

doi: 10.20396/rdbci.v18i0.8657824/22148

SUBJECT INDEXING IN ARHIVAL DOCUMENTS: ANALYSIS OF INTERNATIONAL DEFINITIONS BASE ON LITERATURE SYSTEMATIC REVIEW

A INDEXAÇÃO DE ASSUNTO EM DOCUMENTOS ARQUIVÍSTICOS: ANÁLISE DAS DEFINIÇÕES INTERNACIONAIS COM BASE NA REVISÃO SISTEMÁTICA DA LITERATURA

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Submitted: 09/12/2019
Accepted: 17/02/2020
Published: 05/03/2020



JITA: DL. Archives.



e-Location: 020006

ABSTRACT

Subject indexing is a fundamental process for retrieving and accessing information, but the subject lacks theoretical and methodological deepening in the context of Archival Science, which often emphasizes the classification and description processes. Given this gap, this study emphasizes the terminological and conceptual aspects of subject indexing in archival documents. It identifies the definitions presented in the national and international scientific literature and verifies the understanding of subject and content within this process, making it possible to indicate its constituent elements. The research, exploratory-descriptive and qualitative in nature, uses the systematic literature review. The survey was conducted in different databases and scientific sources, in Portuguese, Spanish, English and French. After applying quality criteria, 49 texts were selected, of which the most representative on the theme were considered for discussion. It presents the types of access by subject in the archives and the main definitions and understandings of the international authors. It concludes that it is not possible to state that there is an indexing that is considered specific for archival documents, but to index the specificities of the documents and the process must be considered in any context.

KEYWORDS

Indexing. Subject indexing. Archive science. Archives.

RESUMO

A indexação de assunto é um processo fundamental para a recuperação e o acesso à informação, porém o tema carece de aprofundamento teórico-metodológico no contexto da Arquivologia, que costuma enfatizar os processos de classificação e descrição. Diante desta lacuna, este estudo enfatiza os aspectos terminológicos e conceituais da indexação de assunto em documentos arquivísticos. Identifica as definições apresentadas na literatura científica nacional e internacional e verifica o entendimento de assunto e de conteúdo no âmbito desse processo, tornando possível indicar seus elementos constitutivos. A pesquisa, de caráter exploratório-descritivo e de natureza qualitativa, utiliza a revisão sistemática da literatura. O levantamento foi realizado em diferentes bases de dados e fontes científicas, nos idiomas português, espanhol, inglês e francês. Após aplicação de critérios de qualidade, foram selecionados 49 textos, dos quais os mais representativos sobre a temática foram considerados para a discussão. Apresenta os tipos de acesso por assunto nos arquivos e as principais definições e entendimentos dos autores internacionais. Conclui que não é possível afirmar que exista uma indexação que seja considerada específica para documentos arquivísticos, mas para indexar devem ser consideradas as especificidades dos documentos e do processo em qualquer contexto.

PALAVRAS-CHAVE

Indexação. Indexação de assunto. Representação da informação. Arquivologia. Arquivos.

1 Introduction

Information representation is a topic widely discussed in the field of Information Science and aims to optimize the information retrieval process and enable its access and use. The topic is also of interest to Archival Science, an area that is under theoretical development, especially with regard to issues of representation.

In the field of Archival Science, representation is developed in dialogue with Librarianship and Information Science and occurs through archival functions, among which the classification and description stand out.

The first aims at the logical organization of the documents according to their functions and activities, aiming to reflect the organic-functional structure of the institutions and maintain the links between the documents. The description, in turn, aims to represent elements of context and content and generate finding aids as a result, which contributes to access to documents.

The international standard for archival description is the International General Standard for Archival Description - ISAD (G), translated and adapted in 2006 into Portuguese and the Brazilian reality, giving rise to the Brazilian Standard for Archival Description (NOBRADE). Both have rules for filling in the description fields, however NOBRADE adds “area 8”, intended for the representation of the subject, which is defined as: “area of access points and description of subjects, where the selected terms are registered for locating and retrieving the unit of description.” (BRASIL, 2006). Despite the apparent progress with the creation of this field, there is no provision in the Standard on how to develop this representation.

In addition, national and international authors, such as Ribeiro (1996, 2013) and Barros (2016) highlight the existence of indexation in the representation of archival documents, specifically the indexing of the subject, but they indicate the need for theoretical deepening on the topic.

Ribeiro (1996, 2013) has been studying indexing and thematic representation in archives for over 20 years. It can be seen in his research that the use of indexing in archives occurs mainly with the objective of creating indexing policies and indexing languages, aiming at the retrieval of information, including in digital environments and in databases. In research presented in the scope of the International Society for Knowledge Organization (ISKO), the author reports that after two decades the theme still does not appear in depth in the literature in the area of international Archivology:

it is legitimate for us to ask ourselves about how the treatment of **information by subjects** in the archives has evolved and to ask ourselves about how the integration of archives has taken place in the digital society and the network in which we operate.

There are no known synthetic studies that analyze this problem [...] (RIBEIRO, 2013, p. 536, our translation, emphasis added).

Although in the broader sense of Information Science the use of the subject in the information representation process is noticeable, in the area of Archival Science the theme still lacks theoretical deepening.

In view of this gap and the aspects disposed by Ribeiro (2013) and by the aforementioned authors, this article was prepared and also takes into account the fact that: the studies dealing with thematic indexing in Archival Science are fragmented, there is an absence of theoretical contributions and consolidated methodologies that support this process; and their applications are not described and systematized in the area.

In this sense, the question is: What are the denominations and respective definitions presented for indexing the subject in archival documents discussed in the international scientific literature? Thus, it seeks to verify terminological and conceptual aspects of indexing in archival documents.

It is clarified that the term “subject indexing” was used in this article to refer to the process of representing the subject carried out in archival documents, through the analysis of its content and subject. There may be other denominations and understandings in the literature of the area, the purpose of this article being to identify possible differentiations.

It is assumed, therefore, that the representation of the archival document occurs not only based on the functions and activities of the producer, but also based on its content and subject. Contextual elements are represented, but also content and subject in what we call "thematic representation", specifically when referring to subject indexing.

