

DOCUMENTATION AS ONE OF THE ORIGINS OF THE INFORMATION SCIENCE AND A FERTILE BASIS FOR ITS GROUNDING

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ABSTRACT

This article aims to explore the documentary principles as equivalents to the core matters proposed to the Information Science, as a way to promote the debate about its groundings. The study is justified because it considers that the perception over the identity crisis in Information Science is oriented by literature strongly based on specific axis, which engender partial views, incapable of constituting articulated parts of a whole. As methodology, it reviews the literature and discusses the history of Information Science, considering it prior to the emergence of this designation, and deals with its disciplinarity, presenting interdisciplinary frames, which are significantly consolidated. Besides, it studies the matter of the designations for the area. The study enables us to notice that the stir which involves the matter of identity of Information Science is not relevantly expressed in the literature and in the professional practices, which are oriented by Documentation, and which has presented, simultaneously, focus and density along the time. The history of Documentation permits us to question the discourses over the lack of consensus in Information Science and over the fragile central nature due to its technical dimension and to the supposed fluidity, intrinsic to its limits and borderline areas. It concludes that the documentary principles are a basic part of the grounds of the Information Science and are emblematic of its identity unit.

Keywords: Documentation History; Information Science History; Information Science Epistemology; Librarianship and Documentation.

INTRODUCTION

We start from the premise that the Information Science acts intervening in the production and use of knowledge through the construction and management of documentary systems. The configuration Librarianship – Archival Science – Museology shows, in this context, productive approach about Information Science, whose operations of representation, retrieval, storing, access and use promotion

refer, respectively, to the information of the bibliographical, archival e museology type.

The term Librarianship is used, in a restrictive way, to indicate the management activity and care of library patrimony. The Documentation, on the other hand, consolidated as the set of techniques (and principles) of content representation of documents in their several typologies and in any support, aiming the retrieval, access and use of these contents. The expression Librarianship and Documentation started to be used in the sense of gathering, in a cleared up way, of the basic characteristics of each one of them; although the second, by definition, encompasses the firstⁱ.

The foundation and consolidation of the Documentation, observable in the literature and in the documentary practices, indicate the existence of an object constructed historical and conceptually. Its fundamental work is the *Traité de Documentation*, by the Belgian Paul Otlet (OTLET, 1934). This work can be understood as the starting-point of the triad approach anchored in the activities of organization and retrieval of the bibliographical, archival and museology informationⁱⁱ. Although the Documentation developed itself as the set of techniques to deal with of the technical-scientific bibliographical information, it is presented today by the resumption of the mentioned triad (which we do not develop on this work).

The article aims to explore the documentary principles as equivalent to the core matters proposed to the Information Science, as a way to promote debate over its basis.

The work is justified because it considers that the perception over the identity crisis in Information Science is oriented by literature strongly based on specific axis, which engender partial views unable to constitute articulated parts of a whole. It reinforces the idea of the relativity of this crisis from the acknowledgements of continuous accomplishments of personalized, relevant and quality professional practices. As methodology, it carries out literature review and discussion about the History of Information Science, considering it prior to the emergence of this denomination and deals with its disciplinarity, presenting interdisciplinary constructions which are significantly consolidated, and discusses about the matter of denomination for the area. Due to the origin of the theme treated and of the idiomatic

competence for the reading of the texts, the literature adopted is the one produced in France, Spain and Portugal under the intake of Documentation, besides works in English and Portuguese about the theme produced in Brazil. We focus on the European production once this literature recognizes the one that comes from the USA – which exercises predominance in the area – but the opposite does not occur, that is, the USA does not recognize, in the same way, the European production.

2 THE OTLET CONCEPT, FOUNDER OF THE DOCUMENTATION

The Documentation has the Otlet concept as its first concept, and developed epistemologically out of this reference.

The lawyers Paul Otlet (1868-1944) and Henri La Fontaine (1854-1943) were the mentors of the International Institute of Bibliography (IIB)ⁱⁱⁱ, created in 1895 in Belgium, and the Universal Bibliographic Repertory (UBR), whose project was proposed in the same year and got to have 16 millions of cards in 1934. Otlet's dream was to offer an index of topics by means of the UBR, which would permit (through these topics) to go to the heart of knowledge (FAYET-SCRIBE, 2001, p.47; 49). This dream was related to the idea that the access to knowledge to all the peoples would take us to a higher comprehension of the conception of the otherness, in the sense of knowledge of the differences, what would make it possible the worldwide peace.

