problem of data quality is that of data quantity. Cataloguing systems, their underlying principles and statements on the objectives of catalogues have very strong 19th century roots which also underlie more recent formulations; however, it should not be forgotten that such statements were made at a time when library collections were decidedly smaller than in today's world (reduced both numerically and typologically). Consequently, it would be appropriate to assess to what extent the envisaged catalogue data typology is able to support users' search functionalities. In other words, if catalogue structures were able to provide satisfactory answers to users when the catalogued collections stood at around hundreds of thousands of resources, are they still able to provide satisfactory answers today when the resources stand at around tens of millions? If the answer is negative, and I personally lean towards this hypothesis, it would be interesting to try to understand what size of collections allows traditional cataloguing structures to be effective and efficient, and beyond what limit they are no longer able to respond.

The problem of the quantity of resources is not only a problem of catalogue and catalogue data sizing, but also of the traceability of these resources in the catalogues. Many of the resources currently available online are not present or are not presentable in the catalogues because libraries cannot provide access to these resources (streaming platforms, paid services designed for individuals and not for institutions) or are not able to integrate what were defined as remote access electronic resources into the catalogues for obvious issues related to time and the human and economic resources needed to do so. Even thinking about carrying out data curation and integrating into the catalogues potentially interesting resources for users entails a huge amount of work that is always in danger of lagging behind the status quo.

Finally, there remains the question of the progressive diversification of the potential communities of users for whom catalogue data may not be useful, valid or responsive to their respective cultural needs.

Conclusions

The claim to have a tool capable of responding to different needs of different user communities must of necessity be rethought with a view to co-operation but differentiation of both interfaces and query modes as well as the type of data available. Without 'customised' solutions, catalogues could become mere inventory tools (a step backwards given the complexity of the structures created) or tools that lose part of their mediation potential due to the increased noise and time commitment involved in consulting them. User frustration and loss of time with respect to the results obtained are two key factors in considering a different approach to the catalogues themselves.

What role catalogues will play in the digital ecosystem of the 21st century and the future, as far as it is possible to make predictions, depends above all on the policies that libraries will want to undertake in order not to be increasingly marginalised. I believe that the centrality catalogues have had in the past is impossible to achieve again, but it will certainly be possible to identify niches of interest that will allow catalogues to still play their mediating role. In order to do this, it will be necessary to at least provide for greater transparency with respect to what is present in the catalogues themselves, i.e. more information on how cataloguing data is created, the types of resources present, and the possible search keys; an implementation of the search functions but above all of the interfaces, with the possibility of variations with respect to the reference targets, alongside which greater inclusiveness and accessibility as well as attention to different audiences should be envisaged; a greater international sharing of data (something that has been talked about since the 1960s, as mentioned, but which is still struggling to be truly realised today); a greater focus on the quality of the data produced because poor quality causes an increase in noise; use of technological tools of various kinds (e. g. specially trained AI) to facilitate content creation and communication with users.

Lastly, I think that the strengths that can characterise catalogues should be further enhanced and shared with their user communities; these strengths are certainly the reliability of the content, the quality of the data themselves, and the extraneousness to commercial, and hopefully also political, logics.

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Notes

[1] A figure for the duration of visits to the SBN OPAC during January 2023 gives an average dwell time of 542 seconds, but more than half of the visits have a dwell time between 0 and 30 seconds and about 13% have a dwell time of 30-120 seconds.

These averages are repeated similarly for other time intervals. The data are taken from SBN statistics available online at

http://opac.stats.sbn.it/awstats/awstats.pl?month=01&year=2023&output=main&config=opac.sbn.it&lang=it&framename=index

[2] I would like to thank Camilla Fusetti for providing me with the referenced data.

[3] Situations where data are consciously created with bias or questionable personal interpretations are deliberately not taken into account.

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Data availability note

No data used for the compilation of the paper.

Author contribution note

Lucia Sardo: conceptualization and writing.