For the field of information representation and indexing, in the context of Information Science, the study aims to expand the existing dialogue between the area of Information Science and Archival Science. It should be added that research that deals with archival functions, that is, techniques and procedures essential for archival work and qualifies them through theoretical deepening, is of fundamental importance for the area. Finally, the research aims to highlight the theme of subject indexing in the context of Archival Science and contribute to the development of this process from a theoretical-conceptual point of view.

2 Theoretical Frameworks

In this article, the notion of archival document is adopted in any medium, format, genus, species or type. They are documents resulting from activities developed by people or

institutions and, therefore, explain the relationships they have with the activities that originate them and with the context in which they were produced. Our understanding is supported and supported by the voices of Duchein (1983), Ribeiro (1996), Bellotto (2002) and Schmidt and Smit (2015).

Although the notion exposed by Ortega (2008), who designates 'document' as being the recorded information also covers the archival document, it is believed that the difference between documents in general and archival documents is in the express relationship with the origin, as observed in the definition presented by Ribeiro (1996, p. 13):

archival documents come in numerous forms and in the most varied material supports. It is not the type, nor the form, nor the informative content, that characterize an archive document, but rather its origin, that is, the way it was produced, in function and in the course, of the activity of an individual or collective.

At the origin, the archival document is inserted in a functional process, as it is developed within the scope of functions performed by institutions or people. The functional aspect is highlighted by Duchein (1983, p. 6), who clarifies that “the archival document is present in the heart of a functional process, of which it constitutes an element, however small it may be. It is never conceived, in the beginning, as an isolated element.”. In this perspective, the interrelationship between the documentary sets also stands out, which the author called “context”, that is, the documents are presented, organized and maintained in documentary sets. It can be said, therefore, that to represent archival documents it is necessary to explain the context in which they were produced and the relationship between them, considering archival principles.

At the heart of archival document management are different processes, among which the classification, description and indexing stand out here, the latter being emphasized in this article. Yakel (2003, p. 2) states that:

[...] archival representation as a fluid, evolving, and socially constructed practice. Representation refers to both the processes of arrangement (respecting or disrespecting order) and description, such as the creation of access tools (guides, inventories, finding aids, bibliographic records) or systems (card catalogs, bibliographic databases, EAD databases) resulting from those activities.

In other words, the archival representation is performed through the arrangement (classification) and description, aiming at its access through finding aids. Yakel (2003, p. 2) adds that the term archival representation “[...] captures the actual work of the archivist in (re) ordering, interpreting, creating surrogates, and designing architectures for representational systems that contain those surrogates to stand in for or represent actual archival materials.”. We believe that the indexing process is also part of the archival representation, but it was not addressed in this subsection, as it concerns the results section.

Classification and description are complementary and interrelated processes, because together they allow the understanding of the document's context and content, as indicated by Ancona Lopez (2002, p. 6), when she states that: “the archival organization of any collection presupposes no classification activities, but also description activities. Only the archival description guarantees a comprehensive understanding of the contents of a collection, enabling both the knowledge and the location of the documents that comprise it”.

Heredia Herrera (1991, p. 300, our translation) clarifies that:

The documentary description includes not only the analysis of the documents: their types, both diplomatic and legal, their content, the place and date of their writing and their external characters, but also their location data. The description is necessary in an administrative file and in a historical file, although your practice may have some variants. In short, the description is the means used by the archivist to obtain the information contained in the documents and provide it to users.

In other words, the description is the bridge that communicates the document with its users, because it explains elements of context and content for later retrieval. It is also clarified that the objective description “[...] inform about the content of the documents and their formal elements, with the main objective of providing access to the information contained in the funds, groups, series or documentary piece.” (TOGNOLI, 2012, p. 81, our translation). Thus, from the classes established in the classification, the level to be described is selected and description rules are applied, in order to form finding aids and provide access to documents. Basically, classification and description aim at representation, retrieval and access to documents.

Regarding the description, it is worth highlighting the existence of standards, which arise with the main objective of regulating this process and contributing to the creation of its products: the finding aids, which are the “means that allows the identification, location or consultation of documents or information contained therein. Expression normally used in permanent files” (ICA, 2015).

In Brazil, there is the Brazilian Standard for Archival Description (NOBRADE), published in 2006 by the National Archives Council, which indicates the following main levels of description: Fund, Section, Series, Subseries, Dossier and Documentary item. It should be noted that this standard is a translation and adaptation of the General International Standard for Archival Description (ISAD (G), which was published in 2000, but was established in 1999 (BRASIL, 2000).

One of the differences between ISAD (G) and NOBRADE is that the second adds area 8, intended for “subject representation”, as explained in the introduction. However, the

Standard does not indicate how to represent the subject, but it gives visibility to an archival process that is subject indexing, the object of study in this article.

Nevertheless, the existence of the theory of the three ages indicates that archival documents go through stages of evolution (current, intermediate and permanent), which are part of the same document management process. Thus, although there are different degrees of access and use in the ages, archival treatment processes can be carried out at any stage, such as those highlighted in this research: classification, description and indexing. Thus, in this research we do not differentiate documents according to age.

3 Methodological Procedures

Regarding the main objective, the research is exploratory-descriptive and the approach is qualitative, since it uses qualitative methods to survey, describe and analyze publications. As for the collection and analysis of data, a systematic literature review was used, a technical procedure that allows the identification, evaluation and summary of the research results, in addition to synthesizing the evidence, as stated by Grant and Booth (2009). From the results of its planning, search and data extraction processes, subsidies were removed to answer the question and the outlined objective.

The steps followed were based on Kitchenham's (2007) proposal for a systematic review, complementing Silva (2009) and Balaid et al. (2016). Phase 1 involves: identification of the need for review, specification of research questions and development of the review protocol. Phase 2 refers to the selection of studies, quality assessment, followed by data extraction and synthesis. Phase 3 refers to the report, which is the writing of the research, in this case the article.

The first phase concerns the review protocol. In this and the stage, the research question and its relationship with the objective were defined, indicating the respective focus (Chart 1).

Table1. Research question, objective and focus.

Objective	Question	Focus
Check terminological and conceptual aspects of indexing in archival documents	What are the denominations and respective definitions presented for subject indexing in archival documents?	Identify the terms and respective meanings for subject indexing in archival documents, which refers to related terms identified in the research evidence: indexing, subject indexing, access by subject.