According to Fayet-Scribe (2001, p.77), for the preparation of the UBR, were defined rules for bibliographical records, international catalog records, document format (mainly the cards) and specific types of furniture. The catalog rules written by Charles Sustrac and the shape of the card of 7, 5 x 12 cm were inspired in the Anglo-Saxon rules. The Dewey Decimal Classification (DDC) published in 1876 in the USA was used first on its 5th edition (from 1894) to classify UBR documents. The decimal classification was edited for the first time in French in 1905, and later was checked and led to a new documentary instrument, the Universal Decimal Classification (UDC), which is widely used in Europe until nowadays.

Otlet first adopted the word Documentation, in 1903, in an article entitled *Les sciences bibliographiques e la documentation*, in the sense of the process of

providing documents or references to the ones who need information they may contain. This author refers to a body of knowledge denominated bibliographic sciences defined as: production, material fabrication, distribution, listing, statistics, conservation and utilization therefore, including compilation, printing, publishing, bookselling, bibliography and librarianship. Otlet considered as documents not only books and manuscripts, but also archives, maps, schemes, ideograms, diagrams, drawings and their reproduction, photographs of real objects, among others (OTLET 1983 *apud* WOLEDGE, 1983, p.270-271). For Fayet-Scribe (2001, p.47; 49-50), this text may be considered the founder of Otlet's work. According to this author, the library stops being only an institution which conserves books and these are not any longer the only ones in which could be identified knowledge: the idea of document is created: its function turns out to be more important than its morphology.

Besides this, designating the specific activity of collecting, processing, searching and disseminating documents, Otlet used the term documentation in 1905 in the article *L'organisation rationnelle de l'information et de la documentation en matière économique* (OTLET, 1905 *apud* CHERNYI GILYAREVSKII; MIKHAILOV, 1973, p.46). Here we observed probably the first use of the words information and documentation. Between 1905 and 1917, Otlet started to abandon the word bibliography in his publishing in favor of the words documentation and information, even when in many times he uses one for the other. In the *Traité de Documentation*, he made use of the word Documentology to designate the field of knowledge which encompasses the words bibliography, bibliology and documentation (FAYET-SCRIBE, 2001, p.52).

At the beginning of the *Traité*, he sets the motto (still the current one) of Documentation: it is necessary to make it accessible the quantity of published information, producing “[...] a homogeneous whole of these incoherent masses [...]”, for which would be necessary new procedures, distinct from the Librarianship, as they were applied until then (OTLET, 1996, p.6).

Three years later, presenting a systemic view developed by the subsequent theoreticians through the notion of documentary flow, Otlet describes the Documentation as being:

[...] nowadays constituted by a series of distributed operations among different people and organisms: the author, the copier, the printer, the editor, the bookseller, the librarian, the documenter, the bibliographer, the critic, the analyst, the compiler, the reader, the researcher and the intellectual worker. The documentation follows the document from the moment it arises out of the author's pen until the moment it impresses the brain of the reader (OTLET, 1937).

Along the time, many definitions of Documentation arose. Wolegde (1983, p.270) highlights one that he considers clear and not ambiguous, and similar to that proposed by Otlet in 1903. This definition was presented in the first edition of the *Journal of Documentation*, in 1945, by its editor, Theodore Besterman:

Anything in which knowledge is recorded is a document, and documentation is any process which serves to make a document available for the seeker after knowledge... Librarianship and organization of information services, bibliography and cataloguing, abstracting and indexation, classification and filing, photographic and mechanical methods of reproduction: all these and many others are the channels of documentation which guide the knowledge to the enquirer.

3 THE CONSOLIDATION OF DOCUMENTATION IN EUROPE

Following the informational perspective proposed by Otlet, those who acted according to it saw themselves obliged to search possibilities of interpretation for their reiterated diffuse and arrogant exposures, and for its production meant to be scientific – as we can observe in the *Traité de Documentation* – carried out in a detailed, descriptive and encyclopedic way, less than argumentative, as Rayward relates (ARNAU RIVED; SAGREDO FERNÁNDEZ, 1993, p.112).

Maybe for these reasons, the route of development of the Documentation counted on, simultaneously, ardent supporters and protesters. Mainly after Otlet's death, his followers were urged to comprehend the political and cultural moment which characterized the beginning of the century in Europe. Studies about Documentation were developed by many authors as Bradford (1951), Vickery (1959), Shera (1966, among others), Sagredo Fernández and Izquierdo Arroyo (1983), and others. We can still point out the researches done by the French group of Information Science and of Communication and by the Spanish López Yepes, on whose studies we will work.

