

# The Use of Classification in Archives as a Means of Organization, Representation and Retrieval of Information

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**Abstract:** In this paper we discuss the interest in and the use of classification in archives, both in terms of the intellectual organization of information in an organic-functional, functional or thematic hierarchical structure and at the level of information representation and retrieval of the informational content. Starting by looking at the concept of “classification,” we go on to analyze the information access tools relative to Portuguese archives. This enables us to understand how classification has been used to establish the organizational schedules that provide context to the informational production of the entities (persons, families, corporate bodies) that generate the archives, and how such schedules represent (or not) with scientific objectivity the informational reality being considered. We then discuss the usefulness of classification in archives as a tool for the representation and subsequent retrieval of the informational content, thus enabling an across-the-board access to information, alongside the access by creators and authors that the organic-functional schedules provide. Comparisons, analogies and differences regarding the use of indexing languages in other information systems, especially libraries, where subject classifications have been in widespread use since the end of the 19<sup>th</sup> century, are also established.

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## 1.0 The concept of classification in knowledge organization

Anyone consulting a dictionary or encyclopedia of a general character will find a simple definition for the concept of classification, which can be summarized in a few words: intellectual act or operation which consists of grouping elements that have something (a characteristic, a property) in common to form a set or class. To classify therefore means to form classes of elements with affinities and simultaneously to distinguish them from other classes, whose elements lack such characteristics. The system formed by classes and subclasses that are interlinked is formalized through a classification scheme, which is also

called a “classification plan,” “classification framework” or “classification table.” The classical classification schemes are based on the principle of logical division, devised by Aristotle in antiquity. It was later taken up by other philosophers and scientists including Francis Bacon, who developed the famous classification of the sciences in the 17<sup>th</sup> century, and Leibniz and Comte, who also made important contributions in the field of classification.

The classifications used for the organization of information date back to the pre-classical civilizations and had the function of either the arranging and physical ordering of documentary media or the intellectual grouping of their content or meta-informational representation in accordance with certain criteria (authors and producers, titles,

subjects, etc.), with the ultimate goal of allowing the searching and finding of documents and or information. Definitions of classification identical to that set out above are also formulated in specialized dictionaries of information science. By way of illustration we may mention two paradigmatic works here that represent the dominant thinking in this area of knowledge: the *Dictionnaire encyclopédique de l'information et de la documentation* (Cacaly 1997) and the encyclopedic *Diccionario de Ciencias de la Documentación* (López Yepes 2004). In these two dictionaries, the entries on classification trace its temporal and structural evolution, and we can draw some interesting conclusions from these reviews. First, we realize that it is from the nineteenth century, with Jacques-Charles Brunet, that we can truly speak of bibliographic classification—*dans le domaine bibliographique, c'est Brunet qui en 1804 instaure la première classification importante* (Dictionnaire 1997, 136)—and that the great encyclopedic classifications (enumerative and, later, faceted) appeared from the end of that century and were widely used in libraries and documentation centres throughout the twentieth century. Second, it is clear that the discussion on the issue of classification contains no reference to its use in archives, and there seems to be a consensus that this is an issue for libraries and and documentation centers, with archives being excluded from the area of knowledge organization (KO).

In Cacaly's *Dictionnaire encyclopédique*, there is no reference to archives in the various entries on classification and library classification. In contrast, in López Yepes' *Diccionario enciclopédico* there is a specific entry entitled "*clasificación de archivos*"<sup>1</sup> from which it appears that the classification in this area is understood more as establishing a category system according to various criteria (nature of the producer of information, geographic scope of the archives, age or type of the documents kept, purpose of the service they provide) than as an intellectual operation to organize and represent information or to arrange and sort documents by placing classification clearly outside the field of knowledge organization. Let us look at the content of the entry, which offers more comments (López Yepes 2004, 321):

*Clasificación de archivos (A). Según quien produce el fondo documental: públicos y privados. Por su categoría o ámbito administrativo: locales, provinciales, regionales, de Comunidades Autónomas, y Generales. Según la edad de los documentos: oficina o gestión, central, intermedio e histórico. Por su finalidad: administrativos e históricos. Dependiendo el número de fondos documentales que custodien: singulares y múltiples. Algunos autores clasifican los archivos por su soporte o temática: cartográficos, audiovisuales, especiales, etc..*