Source: own elaboration

The research protocol, also called the review protocol, involves all stages of conducting the research, but it concerns its planning and not its conduct. Kitchenham (2007) reiterates that

the construction of the protocol contributes to reduce the possibility of research bias, that is, the trend, inclination or pre-conceived idea by the researchers.

The sample was constructed based on the search of sources in the area of Information Science and Archival Science (Chart 2).

Table 2. Sources selected for the sample

Type	Source
Data base	Web of Science Scopus Library and Information Science Abstracts (LISA) Library, Information Science & Technology Abstracts (LIST) Referential Database of Journal Articles in Information Science (BRAPCI)
Annals of events	ISKO International ISKO national chapters (NASKO, ISKO Espãna-Portugal, ISKO-France, ISKO UK, ISKO Brazil) National Research Meeting in Information Science (ENANCIB) Meeting of the Iberoamerican and Caribbean Information Science Education and Research Association (EDICIC) National Congress of Librarians, Archivists and Documentarists (Portugal) Annual Conference of International Council on Archives MERCOSUR Archival Congress (CAM) Brazilian Congress of Archival Science (CBA) National Congress of Archival Science (CNA) Brazilian Archival Science Teaching and Research Meeting (REPARQ)
Theses and dissertations	Networked Digital Library of Theses and Dissertations (NDLTD) CAPES thesis bank Brazilian Digital Library of Theses and Dissertations (BDTD) Site of national Universities that have Postgraduate Programs in Information Science or Archival Science.
National Archives	National Archives Sites: USA, Canada, Quebec, France, England, Australia, Spain, Portugal, Brazil, Colombia, Venezuela, Cuba, Uruguay, Mexico, Chile, Argentina, Portail International Archivist Francophone
Professional and scientific associations of Archival Science	Association Sites: Society of American Archivists (SAA), Archives Association of British Columbia (AABC), Association des Archivistes du Québec (AAQ), Association of Canadian Archivists (ACA), Bureau of Canadian Archivists (BCA), Canadian Council of Archives (CCA), Archives & Records Association (ARA), Asociación de Archiveros de Castilla y León, Asociación Arxiviers Catalunya (Arxivies)

Source: own elaboration

Taking into account that until the data collection was carried out, BRAPCI did not index three significant Brazilian journals for Archival Science, a search was carried out in the following journals: Collection: National Archives Journal, Archives & Administration and Archival Information Journal.

A time frame was not established and the search strategies were built according to the specificities of each source. Within the scope of the research protocol, it was possible to establish common criteria for conducting searches in information retrieval systems, namely: searching the desired term in the thesaurus or controlled vocabulary; in the absence of the thesaurus, use previously defined terms; use the advanced search fields; combine terms

referring to subject representation and indexing with Archival terms; apply filters by area of knowledge.

The selection of terms searched was based on UNESCO Thesaurus, as it includes terms related to the representation of a subject at the international level. The terms “indexing”, “documentary language”, “archival science” and “archives” with their correspondents in English, French and Spanish were used, depending on the source.

As for the inclusion criteria of the texts, the following were considered: a) texts: scientific and academic (scientific articles, book chapters, complete works published in scientific events, theses, dissertations); manuals, guidelines and indexing instruments in Archival Science; b) themes/contents: texts that express in the title, abstract or keywords the relationship between subject indexing and Archival Science; c) language and access: texts in Portuguese, English, Spanish and French and texts available for free (free access).

Regarding exclusion, the following criteria were considered: a) texts: abstracts, slides, handouts, TCCs, monographs; b) themes/contents: texts that deal with the representation of information in Archival Science in a generic way, without addressing indexing or representing the subject; Texts that present only empirical data, without conclusion, substantial propositions or reflections; c) language and access: texts in languages other than those stipulated in the inclusion criteria and which do not have free or free access.

To assess the quality of the texts, the following questions were constructed, based on Balaid et al. (2016), with adaptations: 1) Are the topics presented in the text related to this research? 2) Is the research context described in the text? 3) Is the research methodology clearly identified in the text? and 4) Are the theoretical reflections or discussions sufficient to answer the research question?

The extraction process was performed by reading and extracting the data for each selected text, basically following the following steps: reading the title, abstract and keywords; reading the full text; filing and data extraction in tables, distributed throughout the text. The data extraction and synthesis criteria were built based on Ribeiro (1996), considering: terms or expressions adopted, definition/understanding, their relationship with the archival functions. In some cases, it was possible to identify indexing elements.

4 Results

The texts were selected through three types of search: simple, advanced or navigation. The latter type was adopted in the absence of the first two, such as in annals of events, non-indexed journals, websites of national archives and professional and scientific associations.

These sources were searched in all editions, checking the existence of texts that corresponded to the objectives of the analysis one by one. On the other hand, in the databases and banks of theses and dissertations, the advanced search was preferably used, looking for instruments such as thesaurus and controlled vocabularies. Texts that deal with the topic were not considered, but do not present it as a focus of discussion.

Thus, based on the methodological procedures outlined and after applying the exclusion and exclusion criteria, followed by quality questions, 49 national and international texts were reached that dealt with the subject indexing in the archives. Of that amount, only the texts of international authors who present vertical conceptual discussions on the topic were used.

The most conclusive and in-depth publication found in the systematic review was the Subject Indexing Working Group Report of the *Bureau Canadien des Archivistes* (BCA). The group was created in Montreal (Canada) in 1988 to discuss the creation and development of standards for archival description. The Report was published in 1992 with the aim of taking the first steps to guide archivists towards the type of “indexing system” of subjects that will accommodate the needs of the archive (BCA, 1992).

Considering that the process of searching and retrieving information is inseparable, the report stresses that users' queries in the archives can be of different types, namely: general interest; requests for access to private (specific) documents; requests for access to documents from specific producers; access by subject.

Our focus is the last category, which according to the authors is the most difficult to be answered, as it includes requests for access to records containing information on a given subject. According to BCA (1992) there are two most common methods of subject access in the archives: the provenance method and the subject indexing method. The first allows more general access to archival documents through the creator (producer) and the second, in turn, more specific and related to the topic (topic). It is worth remembering that the “subject” is currently being dealt with in a broad sense, as it also covers aspects of provenance.