About the fundamental works related to the theme, the book by Suzanne Briet *Qu'est-ce que la documentation?* (1951) was translated into Spanish in 1960, and only in 2006 to English (BRIET, 1951; 1960; 2006). André Cannone, in Belgium, produced a facsimile edition of the *Traité de Documentation* in 1989 and tried to retake the work of Otlet (OTLET, 1989). The *Traité* received the Spanish version in 1996 (OTLET, 1996) but it does not have version in English. Only very recently, these two works were available in integral text on the Internet.

Rayward (1967; 1975) has published in English language about Otlet's works, trying to identify the possible meanings of this theme in the current contexts. Michael Buckland, together with Rayward, is one of the responsible for the disclosure of Documentation in this language in the context of his historical studies about Information Science. Despite the wide and old production of literature about Documentation in Europe, the contributions of Rayward and Buckland have showed great potential of diffusion and influence. The 100th anniversary of the FID creation was one of the factors which promoted the disclosure of the Documentation origins.

According to Buckland (1996), the grounds and techniques proposed by Otlet and sedimented especially from the end of the XIX Century to the 1930s received many contributions within Europe until the current days, but many of them were lost in the devastation of this continent during the Second World War. Only in the 1950s Documentation emerged with strength in the United States, sharing space with the Specialized Librarianship, and rapidly being replaced by the Information Science. For Estivals (1978, p.30 *apud* LÓPEZ YEPES, 1995, p.77), the work of Otlet was forgotten between 1940 and 1965, decade in which it was retaken significantly in Europe.

This way, we find in France, Spain and Portugal the uncontested reference about the theoretical continuity and practice of the principles proposed by Otlet, especially the ones related to organization of information and to the linguistic and technological contributions to this process. In these countries, Documentation encompasses research, formation and related professional practices. Next, we will deal with the origins of the term in these countries.

3.1 France

If the birthplace of Documentation is Belgium, its normalization and organization happened permanently in France, in the period from 1895 to 1937, as Fayet-Scribe asserts (2001). Considering the end of the XIX Century as a period of growing of document production, the methods and instruments which made it possible to retrieve these documents proved to be limited. In order to answer to the need of organizing, in the collective level, the set of instruments of access to information, the Documentation developed as a new domain of activity. According to Fayet-Scribe, Otlet and the general Hippolyte Sebert (1839-1930), one of the founders of IIB in France, played an important role in the consolidation of the Documentation sector. The author also deals with the relation between public reading and technical and scientific information, which, as we understand, is a phenomenon as little faced as emblematic to the comprehension of the Information Science.

The history of Documentation counts on, among other French documentalists, Suzanne Briet (1894-1989), employee of the National Library of France, disciple and follower of Otlet and author of one of the classical works of the area, as we mentioned before. For her, Otlet was the international leader of the Documentation, because others would have been less ambitious or more prudent (BRIET, 1951, p.9). According to the translators of her work into English, Briet approaches science and culture in the context of the global development after war, between Otlet's utopia and the theory of information and the cybernetics of the United States. They state that she accomplishes characterization of documentary sign in institutional and cultural contexts, which is still a challenge considering the simple, positivist quantitative approaches of that country (BRIET, 2006, p.v-ix). Buckland (1995) refers to Briet as Madame Documentation, considering her the pioneer of the Information Science.

For Briet, the terms *special librarian*, *library* and *bibliography* had other meanings in France, where the neologisms *documentaliste*, *centre de documentation* and *documentographie* were considered necessary for the moment because it corresponded to a state, if not more evolved, at least doctrinally more elaborated (BRIET, 1951, p.40). However, in a trip that she took to the United States between 1951 and 1952, Briet declared that given the force of the development of the

specialized libraries in that country, the same would represent the French documentation centers, but with another name. The FID secretary general Donker Duyvis also took a trip to the United States in 1946, and made similar statement about the evident “documentary spirit” of librarians and archivists of that country (MEYRIAT, 1993, p.195). To Duyvis, there was a division between librarians and documentalists in France, while in the United States, the librarians started to perform the duties of the public library as well as the specialized ones.