Interestingly, in the *Dicionário do Livro* (Faria and Pericão 2008), the problem of classification is addressed compre-

hensively with regard to the various areas where it is used in relation to documentation and information—librarianship, archival science and heritage protection of documents—fitting unambiguously into the field of knowledge organization, and it does not exclude the application of classification in archives from this field. There are fifty-three entries in this dictionary which start with the word "classification," "classifier," "to classify" or "classifiable" but it is within the generic entry simply entitled "classification" that reference is made to its use in the archives. After a generic definition (an "ordered set of concepts systematically distributed in classes, forming a structure; structuring of concepts into classes and subdivisions to express the existing semantic relationships between them"—Faria and Pericão 2008, 258), the authors present some statements that are more operative, clearly identified with knowledge organization, such as: assignment of a classification system's indexes to data or documents to facilitate their indexing, arrangement and retrieval; documentary language based on structured representation of one or more areas of knowledge in classes and in which the notions and their relationships are represented by notation symbols. And finally, they conclude with the entry where archives are mentioned (author translation):

In archival science, the intellectual component of organizing archives, which consists of the development of a framework or a plan, table or code based on criteria of organizational structure, or chronological, geographical, thematic, alphabetical criteria, or criteria of logical and systematic relationships grouped according to their similarities or differences, enabling the location of the series or items within the plan, scheme, etc.

From the examples listed it is possible to understand that there are distinct interpretations of the concept of classification, though its connotation with the field of librarianship is clearly dominant if we think of the classification in the area of knowledge organization. To corroborate this statement, we can also see the entry on classification by Wellisch in the *ALA World Encyclopedia of Library and Information Services*, in which we see very clearly the librarianship perspective mentioned above. The author states the concept of classification quite clearly and outlines its applications in information organization in these terms (Wellisch 1986, 200):

It is important to distinguish between three different meanings of the term classification in library practice: in its most literal and basic sense it is the act of classifying or making a classification scheme (the resulting scheme often being called a classification for

short); second, it is the act of classing or assigning class marks to documents that indicate subject content; third, it is the resulting physical arrangement of documents (books or other materials) on shelves or the related but not necessarily identical arrangement of documents surrogates (catalogue entries) in a classified subject catalogue. The first of these, making a classification scheme, is obviously the fundamental one, the others being dependent on it.

In the same entry, Wellisch particularly lingers over the matter of classification schemes, stating their constituent elements (tables, notation and alphabetical index) and examines in particular the best known systems of library classification: *Dewey Decimal Classification (DDC)*, *Universal Decimal Classification (UDC)*, *Cutter's Expansive Classification*, the *Library of Congress Classification (LCC)*, *Bliss's Bibliographic Classification*, and *Colon Classification*.

The angle from which we started to discuss classification in archives, as an instrument for the organization, representation and retrieval of information, emanates naturally from the integrated and unified approach that is inherent to information science as it is approached and practiced at the University of Porto. We do not assume an archive and library dichotomy, and therefore the technical component that is developed in the context of information services and systems, whatever their organic framework (institutional, organizational, family, personal), can only be understood as a set of procedures for the processing of information, regardless of the sphere of application. Thus, classification is seen as an intellectual and technical operation, which translates into a categorization and systematization for organizational purposes and a formal representation with respect to information retrieval. The final section of this text comes back to this idea and develops it further.

## 2.0 The use of classification in archives

In any classic archival manual we invariably find a chapter on classification, perceived as one component of archival organization. The English speak of *arrangement*, the French of *classement*, the Spanish of *clasificación-ordenación*, thus it is a mandatory subject in the training and daily work of archivists.

Herrera (1989) devotes a chapter to classification, which he deems an inseparable operation from ordering, two essential steps in the organization of archives (181):

*Clasificar y Ordenar son dos actividades dentro de una más amplia que podemos llamar Organización, perfectamente diferenciadas y esenciales, en aras a la conservación de los documentos, de una parte, e indispensables para inventariar y catalogar, de otra.*

And later on in the same book (187):