These assumptions about the methods are presented in another concluding text that precedes it. This is the text by Lytle (1980), written with the objective of contributing to plan a subject retrieval system in the archives, resulting from the PhD thesis defended by the author in 1979 at the University of Maryland (USA), under the guidance of Dagobert Soergel.

The author also describes two methods to obtain access by subject in the archives, but the second with a different designation than the one presented by BCA, namely: Method of Provenance or Method P (Provenance or P Method) and Content Indexing or Method CI

(Content Indexing or CI Method). As the methods described by Lytle (1980) and in the BCA report (1992) are convergent, they were systematized in Table 3.

Table 3. Access methods by BCA subject

Method	What is it?	How to access?	Summary, problems and limitations
Provenance Method	<p>“The first method, the Provenance or P Method, is the traditional method of archival retrieval, based on principles of archives administration and reference practices of archivists.” (LYTLE, 1980, p. 64).</p> <p>“The provenance method is a logical consequence of applying the principle of respect des fonds. Given that the meaning of archival records derives in large part from the context in which they were created and maintained, it is argued that the retrieval of such material is similarly context-dependent.” (BCA, 1992, p. 31)</p>	<p>“Subject retrieval in the P Method proceeds by linking subject queries with provenance information contained in administrative histories or biographies, thereby producing leads to files which are searched by using their internal structures. Information in the pure or theoretically defined P Method derives only from what is known <i>about</i> the file - the activities of the creating person or organization and the structure or organizing principles of the file itself.” (LYTLE, 1980, p. 64).</p> <p>“To access information using the provenance method, the archivist infers that documents about certain subjects were likely to maintained by a certain agency because of the functions of that agency.” (BCA, 1992, p. 31).</p>	<ul style="list-style-type: none"> - Access by provenance (creator/producer); - Relate request for subject with information of provenance; - It depends on the archivist; - High recall and low precision; - Difficulty retrieving non-text documents (such as videos and photos).
<p>Subject indexing – BCA (1992)</p> <p>Content Indexing Method - Lytle (1980)</p>	<p>“The second method, the Content Indexing or CI Method, derives from librarianship but has been applied extensively to manuscript collections, and, to a limited extent, to archives. Subject retrieval in the CI Method matches subject queries with terms from an index or catalog” (LYTLE, 1980, p. 64).</p> <p>“Subject enquiries may also be answered directly through subject indexing” (BCA, 1992, p. 35).</p>	<p>“In the pure CI Method, information is gleaned by an indexer who examines the records; as the CI Method usually is practiced in manuscript collections and archives, provenance-related information is not considered in index.” (LYTLE, 1980, p. 64-65).</p> <p>Access is by means of subject requests (Queries) (BCA, 1992)</p>	<ul style="list-style-type: none"> - Access to content through consultation requests by subject; - Consultations of subject by index or catalog; - Lack of authority control in the development of filing indexes; - Lack of distinction between subject entries and producer (creator).

Source: Own elaboration based on Lytle (1980) and BCA (1992)

When searching for and accessing information by subject in the first method, the user must infer which agency (institution) publishes on that topic, to later find the document on the desired subject. As these initial inferences presuppose the knowledge of the institution, the user needs an archivist, which is not always feasible in practice. In addition, you will probably also retrieval documents that are not useful, resulting in a greater recall.

Regarding the problems of subject indexing, the authors of BCA (1992) state that their limited effectiveness in the archives is due to two factors, among which the need to distinguish the subject and producer (creator) entries.

Lytle (1980) states that queries by subject in the content indexing method (CI Method) are carried out through an index or catalog. In addition, it also considers that the two methods present problems and are distinct from the theoretical point of view but can be considered complementary from the practical point of view, in order to gain access to the files.

We refer to another work by Lytle (1980), of a practical nature, which presents an experiment carried out in Baltimore, in the United States, in order to explore the ability to retrieval subject in both methods. After carrying out tests to retrieve information in databases, controlled by the laboratory, he compared the search results by “provenance” and “content indexing”. The test results show that the two methods showed low retrieval performance.

The difference between the two methods, provenance and subject indexing, shows that the “subject” is an ambiguous term and, therefore, can be understood based on different perspectives and have different meanings. In a broad sense, the subject can be obtained from the name of institutions, people or even from functions and activities and, therefore, from the provenance. On the other hand, in the most restricted sense, the subject refers to the theme or topic (subject). This second meaning is more characteristic of the subject indexing process, which we emphasize here.

Maurel and Champagne (1999) use the term “L’indexation” (indexing) and claim, in this broader perspective, that description and indexing are understood as archival functions that are part of the “description and indexing system”. They are part of that system, namely:

- a) the functions or the process, that is, the description on multiple levels of the archives maintained by the organization, the indexing of non-thematic access points (mainly related to the provenance), the indexing of thematic access points (subjects), vocabulary (choice and form of common names);
- b) the products or instruments resulting from these functions, namely the finding aids that record the descriptive notes and one or more indexes, the authority process and the controlled vocabulary list that facilitate the elaboration of the indexes, as well as the descriptions;
- c) policies, procedures, guidelines established in an effort to systematize the process and instruments (MAUREL; CHAMPAGNE, 1999, p. 256-257, our translation).

As noted, “indexing” was used by the authors in the broadest sense of the term, which roughly denotes the process of describing the content of documents and creating access points. In this way, it is similar to the process of description in files, which also describes content, but also contextual elements. Thus, description and indexing integrate the same system, since they share the same functions, products and instruments. It is inferred that the terms “description” and “indexing” may even have been used interchangeably by some authors.

In the same sense as Maurel and Champagne (1999), Santos Canalejo (1998) reinforces that indexing has always been an archival task, since the analysis of the documentary sets to be

represented has always been carried out in the treatment of documents. “[...] Thus, indexing, that is, extracting the most relevant terms from the documents to prepare the indexes, has always been one of the tasks performed by the archive” (SANTOS CANALEJO, 1998, p.117, our translation).

Subject indexing, in a more specific perspective, can be identified from the description process, as it is one of the content elements. An understanding of the context of the document and of the relations with the documentary set of which it is a part is necessary for determining the subject and becomes evident in the description.