In fact, the peak and the end of the Documentation, as proposed by Otlet and by many European experts, happened in 1937 during the Worldwide Congress of Universal Documentation, accomplished in Paris, in the International Exposition of Arts and Techniques, as Fayet-Scribe says (2001, p.202-207). The Congress certified that the Documentation reached maturity on its 40 years in many aspects as: standard of classification systems, cataloging and bibliography standardization, production of instruments with the source of intellectual works (yearbooks, repertories, bibliographic guides, etc), compilation of the Documentation terminology, adoption of new supports (as the microfilm) and recognition of several kinds of specialized information (such as the cartographic, the meteorological and the administrative one). The RBU, although considered an excellent idea, was abandoned, for it represented a huge and a little achievable work.

According to Fayet-Scribe, this event and the Documentation itself were forgotten, because the proximity of the Second World War deflagrated a moment not too propitious to peaceful utopias in which the international cooperation necessary to the compilation of access instruments to the registered knowledge was oriented. Even so, the Congress put in evidence the Otlet view of an intellectual economy in an international informational space and it meant the act of the scientific information birth in our society.

Only around the 1960s, a new scientific configuration was consolidated in France, as Couzinet states (2004, p.22-23). In that period, researchers, worried about reading, documentation, book history, media and culture, had difficulties in finding recognition in their own disciplines. This way, Robert Escarpit, Jean Meyriat and Roland Barthes, among others, formed the Committee of Information and Communication Sciences. In 1975 the Committee organized its first conference

about the relations between Information and Communication Sciences, and, in 1977, the Inforcom was formed: French Society of Information and Communication Sciences, constituted by research and university groups.

According to Couzinet (2004, p.25), the Information Sciences in France are a branch of the Human and Social Sciences, whose focus is centered in the construction and sharing of knowledge in varied social and cultural contexts, however dedicated to objects which have a more permanent presence in society, and, as a result, to the operations which accomplish its analysis, production and accessibility. Due to its origin, this branch includes the media studies (news, radio, television) and of cultural studies (some aspects related to the movies, theater, museums and to the cultural industry). About the term Documentation, it refers to a set of methods and techniques; to approach its scientific aspects and to make the difference of other aspects of Information Sciences mentioned previously, it uses sometimes the expression 'Information-Documentation Sciences'.

Couzinet, Régimbeau and Courbières (2001) state that Buckland, Ray and other researchers of Information Science in the United States know the European pioneers such as Briet and Otlet, but ignore the works of the researchers of Information and Communication Sciences. We agree with Couzinet and colleagues, once we consider the production of this group as the main reference in Documentation, and relevant contribution to the Information Science. If only recently the conception of Otlet has been disseminated in English language, the work of these French researchers is not too known out of Europe.

3.2 Spain

The introduction and the development of the concept of Documentation in Spain demonstrate the meaningful and particular role that this country deflagrates in the history of Documentation, only compared to France, whose production is its basic reference.

According to López Yepes (1995, p.256-258; 260; 262) the speech *Misión del bibliotecario* read by Ortega y Gasset in the opening of the II Congress of Libraries and Bibliography, in Madrid, in 1935, presented a prospect of general

problems which related to the documentary movement of Otlet; however, the words *documentación* and *documentalista* did not appear. It is possible that Ortega y Gasset had been influenced by Otlet work, published in the previous year, and by his collaborator Javier Lasso de la Vega, who initiated in this field. López Yepes states that Lasso de la Vega is the Spanish who wrote more about the concept of Documentation in works published between 1947 and 1980, besides acting in Spain in the CDU introduction, and in the spread of the concept of Documentation and on its application in fields of knowledge such as the Law. It is shown in the literature, in a recurrent way that the Spanish production about the theme was initiated by Lasso de la Vega.

However, scientific production and courses happened permanently in Spain from 1970 on. It is probable that one of the first and more wide-ranging historic-conceptual works – for it explored the several theoretical currents of the area – is the book *Teoría de la Documentación*, published by López Yepes in 1978 and upgraded in 1995, with the title *La Documentación como disciplina: teoría e historia* (LÓPEZ YEPES, 1978; 1995). As well as Lasso de la Vega, López Yepes understands the processes of documentation as necessary condition to the scientific activity and to the development of science.

The work of López Yepes is identified as the one through which professors (from other areas such as Arts and Philosophy) from the incipient Spanish schools of Librarianship and Documentation knew and learned the object and the internal and external limits of the discipline (LÓPEZ-CÓZAR, 2002, p.131). We observe that, not only Otlet but also López Yepes are widely adopted in the literature produced in Spain, triggering what we may define as Spanish approach about Documentation.