*La clasificación siguiendo el principio de procedencia precisa de su plasmación material en un esquema o cuadro que no es otra cosa que el andamio para sistematizar cada fondo en sus secciones y series. Habremos de distinguir siempre dos niveles o estadios: el primero se identifica con la estructura o funcionamiento de la institución (por ejemplo, su organigrama: órganos o funciones) y corresponde a las secciones y subsecciones o bien grupos o subgrupos; el segundo nivel equivale a las series documentales, es decir a los testimonios de actividades derivadas de aquella estructura.*

We infer from this that we are not talking about content and information from the standpoint of knowledge organization. It is, rather, the use of classification from an organic-functional perspective, which seeks to mirror the structure and activity of the entity that produced the information, though it is nonetheless a very important aspect of the implementation of classification.<sup>2</sup>

This view of the Spanish author is not far from what is postulated by the American archivists, based on the writings of Schellenberg and followed in several countries, including Brazil, by established authors such as Bellotto. Adopting the position of the Society of American Archivists (SAA), Bellotto (2004, 140) discusses the notion of *arranjo* (a term used in Brazil that means arrangement) and accepts the definition from the SAA glossary: *Arranjo é o processo e o resultado da organização de arquivos, documentos e manuscritos de acordo com princípios arquivísticos consagrados, particularmente o da proveniência, respeitando-se os seguintes níveis: arquivo, fundo, grupo ou seção, série, conjunto lógico dentro da série e documento.*

Another reference work in the field of archivistics is the manual by Couture et al. (1999). Ten years after Heredia, these authors take a very similar position on the function of classification in archives and also advocate an organic and functional perspective (221):

*L'objectif de la classification est d'assurer que tous les documents sont rattachés à leurs fonds d'origine et qu'à l'intérieur de ce dernier ils sont classifiés dans l'ordre correspondant à celui que leur a donné leur créateur.... C'est seulement dans ce contexte que le plan de classification fournit la preuve tangible de l'application du principe de respect des fonds d'archives. C'est par ce plan que seront identifiées les limites externes et la structure interne des fonds.*

However, Couture et al. also consider that the classification plan, the material expression of the classification as an intellectual operation (221):

*Constitue le premier instrument de repérage intellectuel des documents, facilitant de la sorte les démarches de recherche à des fins tant administratives qu'historiques. Son existence stabilise les processus de gestion de l'information en proposant un cadre de référence et en facilitant la confection ultérieure d'instruments de recherche spécifiques, tels que guides, répertoires, inventaires et index.*

We glimpse here an approach to the librarianship view, through the assumption that classification is also a tool that facilitates access to information in the same way that the Universal Decimal Classification does in the context of libraries and documentation centres.

Although in some authors, like those just mentioned, we find a perspective that is less custodial and more focused on access, one that does not view classification as a mere instrument of the material arrangement of documents, the dominant idea on classification nonetheless remains the one that is delivered by traditional archivistics and legitimized through various dictionaries of terminology in this area. For example, just see the succinct definitions of classification either in the Portuguese *Dicionário de Terminologia Arquivística*, or the Brazilian one:

*Classificação—componente intelectual da organização, que consiste na elaboração e and ou aplicação de um quadro ou de um plano de classificação* (Alves, et al. 1993, 20).

*Classificação—sequência de operações que, de acordo com as diferentes estruturas, funções e atividades da entidade produtora, visam a distribuir os documentos de um arquivo* (Dicionário 1996, 16).

Considering this consensus on the definition of classification, focused on its use to provide the arrangement of ar-

chival *fonds*, it would be natural for such a conceptualization to actually be reflected in the organization of archives and the design of tools to access information. However, we seriously doubt that it is like that, judging by what has been the practice throughout the twentieth century, as we have proven by the analysis of access tools relating to Portuguese archives published between 1889 and 1996.<sup>3</sup>

In a study published a few years ago (Ribeiro 2003), 526 access tools of various types were identified (see Figure 1), which, after analysis of their internal structure, revealed a lack of rigor in the organic-functional representation of documents and or archives subject to analysis, description, classification and indexing. Indeed, even then we felt that an important conclusion to be drawn after analyzing the types of tools for accessing information in Portuguese archives that had been published, was a clear tendency to favor the production of instruments to serve the interests of research, especially historical research. This perspective necessarily led to the development of instruments that were rather compartmentalized in light of the full reality of the archives to which they related and an appreciation of the documents as sources of information, rather than as components of a functional-organic whole, i.e., the system to which they belong.