From this angle, it is worth noting the distinction between thematic indexing and non-thematic indexing as components of “access by subject” in the archives. It appears that this distinction may have been made for didactic purposes, in order to point out that the description in the midst of the archival representation involves different elements, some of which refer to the provenance (non-thematic) and others to the subject or topic (indexing thematic), as shown in Chart 4.

Table 4. Thematic and non-thematic indexing

Indexing	Definition
Non-thematic indexing	“[...] integrates access points independent of the subject (mainly related to the source of the documents)” (MAUREL; CHAMPAGNE, 1999, p. 327, our translation).
Thematic indexing	“[...] thematic indexing that integrates the subjects, but also other types of content elements.” (MAUREL; CHAMPAGNE, 1999, p. 327, our translation). “Thematic indexing is strictly intended to provide complementary access to those that already exist (classification, names of creators, etc.). These complementary access keywords are even more important, [...] as the classification and description are carried out according to the principle of respect for funds, from the general to the particular. Thematic indexing, therefore, provides a multiplicity of identification keywords that respond to the multiplicity of users' search strategies.” (MAUREL; CHAMPAGNE, 1999, p.329, our translation).

Source: Own elaboration based on Maurel and Champagne (1999)

Note that thematic indexing is treated as a complementary access to archival documents. This meaning is most likely given with regard to the characteristics of archival documents, which are testimonies of the actions taken by their producer. In this way, the fundamental elements of representation are the contextual ones, aiming to elucidate the relationships between the documents and the activities that gave rise to them. These elements are represented more characteristically in the classification and description functions. Subject indexing, therefore, is an archival representation process that complements the representation processes already applied to archival documents.

Similarities are perceived between the thoughts of the BCA Report (1992) and Maurel and Champagne (1999), which are Canadian and of Lytle (1980), North

American, who define the categories of access by subject in two aspects. One of the aspects to be emphasized is that subject indexing does not dispense with the analysis of provenance, since the archives representation must consider the archival principles and carry out the analysis of all levels for the representation to be carried out.

In addition to the views already presented above, we summarize below the other views collected and analyzed in the research.

Canadian Heather MacNeil (1996), a professor at the University of Toronto (Canada) and who was already a member of BCA, wrote an article entitled "Subject Access to archival" fonds ": balancing provenance and pertinence", published in the journal *Fontes Artis Musicae*, which also gives more depth as to the definitions of access by subject in the archives.

The author uses two terms to refer to access, the first of which is "Provenance" and the second "Pertinence". The first has already been widely discussed here and is related to the origin, not being the focus of this article. As for the second, when looking for the definition in *Multilingual Archival Terminology*, a project of the International Council of Archives, the two meanings for "pertinence" are observed, namely:

- a) A principle, now mostly rejected, for the arrangement of archives in terms of their subject content regardless of their provenance and original order.
- b) A principle of arranging records based on content, without regard for their provenance or original order (MULTILINGUAL ARCHIVAL TERMINOLOGY, 2018).

Considering the definitions identified, the pertinence concerns the subject indexing and is considered a principle. Subject indexing receives limited attention as a topic in the literature in the area of Archival Science and can be defined as: "[...] a direct approach to achieving subject access, based on the principle of pertinence. The terms of the subject index indicate directly what a document is about and are selected on the basis of analysis of the content of a document(s)." (MACNEIL, 1996, p. 243).

From the perspective of the aforementioned author, subject indexing developed from the evolution of description standards, when she affirms that "developments in the archival description at the national and international levels have resulted in a more conciliatory attitude toward subject indexing on the part of archivists, and a stronger inclination to reconcile provenance and pertinence-based approaches to subject access." (MACNEIL, 1996, p. 243).

In this perspective, one of the aspects emphasized by MacNeil (1996) is that to describe the archival document it is necessary to understand the broad meaning of the context of production in which the document was created and under which it has been analyzed and

elaborated. This principle is observed in the multilevel description, according to which the archive background is described from the general to the specific, at different levels, which represent different parts of the fund (documentary set). In this sense, it uses the expression “description and indexing”. The thinking evidenced by MacNeil is largely based on the BCA Report (1992), a text cited by the author herself and already discussed in this article.

In the same Canadian perspective, we highlight the dissertation produced at the University of British Columbia written by Martin (1987), which deals with indexing in archives, with a focus on discussing their problems and issues. It presents indexing in a complete information retrieval system, which it also calls “indexing system”.

The paper offers fundamentals and guidelines for the indexing process and is enlightening when dealing specifically with subject indexing. Thus, it helps to understand that “name indexing” differs from “subject indexing”. According to the author:

As used here, “name indexing” will refer to the selection and use of any personal, geographical and institutional name in a document as an access point, regardless of whether or not the entity named is the subject of the document; “Subject indexing” will refer to the topical areas covered by documents, such as “politics” or “organic chemistry.” (MARTIN, 1987, p. 2).

Like MacNeil (1996), Martin (1987) adopts “pertinence” to refer to subject indexing. Based on the statements of the latter author, the relationship between the description and the finding aids is perceived. Martin states that indexing is part of the description system and is directly related to the production of finding aids. This seems to be the similar understanding among the Canadian authors analyzed here, especially BCA (1992) and Maurel and Champagne (1999).

In this conception, “the names and terms which are selected from archival materials for inclusion in the finding aid are termed access points.” (MARTIN, 1987, p. 15). From these access points, finding aids are created, which can be of different types and based, in turn, on different elements. For this article, we highlight the instruments that come from provenance (provenance), which are the guide and the inventory, while the catalog or the thematic or subject guides come from the principle of pertinence¹. It is worth mentioning that the indexes are not only instruments resulting from the description but are components of different finding aids such as the catalogs and guides themselves.

The aforementioned author states that Schellenberg understands the index as a separate tool of description, but that in practice this is not appropriate.

¹ In Brazil there is no adherence to this term in the scientific literature of Archivology, being translated for the purpose of understanding the analysis.