Even though the term *Documentación* is the most widely used and recognized to name the research, the teaching and the professional practice, the expression *Ciencias de la Documentación* has been used since the 1970s (LÓPEZ YEPES, 1978) and the beginning of the 1980s (CURRÁS, 1982) in the sense of a set of all documentary disciplines which study and execute the several aspects of the documentary process (LÓPEZ YEPES, 1995, p.321). On the other hand, the term *Ciencias de la información* is adopted in this country while a wide area is composed

by Documentation and by the disciplines of Communication (such as Journalism and advertising), supposedly by influence of the French movement described previously.

3.3 Portugal

Training courses happened in a similar way in France, Spain and Portugal, initially centered in the work of conservation and arrangement in libraries and archive.

According to Ribeiro (2005, p.19) the Superior Course of Librarian-Archivist, in Portugal, graduated professionals since 1887 to the work in libraries and archives (predominantly public) under technical and patrimonialist approach. In 1982, the course was extinct and replaced by the Course of Specialization in Documental Sciences, whose word 'sciences' meant to join several disciplines, supposedly more scientific, and in consonance with the technical and technological challenges which were arising.

Recently, the designation was substituted by the term Information Science in some academic spaces, as we will see later in this text.

4 OTHER CURRENT AND THE DOCUMENTATION

López Yepes (1995, p.103; 106; 156) understands that the concept of Otlet fragmented itself due to the polemic Librarianship versus Documentation on its several phases of juxtaposition, superposition, infra-position or independence. He states that the Anglo-Saxon, German and Soviet documentalist approaches which arose from 1950 and 1960 were supported by followers of Otlet's doctrine and aimed to overcome this fragmentation to an integrator concept of informative perspective.

We observe that fragmentation and overcoming movements from Otlet's concept happened, but the integrator approach expected did not happened widely and even took new contours. Considering that the Anglo-Saxon current (that is, the one from the US) was the one which remained and that predominates, López Yepes presents his initial developments and states its relevance, but does not deal with the current implications of the dissemination of that current.

Next we will deal with the documentalist branch of the currents named *Information Science* (from the US), *Information-und Dokumentationwissenschaft* (German) and *Informatika* (Soviet and from West European countries).

4.1 US Current

The presence of the term Documentation in the US in the name of associations and courses in professional practices and in literature happened, in fact, in 1950. Today this term, besides being rarely used, doesn't encompass the European use. This current, among others presented ahead, is the one which received less influences from the Otlet Documentation.

The Special Libraries Association (SLA) was created in 1908 in the US, by John Cotton Dana, who used for the first time the term Specialized Librarianship, promoting the separation of the group constituted in the American Library Association (ALA) (SHERA; EGAN, 1961, p.32).

According to William (1997 *apud* SILVA; RIBEIRO, 2002, p.49), in 1937, Watson Davis created the *American Documentation Institute* (ADI), greatly influenced by the wide professional documentary practices which he observed two years before in Europe when taking part of the International Congress of Documentation. Silva and Ribeiro (2002, p.49), state that, in the Decade of 1940, the ADI lived a phase of inactivity due to the lack of financial and projects, what led the members of SLA (so, the specialized librarians) to carry out the work, which was responsibility of that entity. According to them, this puts in evidence clearly a convergence of interests and profiles. We emphasize, in a different way, the precarious local meaning about Documentation before the European Institutionalization project.

Only around 1950s, as a result of the technological development in the context of the post-Second War and along with the exponential growth of the production and use of documents, mainly the technical-scientific, a range of professionals was involved in activities which characterized permanently the presence of Documentation in the United States. This moment was also marked by the fast development of automatic systems of storing and retrieval of information,

mainly the ones of retrieval according to topics (WILLIAM, 1997 *apud* SILVA; RIBEIRO, 2002, p.49-50).

This way, there was a semantic displacement of the term Documentation in the United States in two senses. The Specialized Librarianship proposed by Dana in 1908 divided space with the Documentation brought from Europe during its peak in the 1930s, what happened more strongly from the 1950s on, period in which it occurred the peak of this movement in the United States. At that time, the practice of Documentation was accomplished in a way to distinguish itself from the one of Librarianship, the one which included the Specialized Librarianship because this one was greatly influenced (and absorbed) by the strong corporatism of the General Librarianship^{iv}. Next, the Documentation started to be represented by the area then named Information Retrieval or Information Storage and Retrieval. The Information Retrieval – whose literal translation in Portuguese does not provide the same meaning – is understood as the set of studies and activities of storage and retrieval of information by means of computers, and it configures itself as one of the main origins of Information Science in the United States in the 1960s.