The statement that any archival information access instrument should make the context of production of documents intelligible is something that archivists accept as undeniable. However, in practice, the tools produced do not follow this principle. Many of the instruments analyzed are limited to the sorting of description units according to a logical criterion (alphabetical or chronological, in most cases), which, in addition to not translating the organic and functional structure of the archives, in fact distort the archive's own reality, because the understanding of the context in which the archival units were produced and

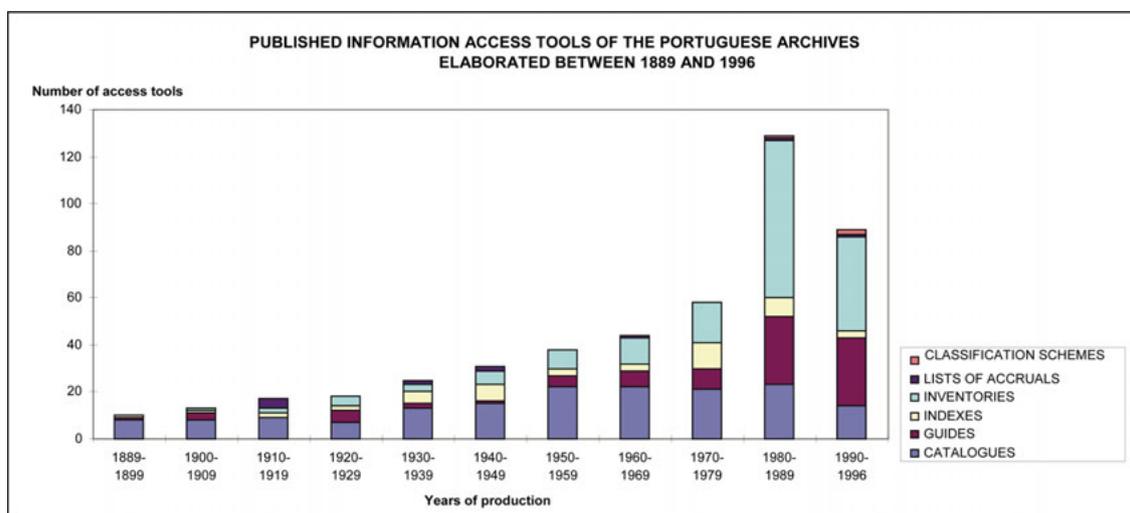


Figure 1. Information access tools of Portuguese archives

organized is lost. The correct representation of archival units analyzed for the purpose of an information access tool can only be achieved if the internal structure of this instrument has the organic and functional classification as the primary criterion for sorting such units. The classification codes are both the elements used to order the description units and also work as access points and allow a proper contextualization of these same units.

The information access tools for Portuguese archives that we chose as the study subject were also analyzed in terms of their internal structure, with various criteria for sorting descriptive information being identified: alphabetical (including subcriteria such as anthroponymical, geographical, ideographic and onomastic), systematic (generic classification, thematic or organic-functional classification), chronological, numerical and topographic. Of these criteria, attention is drawn to the systematic one, based on the use of classification, that is, whenever the internal structure of a tool is based on the organization of groups of description units, listed under items (or classes). Such classification may correspond only to a logical criterion of arrangement without any other purpose (classification in the general sense), or it can result from a systematic order of subjects (thematic classification) or it may represent the organic structure and the archival functions (organic and functional classification). Depending on the sort criteria identified from 443 information access tools it was possible to identify the sort criteria that we mentioned before, as shown in Table 1.

<b>SORT CRITERIA</b>	<b>NUMBER OF INSTRUMENTS</b>
Alphabetical	54
- Anthroponymical	- 15
- Geographical	- 43
- Ideographic	- 4
- Onomastic	- 14 (Total: 130)
Classification	74
- Thematic classification	- 10
- Organic-functional classification	- 38 (Total: 122)
Chronological	88
Numerical	20
Topographic	83

Table 1. Sort criteria in information access tools in Portuguese archives

In addition to these data it must be noted that in 83 tools it was not possible to identify any sort criterion of the description units, since their organization inside the tools appeared to be totally random, lacking any kind of logical ordering.