For this reason, it is helpful to consider the indexing process as an archival function distinct from all others, rather than focussing on the index itself, which can take a variety of forms. [...] indexing will not be treated as a procedure leading to the creation of a separate finding aid, but as one of that results found in certain finding aids including an indexing component in addition to their other functions (MARTIN, 1987, p. 24)

In this sense, Ribeiro (1996, 1998, 2011) also understands indexing as a distinct process in the information representation process. We will discuss your work later. We particularly agree with this view and believe that description and indexing are distinct processes, although they can be considered complementary. The distinction is so much in relation to the essence of each of the processes, since the description is a process of descriptive representation and indexing is a process of thematic representation, as to the elements involved in the elaboration of each one.

One of the most recent articles found among Canadian authors and with a significant contribution to the theme is that of Guitard (2013), published in Quebec. Like Martin (1987), Guitard's text is the result of a doctoral thesis defended at the University of Montreal.

In this publication, the author points out that in Canada archival description standards were created in 1992, which are precisely the result of BCA efforts. In this document, three aspects inherent to indexing were presented: the principle of respect for funds (the treatment unit), the levels of classification (the hierarchy) and the principle of the general for the particular. That is, when comparing the indexing process in Librarianship and Archival Science, the author states that the characteristics of documents, whether archival or librarian, interfere and condition the indexing process. In the case of Archival Science, context information is highlighted and the documents are treated as sets, both in description and in indexing.

When defining subject indexing or thematic indexing in the context of archives, Guitard (2013) adopts the same understanding of BCA, already presented in this article, that is, the subject indexing process refers to the representation of the subject or topic and takes into account consideration archival principles and their respective levels, which are compared to the stages of subject indexing.

Regarding the forms of access, Guitard (2013) indicates the index as an instrument resulting from subject indexing, because while in the library documents can be classified and organized directly by subject “in archival, the only access by subject is the index that covers sets of documents, such as the collection of a file or a file background. That is why indexing a topic is so important in archival: it undeniably promotes access.” (GUITARD, 2013, p. 203, our translation).

As for the procedures, the same author believes that fundamentals from the areas of Library Science and Information Science can be used. With regard to the indexing steps, she asserts that they are: the analysis of a document, the selection of concepts and representation in terms of indexing. From its positioning, there are similarities between the indexing process in archival and the one already consolidated in the fields mentioned above. This similarity refers to the steps, which are presented by Lancaster (2004), the Brazilian Indexing Standard NBR 12676 and the International Standard ISO 5963 (1985), but also to the fundamentals of the process.

However, although they are the same steps, the specifics of the archival document must be considered, which must be represented together and not as isolated items, as occurs in other areas. Thus, Guitard (2013) emphasizes that the configuration in concepts is more complex for sets of documents, in addition to the different supports and formats, since the entire background of the files is considered. Thus:

The differences between the documentary object in the archives and libraries condition the preliminary reading operation. The configuration in concepts is more complex for sets of documents, sometimes very different and in different supports and of different types, which are usually the backgrounds of the archives and less often the documentary objects. (GUITARD, 2013, p. 210, our translation).

The author emphasizes that the characteristic elements of documents, such as support, can interfere with the indexing process. The typological identification of documents is a fundamental process for carrying out processes for handling archival documents, as it is possible to identify through this process, together with diplomatic analysis, characteristics common to archival documents.

Among the Canadian authors who published in journals, are Gagnon-Arguin (1996-1997), Hudon (1997-1998) and Lévesque (2001-2002), who are convergent in terms of the subject representation presented, since they relate this description and consider the matter as an additional form of access.

Hudon (1997-1998), in the article entitled *Indexation et langages documentaires dans les milieux archivistiques à l'ère des nouvelles technologies de l'information*, analyzes theoretical and practical aspects of the indexing process from the perspective of the use of information technologies. It asserts that the processes of indexing and description in files are related, including the levels of description. Therefore, any indexation policy to be created will necessarily be linked to the current description policies. He adds that the organization and structuring of information by content and subject is just an additional access. The article points out as challenges the establishment of indexing policies, indexing systems and effective documentary languages by archivists. This view was also highlighted by other authors of this

research, such as BCA (1992), Maurel and Champagne (1999), already discussed and by Ribeiro (2011), which will still be emphasized.

With regard to definitions and understandings, in general Hudon understands indexing, in its broadest designation, such as the characterization of documents and the selection of concepts for their representation, supported by a definition of the French Association for Standardization (AFNOR). On the other hand, with regard to subject indexing, in a more specific perspective, it states that the main access to archival documents is not by subject, this being an additional access, as noted in the statement highlighted below:

The purpose of indexing in the archiving community is significantly different from that in other areas. In files [...], indexing is not used to organize or structure the content of collections. **Thematic indexing** is strictly to provide complementary access to those that already exist [...]. In addition, they rarely lead to a specific document, but to all documents already grouped in a background, in a series or in a dossier (HUDON, 1997-1998, p. 29, our translation, emphasis added).

With the publication, Hudon clarifies that archival documents have their own way of organization, which is not thematic. Therefore, the complementarity function is attributed to thematic indexing, since the main access is by origin. Thus, the objectives are also distinct and the representation processes such as classification and description are indispensable.

Gagnon-Arguin (1996-1997) affirms that the treatment of subject in archives has been a growing concern among Québec archivists since 1986. The interest is expressed through publications on the subject and through initiatives to use subject headings related to standards of archival description, as a way to improve access to archival documents. He points out that an archival description standard was developed for Quebec in the 1990s. The author draws attention to the concern with users and their search for the information retrieval process.

In order to highlight aspects that converge with our objective, it is necessary to differentiate the types of access. In relation to what was previously presented by Lytle (1980), BCA (1992) and Maurel and Champagne (1999), the author Gagnon-Arguin (1996-1997) specifies this discussion a little more when indicating the forms of access, the levels and the respective instruments generated. In summary, we elaborated Chart 5 in order to illustrate this evidence.

Table 5. Forms of access, levels and finding aids

Access Form	Level/Access	Finding aids
Provenance	Fund, creator that appears in the title.	Deposit guides and general statements.
Subject matter or topic	Fund or one of its parts (groups).	Thematic guides, indexes placed at the end of certain finding aids.
First Name	The reference is made to the page where the background or the classification of the background or one of its parts appears.	Onomastic indexes, which can also appear at the end of finding aids.