4.2 Soviet Current

In the Soviet Union, in the beginning of the 1960s, a theoretical and practical current of high relevance for its geographical coverage arose– its basic work *Fundamentos de la Informática* brings references to authors from the United States, Europe and East Europe – and for its theoretical dimension, accuracy and updating content.

The researchers Chernyi, Gilyarevskii and Mikhaillov (1973, p.46-53; 55; 57; 71-73), the ones who were responsible for the conception of this current, invested in the search for the alternative denomination to the term Documentation, the one which was not used for being considered specific and poly-semantic. They argue that a new term with a well-defined and unique meaning would be more advantageous than the old terms, the ones which, in general, are used in different meanings, making it difficult its comprehension and influencing negatively in the development of the scientific discipline itself. Looking for a broader term based on the concept of

information, they state that the replaced term which was more broadcasted would be Information Science. However, among the terms Informatology (already adopted by some) or *Informática* (more automatic information), they chose the last term due to the way it had been prevailing to name scientific disciplines such as, cybernetics, bionics, semiotics and cosmonautics.

According to these authors, the term *Informatika* (as adopted in some sources of the Western literature) refers to the discipline which studies the structure and properties (and not specific content) of scientific information, as well as laws which govern the scientific-informative activity, its theory, history, methodology and great means of presentation (record), collection, analytical-synthetic processing, storing, search and dissemination of scientific information. It is related to the semantic information, but it does not deal with the qualitative evaluation of this information, because such evaluation may just be accomplished by experts in specific fields of the science or of the practical activity.

About the relation of this current with Librarianship, the Soviet researchers point to a distinction between the service of scientific information and the service of guidance for reading, dedicated to the political-ideological and cultural formation of the Soviet people. They state that Librarianship and Bibliography would still adopt some methods of *Informatika*, but the fundamental is that it would be understood the distinction between their basic tasks.

Traces of Documentation are shown in this current related to the linguistic aspects of the methods and documentary instruments, to the use of technology and to the focus on scientific information. Here we notice that, despite the creation of a specific term, the documentary thought permeates this current. To López Yepes (1995, p.33; 226), Mikhailov was the great theoretical of Documentation and the conceptual origin of *Informatika* is related clearly to the movement of scientific information institutionalized by Otlet and La Fontaine, and with the wide spectrum of the general problems of science.

Due to the pragmatic force and economical power which made it possible the later predominance of the US current, and after the Berlin Wall fall, the soviet current lost its initial rhythm of development (MOREIRO GONZÁLEZ, 1995). However, we suppose that the Soviet influence remains somehow in the countries of socialist

background, as in the case of the work on which we based, published in Cuba in 1973.

4.3 German Current

According to López Yepes (1995, p.197-214), the German documentalist approach appeared in the end of the 1960s, a little after the emergence of the US current, as reaction to a translation into German of Harold Borko's work. Two currents remained in Germany: one Anglo-Saxon and another autochthonous named Information Science and Documentation (*Information-und Dokumentationwissenschaft*), influenced by the doctrines from the former Soviet Union.

The biggest "propeller" of the second current mentioned is Josef Koblitz, from the University of Berlin, where this discipline was settled. The sedimentation of this approach took place between 1969 and 1975, being defined as discipline belonging to the sphere of the social organized information, with the double aim to provide information to users and to study the methods of production, storing, retrieval and dissemination of documentary information, the ones which configure as the four phases of the documentary process.

According to Koblitz, the term Documentation was not enough to designate a complete area of specialized information, reason why it was added the term information, as it will be shown later.

4.4 Brazilian Current

The documentary principles in general and the work of Otlet are known in Brazil mainly due to the fact that a CDU was adopted in professional practices and encompassed the contents of the teaching of Librarianship Graduation Courses.

The history of Documentation in Brazil may be identified in at least three moments: in the beginning of the XX Century, because of involvement with the project of IIB; from the 1940s on, a movement that led to the creation of the *Instituto Brasileiro de Bibliografia e Documentação* (IBBD)^v, in 1954, till the introduction of the

US current of Information Science in Brazil; from the 1980s on, with the beginning of the studies of the Group Temma, from the School of Communication and Arts, of the University of São Paulo (ECA/USP).