These results are undoubtedly very interesting and indicated a few conclusions. The fact that only 38 instruments

(7.2%) have an internal structure corresponding to the organic structure itself and to the functions of the archives to which they relate reveals the inadequacy and inaccuracy of most of the access instruments to archival information that have been published in Portugal. This may be explained, first, because most of the instruments are not the responsibility of archivists but of historians and other researchers, who aim to make available information that they have knowledge of and can be disclosed, and so the lack of archival criteria in such instruments is natural; in addition, the chronological limits of the instruments cover times when archival science was relatively undeveloped from the technical point of view, and far less developed in theoretical terms. However, after 1980 there were 187 instruments and in these, too—corresponding to the period of greatest development of Portuguese archives—we find a strikingly poor representation of the reality in question.

We also concluded that nearly all kinds of instruments were spread among different sort criteria, although some had greater expression than others. Thus, the catalogues were mostly chronological and topographic; guides were organized in greater amounts according to a classification criterion (but not organic and functional), although the alphabetical and geographical were also quite well represented, the onomastic, anthroponymical, topographic and chronological indexes were the most represented; inventories were the instruments in which an internal structure of an organic-functional type appeared more often, but other classifications and alphabetical, geographical or topographic sort criteria were also used to establish their structure.

In 2013 we again collected, by sampling, information access tools of Portuguese archives published between 2010 and 2012, with the purpose of confirming whether the findings of our previous study could be deemed out of step with current reality. Of a set of 30 information access tools we found that only 9.6% have an organic-functional classification, on the basis of their internal structure. Though this is slightly higher than in the previous study, this figure still reveals the insufficient rigor with which the information access tools represent the archival reality that they choose as their subject for analysis.

Will this finding be justified by the paradigmatic view that still dominates Portuguese archival science, in which mastery of the technique outweighs a scientific, reflexive and problematizing approach? We believe that concern with “doing” research tools without a previous analysis of the archival reality, which is based on application of the scientific method, has led to access to information being an end in itself and not the final step of a process that requires rigorous knowledge of the object that will be formally represented, using metadata, so that the organic context in which the documents and information were produced and

used becomes intelligible to users who yearn to be able to efficiently access the information they seek.

### 3.0 Classify to organize and arrange *versus* classify to represent and retrieve

From the foregoing, we can easily conclude that the use of classification in archives and libraries has been a separate issue and had different purposes, because, in fact, it derives from perspectives that are also different, about how the organization of information is viewed. In archives, particularly in historical ones, the vision is still quite custodial and very much focused on the arrangement of documents; in libraries, the issue of access to information began to be valued early on and therefore classification has been used more in the representation and retrieval of information. They are two distinct but complementary functions that can be performed in any information system, promoting better performance and a more efficient service for users.

The two key dimensions that classification may have can be briefly described as follows:

- organizing and arranging (physically) documents
- representing and retrieving information.

The first of these dimensions in historical archives has been mainly concerned with the intellectual organization of the documentation, resulting in the development of classification tables that supposedly represent the organic and functional structure of the producing entity. However, as mentioned above, that is not always the case because most of the time thematic or functional classification tables are designed and the context of informational production is not rendered intelligible. Using classification to physically arrange documents and give them a physical and systematic organization is not done at all in historical archives, obviously because the main concern is the utilization of space in the stacks and the *fonds* are not freely accessible.

By contrast, in current records, the lack of classification tables is striking, but on the other hand, “classification schemes” are normally used, intended not only for the intellectual organization of documents but their physical arrangement, too, in files or folders (physical, placed on shelves or electronic, stored in the computer). These schemes are usually thematic or functional and apply mostly to correspondence and “business processes,” leaving out a lot of other documentation generated and accumulated by producing entities.

Libraries, meanwhile, use classification for the purpose of organization and storage very differently, favoring the physical systematization of documents for the implemen-

tation of open access, thus avoiding the need for catalogues as tools to mediate between users and information. The organization of collections for free access was and is increasingly the key reason for the use of large universal classifications such as *DDC* or *UDC*, despite the recognized obsolescence of such classification schemes. Unlike archives, libraries use the classification to organize and arrange documents according to their informational content and not according to their organic provenance.<sup>4</sup> But this difference does not undermine the use of classification as a central tool for the organization of knowledge, and in any case its use is fully justified.