Activity	The content and form of the instruments should be developed mainly from the characteristics of the records.	Index of finding aids.
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Source: Own elaboration based on Gagnon-Arguin (1996-1997, our translation)

It is noteworthy that access by activity can be considered a type of access by subject, since the archive document assumes a specific confirmation according to the activity that generated it, that is, it assumes a documentary typology. For example, if the documentary typology to be represented is an “internship regulation”, it will provide evidence of the generic subject of the “internship” document, obtained from its activity or function. It is worth remembering that other substantive aspects are needed to assess the topic topic in addition to the documentary typology.

Regarding access by subject or topic, Gagnon-Arguin (1996-1997) clarifies that this access occurs through thematic guides and indexes placed at the end of each finding aid. As BCA (1992) has already stated, guides are costly from a financial and material point of view and, for this reason, they are hardly elaborated. It is worth mentioning that in the printed perspective, research instruments can be more expensive, which may not happen if they are digital.

Lévesque (2001-2002) emphasizes that archivists focus on description, minimizing the importance of indexing. In other words, archivists tend to favor other forms of access to archival documents than their content. By showing classification and description exercises, followed by theoretical discussion, it shows that the context is the most privileged point of view. However, in the author's view, the archivist should help the researcher or user and provide different forms of access to facilitate their research.

Dooley (1992), who published an article in the *American Archivist Journal* in 1992, whose text is based on a presentation made to the Society of American Archivists in October 1989, states that the use of online catalogs led to the perception by archivists of the need to promote the “Subject access” in the archives. It states that aspects of the material that are not often considered subjects can be represented, forming links between the content and the provenance. It is worth mentioning that this statement was outlined in the early 1990s and that the author was visionary about the aspects of access that are now implemented in national and international archival description standards.

One of the central aspects of Dooley's (1992) text is the need to promote consistency in the subject indexing process. Among the recommendations, he states that it is necessary to provide access by subject to archival documents to complement the existing access by provenance, recognizing that access to the subject does not include only generic topics, but also specific ones, such as names of people, organizations, places and events. In addition,

archivists should investigate user needs and behavior in the specific context of subject-oriented queries.

Also noteworthy are the publications of Fernanda Ribeiro, professor and researcher at the University of Porto, Portugal, who represents one of the main voices of subject indexing in the area of Archival Science in the International scenario. The author presents several publications on the theme, which are convergent and complementary. Thus, it emphasizes a book chapter published in 2011, called “Indexing in archives: general theoretical assumptions and specificities”, in which Ribeiro presents the theoretical foundations of indexing and their specificities in the context of archives, in addition to remembering results of previous research developed by her on the topic. He states that “the issue of indexing in the archives has been very little thought and discussed and, therefore, the literature on the subject is scarce and with obvious limitations.” (RIBEIRO, 2011, p. 40).

According to Ribeiro (2011) there are three processes at the heart of the archival organization: classification, description and indexing. However, the author questions the traditional view of archives imputed in the 19th century and which prevails today. It recalls the changes suffered in the area of Archival Science with a post-custodial view, which can influence the development of these processes. Thus, these operations must not occur in a purely technical manner.

The author helps us to understand indexing in the context of Archival Science in two aspects. First, the three operations cannot be considered watertight and separate, since from the point of view of a system and contemporary archival, they are integrated and aim to retrieval the information requested by a user, which must be prioritized at the time of archival representation. Second, indexing is considered a process for handling archival information, although it should be noted that classification and description are fundamental.

In his view, the subject indexing process is related to the description process and refers to the assignment and selection of access points for documents. It states that “the most important factor in determining the subject indexing policy is the amount of appropriate details for the descriptions of the set of documents involved, and this, in turn, depends on the level of description being used.” (RIBEIRO, 1996, p. 28, our translation). In other words, the author expresses the relationship between the levels of description and indexing. Thus, regarding the relationship between description and indexing (broad sense), BCA (1992), MacNeil (1996) and Hudon (1997-1998) converge.

For indexing to be carried out according to the levels of description, Ribeiro (2011) states that there is an “archival analysis” that serves both processes, description and indexing, which occurs before any operation is carried out. This analysis is done according to ISAD (G)

and at the different levels of description, which the author calls “levels of archival analysis”, because “[...] it is more appropriate to talk about levels of archival analysis than levels of archival description, since the analysis precedes not only the description, but all information representation operations, as is the case with indexing” (RIBEIRO, 2011, p. 47).

Thus, the information is presented at three main levels, with the respective subdivisions. The first is the ‘summary level’ (file), which considers the main archival unit and breaks down into sections and subsections. The second is the ‘exhaustive level’, which is based on the archival units (archival series/document), with the respective subseries and isolated units (which do not form a series). The third is the ‘deep level’ (archival unit), which in Brazil we call the documentary item. Thus, at the summary level, information is represented in a more general and less exhaustive way, while at subsequent levels, exhaustiveness increases. At the third level, it is necessary to detail the aspects of the subject, with a high degree of depth and specificity, in order to individualize the item and make the retrieval more accurate.

This analysis was previously indicated in the text by Smiraglia (1990), according to which the subject analysis is defined as an intellectual process and has two stages: analysis of the documents to determine the subjects, followed by the formulation of the access points. Regarding these access points, which interest us, the author clarifies that:

Subject access points (subject headings) serve both purposes. First, they serve to identify the subject of particular archival collections, series, subseries or items, and to facilitate the direct topical retrieval of these collective entities. Second, and perhaps more important, subject headings allow a user to see the entire scope of a repository’s holdings in a given topic by causing these bibliographic records to collocate, or appear side-by-side, under a subject heading in the catalog. (SMIRAGLIA, 1990, p. 64).

It is in the subject analysis process that some decisions must be made to make the representation. The first one concerns the level. When comparing the depth of the level from the perspective of libraries and archives, Smiraglia (1990) states that in the first case the representation is made at the summary level, through a kind of abstracts, considering the document as a unique entity in the catalog. On the other hand, in the archives it is necessary to define the level at which the document should be represented, as the complexity of the material does not allow using only this “summary”. This appears to be the greatest difficulty in adapting archival materials to existing subject heading lists.