These three moments of Documentation in Brazil may be approached in relation to the teaching in the area until the beginning of the research activities, in the following way. The European influences brought to Brazil by the course of formation of professionals of the National Library in 1911 – moment in which there was a great affinity with the IIB purposes – soon were supplanted by the pragmatic approach of US origin of the courses in São Paulo from the 1930s (out of them many courses of the country emerged). Only in the 1950s and 1960s European input returned to the country through the absorption of some techniques and instruments of Documentation – such as the UDC and the systematic catalog – in the curriculum and in the professional practices, probably influenced by the courses of specialization of Scientific Documentation promoted by the IBBD (CASTRO, 2000; FONSECA, 1969; ODDONE, 2004; 2006). From then on, the words Librarianship and Documentation started to be used, together or separated. In the 1970s, with the introduction of the Master's Course from IBBD, and specially in the 1990s, when courses in level of Doctorship began, the name Information Science turned out to be more widely adopted, though not so clear about its meaning and low capillarity within the professional community.

According to Oddone (2006, p.52) the activities performed by the IBBD referred to a hybrid domain of knowledge, placed half way between Librarianship and Documentation, for which there was not yet a proper designation. It was in this context that Brazil turned its attention to the postulates of Information Science of the US current.

Effective exception to the US line is the one constructed by Group Temma (mentioned above) from ECA/USP, from the 1980s on, about the area then named Documentary Analysis. This group, bearing in mind the need of scientification of the processes and instruments of information organization, searched initially in Linguistics (according to Jean-Claude Gardin), and, afterwards in Semiotics, in Logic, in Communication, and then in Terminology, the theoretical contributions to deepen the mentioned processes. The resulting researches have a less global dimension of

Documentation than a conceptual perspective (and, as a result, historical) of the information organization and its role in the production and use of registered knowledge. Schools such as *Universidade Estadual Paulista “Julio de Mesquita Filho”* (UNESP), campus Marília, has constructed its scientific production out of these reflections and the European literature, like the Spanish one. The results of researches from the Group Temma are however little known in the country, as well as the one from which it originated, the French Information and Communication Sciences, about which we spoke before.

Especially in the context of the US inheritance, the Documentation is often: related to the activities of micro-filming; understood as Specialized Librarianship (as it is evident by the terms medical documentation, agricultural documentation, etc.); or approached according to the type of document treated (audio-visual documentation, photographic, film etc).

Dias (2000) talks about the terms Librarianship, Documentation and Information Science pointing the uses and misuses of the term Documentation in Brazil, today in general hitched to the Specialized Librarianship in the several areas of knowledge. This author questions the need of proper terms – as Documentation and documentalists – to indicate librarian practices of access promoting to information. Considering the pertinence of this observation, once the professional dispersion was not reason to advance, we emphasize the need of knowledge of our history, so that new ruptures will not be continually accomplished.

5 DISCIPLINARY BOUNDARIES IN DOCUMENTATION

We consider that the area was configured out of practices, later thought professionally and academically. However, its process of scientification has been effective, for a century, by the preparation of approaches located spatially and temporally, from which enough reflections were not accomplished yet.

López Yepes recognizes the difficulty in preparing the theory of a science which proceeds from social activities already shaped, and that afterwards emerges in the scope of the informative sciences, since its essential nature and about interdisciplinary articulations (LÓPEZ YEPES, 1978, p.xxx). He reinforces that the

discipline in study is not a branch strayed from a common trunk, but, on the contrary, it is a configuration of apparently scattered activities which, because of certain motivations offered by the scientific research, caused the need of reconstruction and modeling as scientific discipline (LÓPEZ YEPES, 1995, p.319).

Next, we will deal with the disciplinarity of the Information Science, showing inter-disciplinary constructions significantly consolidated in the context of Documentation, and questioning the matter of names for the area.

5.1 Interdisciplinary Constructions: Documentary Linguistics and Documentary Informatics

Among the most ancient authors who chose the language studies as contribution to the documentary operations of representation, we highlight John Hutchins in his article *Languages of indexing and classification: a linguistic study of structures and functions* (HUTCHINS, 1975).

Later work is *Concepción lógico-lingüística de la Documentación*, from Sagredo Fernández and Izquierdo Arroyo. The authors (1983, p.162) state that not only the scientific knowledge but also the 'ordinary' (in the sense of knowledge rooted in daily life) are expressed in a language. The communication of both fields of knowledge, by means of documents, implies in facing a language.