Considering the second dimension of application of classifications—representing and retrieving information—again we detect substantial differences between current practice in libraries and what is usual in the archives. The emergence of library classification dates back, as we have seen, to the early 19<sup>th</sup> century with the appearance of the famous Brunet Classification, but it is especially from the development of the *DDC* in 1876 that we can talk about classification as a language of representation of the informational content or, as we would say today, an indexing language for categories.

The literature on indexing languages in general is abundant and there is undisputed consensus among experts. For illustrative purposes we can cite various classic authoritative reference works (Chaumier 1982; Maniez 1987; Slype 1991; Campos 2001; Gil Urdiciain 2004). There is also plenty of literature on the specific case of classification both on individual languages (*DDC*, *UDC*, *LCC*, *Bliss*, *Colon*) and on the theory of classification and general questions on the subject (e.g. see, Simões 2001). There is a long tradition of systematic catalogues in libraries and documentation services, and from the 1950s this began to be supplemented by other types of information access tools based on vocabulary and combinatory languages, of which thesauri are the most typical expression. Subject indexes, databases, subject catalogues with the use of vocabulary languages are widely used and are the absolutely essential tools for the representation and retrieval of the thematic content of documents. In the web world, classifications and thesauri have evolved into other forms of expression, such as ontologies, taxonomies, concept maps, and folksonomies, to make the semantic web a reality that always meets user needs, which today the hermetic language of librarians dominates less than ever; users want to search in their natural language, “Googling” and navigating through cyberspace.

And in the archives? How do we get access to thematic content? Which languages are used and what is the role of classification here? Nearly two decades ago we undertook a study on the use of indexing languages in archives (Ribeiro 1996) and at the time there was virtually no literature on

the subject. From the survey we conducted on Portuguese archives we concluded that subject indexing was virtually nonexistent, in fact in line with what was concluded a few years earlier from the work developed in Canada by the Bureau of Canadian Archivists (1992, 35):

In the archival world, Lawrence Dowler suggests, there is some uncertainty “about the value and effectiveness of subject indexing; that is, [archivists] tend to think it is important, but have very little information about either how it is currently used or how it might be used.” Others have argued that subject indexing is of limited value to archivists, because, whereas books and articles are about something, archival records are part of personal or administrative transactions and, therefore, do not lend themselves to being subject indexed. Archival records are something, as distinct from being about something.

The same conclusion also reached by the participants in the seminar held in 1998 in San Miniato, Italy (Pierulivo and Cerri 2000), a pioneer meeting on the discussion of subject access in the archives.

After about fifteen years, it is legitimate to ask ourselves how the processing of information in archives has evolved and wonder how the integration of archives occurred in the digital and networked society in which we operate. There are no known synthesis studies that analyze this issue, but what we can say is that over the past two decades and under the uncontrollable effect of the internet archivists find themselves pressured by users—who do not want to go to the archives reading rooms to get the information they need—to make their contents available on the web. On the other hand, increasing interest by users focuses on obtaining information on subjects, regardless of whether it is kept by a library, an archive, a museum, a memory institution of any kind. And it is also undeniable that searching such a wide variety of information sources is only effective if the metadata related to content is created, that is, indexing languages (which include classifications) remain essential regardless of whether the types or formats used are more or less interoperable.

It is therefore much more about representing and retrieving information than about organizing and arranging documents and, in this new post-custodial paradigm, access to information is at the heart of the work and concerns of information professionals. Thus, it is clear that it no longer makes sense to use classification and other languages differently in archives and libraries, and there is no justification for the training of professionals who will work in these two types of information services (or even other bodies such as museums, documentation centres and in-

formation management services within a wide range of organizations) to differ, far less with regard to the technical component of the organization and representation of information. This is also a natural consequence resulting from training in information science, taught at the University of Porto, which assumes the epistemological unity of the area without artificial distinctions dictated by the rationale of professional contexts (David 2008; Castro et al. 2011). This unified education aims to train information professionals and managers able to work in any organizational context, information flow generator and, as such, embraces in an integrated manner all the technical component devoted to knowledge organization.

## Notes

1. There is also an entry entitled *clasificación de fondos documentales de archivo* and another on *clasificación funcional de series documentales* (López Yepes 2004, 325).
2. On this issue, see Ribeiro (1998) to show to what extent the use of classification in archives differs from what is common practice in libraries and documentation.
3. The study cited was the topic of Ribeiro (2003).
4. See Ribeiro (1998).

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