Thus, it is essential to understand the meaning of “subject” in the archival field, which leads to a complex problem, which was not the subject of the present research, but which needs to be discussed in order to understand the subject indexing. BCA (1992) characterizes the subject in archival documents according to some aspects, such as: the subject differs from the creator (producer/author) of the document; extracting the subject consists of only one aspect of

content analysis; to extract the subject, it is often necessary to add some implicit information with the risk that the indexer's interpretation may replace the user's; the subject differs from the form and nature of the document, as there are some documents 'about' something and there are others that 'are' something; the subject of a document or group of documents differs according to the audience for which the document is designed, from its theoretical approach, intention and point of view.

The relationship between the extraction of the subject and the user is verified, which must be considered so that the representation is consistent with their search and retrieval interests. In addition, the nature and form lead us to the need to differentiate the subject of the document from other elements that compose it, such as the support (material) and the format (standard). That is, from the point of view of subject indexing it does not matter whether the document is a photograph in 3x4 format, but its content and subject. In addition to these two aspects, those linked to provenance are essential to be indexed, which in the BCA report are called reasons (circumstances), according to which the documents were created.

Santos Canalejo (1998) clarifies that the documentary analysis made in the archival description consists of a formal analysis, which applies the standards of description, among which she cites ISAD (G) and ISAAR (CPF). On the other hand, content analysis can use ISO 5963: 1985 (Methods of document analysis, content determination and selection of indexing terms), which defines indexing as the action of describing or identifying a document in relation to its content. The use of the Standard is also indicated by Ribeiro (2011), but it must be adapted in the context of the archives, since these documents have specificities, especially considering the volume of documents to be represented and the variety of existing issues.

Thus, we can differentiate between content and subject analysis, although in practice they deal with the same process. Content analysis identifies different elements of content so that they can be accessed, while "subject analysis means the representation in information system of topical content, whether it is expressed in indexing languages, documents texts, or some other form" (SCHWARTZ, 1986, page 37 apud BCA, 1992, page 48). That is, extraction of the subject from a document is only one aspect of the content analysis of the document.

Other international authors identified in the systematic review, such as Ostroff (1980), Dryden (1987) and Garrod (2000) were not considered in the discussion because they emphasize aspects related to standards, vocabularies and subject headings in the archives, without going into the definitions that are the subject of this article.

5 Final Considerations

When developing this research and given the quantity and scope of the sources researched, it appears that the indexing of subject in files is still a topic little explored in the analyzed literature, especially regarding its foundations, principles and methods. Thus, indexing still appears with caution on the part of the literature in the area as to its application in the archival context.

Based on the research evidence found and considering the importance and consistency of the analyzed texts, it is possible to affirm that the most common meaning in the literature in the area of “indexing” in its broadest sense, which has an interface with the archival description, which aims, in turn, to describe elements of context and content. In this way, content analysis is the process used to perform indexing at all levels of description.

It can also be said that subject indexing or thematic indexing refers to the representation of the "subject", with special interest in relation to "topics". This access is possible through indexes or catalogs and should not disregard other elements of context or other processes of organization and archival representation, such as classification and description, which are basic. It was also possible to realize that one of the main difficulties in the practice of subject indexing is to differentiate author (creator) and subject entries, so that access is more consistent.

In summary, we present the research evidence related to the definitions of indexing and its related terms in the context of the archives. We found three concrete evidences:

- a) **Method by provenance and method of subject indexing:** Two methods of accessing archival documents. The first occurs through access to the creator / author, with identification of elements of context, following the principle of provenance. The second occurs through access to the subject or topic (subject) and according to the principle of pertinence.
- b) **Indexing / Indexation / L'indexation / Indización:** Process of “indexing” in archives in the broad sense, which aims to represent the **content** of archival documents is used in the context of a “description and indexing system”, these processes being distinct, but that occur together or in a complementary way. An analysis is carried out, also called archival analysis, as it aims to extract access points to be represented at different archival levels and with different elements to be represented. In turn, it can generate different research tools. Some authors use these terms to refer to subject indexing, which is a different process.
- c) **Subject indexing** (*indexação de assunto, indexation per sujet*), **thematic indexing** (*indexação temática*): Refers to the representation of the subject element (subject, theme or topic) and should not disregard the representation of the document

context. It can be applied to different levels of description, but with difficulty of representation more exhaustively at the lower levels, depending on the volume of documents. It results in research instruments, such as indexes, catalogs and thematic guides.

Note: The expression “content indexing” is also used by some authors to refer to the subject of the document, which may be due to the ambiguity of the terms.

Regarding the subject that refers to the theme or topic, it is noticed that the term is little used in the context of the archives. As they follow guidelines from national and international archival description standards, authors use the term “content” more frequently and the subject is contained within it. Thus, significant evidence is to differentiate the subject from other elements that can be represented in the archival document, to facilitate its representation.

In general, we can say that different elements of content can be represented in archival documents, among them: names of people or entities (authorities), geographical names and subjects (themes or topics). At this point, we took advantage of the opportunity and resumed the definitions to affirm that the discussion about authority control integrating the “subject” of the archival documents is supported by some research evidence, to the point that we disagree, because when evoking authors of fundamentals of indexing, such as Cavalcanti (1978), Lancaster (2002) or even authors of the analysis, such as Ribeiro (1996, 2011), it appears that in the most basic sense of indexing, which is to elaborate indexes, there are different types of the referred instrument, one being the subject index. The authorities or “names”, as Martin (1987) calls them, are objects of research for the field of archives, including those supported by ISAAR (CPF), but this was not our focus of analysis.

Considering the issue of “subject”, in the scope of Archival Science it must be differentiated from the creator (producer/author), in addition to the need to distinguish the subject entries from the nature of the documents. In addition, their understanding may be different depending on the target audience and the context in which it is presented.

However, it is considered that subject indexing is an archival representation process that uses the subject element as the basis for its representation. To understand this process in the context of the archives, it is necessary to consider the difference between “indexing” (broad sense) and “subject indexing”. In the first sense, the content is represented, which involves different elements at different levels of representation. In the second, on the other hand, the theme, topic or subject is represented. This element is identified based on the analysis of information that is contained in the document itself and may contain clues in other elements of a more general character, such as activities and functions, and, therefore, the documentary typology. Its use expands the possibilities of searching and retrieving information from archival

documents. In this way, subject indexing does not dispense with the use of other representation processes, such as classification and description.

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