These authors present as definitional components of Documentation (SAGREDO FERNÁNDEZ; IZQUIERDO ARROYO, 1983, p.286-287):

- a) an individual agent – the 'documenter';
- b) an individual receptor – both people or collectivity;
- c) a message - linguistic oral text or channeled in another way, located spatially in a place such as a library, archive etc;
- d) an object or a set of objects duly treated – the document(s);
- e) a specific communicative intention by the agent that makes it get to the receptor this object or set of objects;
- f) a presupposition of the agent that these are the objects which interest to the receptor – for having flagged this way or by conclusions about the study of its profile;
- g) a process molded by a)-f) which is communicative by essence, but presupposes non-communicative actions such as search, naming, confrontation;
- h) a specific correspondence between the presupposition f) and the receiving intention from b);
- i) the insertion of b) in a determined social sphere – coincident or not with a);

- j) a change of state by part of b), progressive and to its favor, with ability to pass from the lack of a reference(s) or of one object(s) – or document(s) – to its possession. The acquisition of a competence becomes praxis with
- k) the proper use or handling, by part of b), of these reference(s) and/or object(s).
- l) the documentary process which sends documents without the prediction of its proper use would be a failed action, I mean, it would not have sense. According to the authors, the person who has or can find documents and does not know what to do with them is an 'indocumented' person (SAGREDO FERNÁNDEZ; IZQUIERDO ARROYO, 1983, p.287).

García Gutiérrez, when developing his thesis about Documentary Linguistic in the 1980s, talks about Documentation and Linguistic, searching to find the theoretical place of the discipline he proposes. He states that the Linguistic is taken with 'pragmatic use' to the Documentation, arguing that the analysis of the documentary tasks has a linguistic feature, since the emitter language, his general discourse and the set of discourses about the same domain are produced and transmitted through the language. He considers that, if the linguistic methodology is the main contribution to the analysis of documents, the indicated goals are not linguistic are documentary (GARCÍA GUTIÉRREZ, 1990, p.18-19).

Following the same reasoning related to the delimitation of this discipline, he admits that there are extra-linguistic elements to be considered, since the grounding of Documentation does not run out only due to the methodological contribution of Linguistics. On the other hand, he states that, as Documentation is an auxiliary discipline concatenated with others inside the System Theory, the dynamic of research and of Science does not escape from the documental reflection. This way, it interests us the emphatic and still current statement that

[...] in the commitment of searching a epistemology, a meta-language, a methodology and a theory, the documental professional, though he needs general and related discipline, he may not turn himself, unfortunately, in an erudite of the general theory of discourse or systems, from Epistemology, from Knowledge Theory, from Semiology, from Logic or even Linguistics (GARCÍA GUTIÉRREZ, 1990, p.21).

Based on the studies of Linguistics applied to Documentation by Gardín, initiated in the 1960s, in the systematization about the theme accomplished in the Soviet production and on the mentioned work of Sagredo Fernández and Izquierdo

Arroyo and from García Gutiérrez we can indicate the linguistic-communicational approach of Documentation. Still about the disciplinary delimitation, Moreiro González states that:

[...] there is a science which names itself information, and this does not occur for another reason that is not the participation of all organisms and systems on its activity of changing data in information: the information system is a conglomerate of people, machines and procedures which extend the human potential to acquire and process data [...] the information science answers to the knowledge of information and its circulation [...] the documentation-science of information has as function to offer, regulate and move all kind of informative resources, for them to be submitted to a process of storing, identification, changing, organization, treatment and retrieving [...] the previous makes it possible to reach changes in the state of knowledge which people have, what, in turn, have as consequence the solution of informative problems and the decision taken (MOREIRO GONZALEZ, 1998, p.25-26).

Also in the field of Documentary Informatics, it is possible to observe authors who, not only recognize the identity of the area, but also consider it necessary to approach it to deal with the specific aspects of its interest.

Codina (1994, p.447), when dealing with the documentary information systems, ends with a proposition and a discussion:

Proposition:

The object of study of Documentation is the representation, the storing, the retrieval and the diffusion of the registered information into cognitive documents (document which collects a scientific, technical or cultural work and that, different from other documents, for example, the administrative documents, of a certain company, is susceptible to interest to humankind on its whole) (VAN SLYPE, 1988); and its purpose is to produce efficient systems of documentary information to make the knowledge produced by humankind available to humankind. Consequently, the Documentation studies the characteristics and properties of the SID (systems of documentary information), as well as the analysis problems, drawing and implantation of the SID.

Discussion:

The information is object of study of many disciplines: Informatics, Telecommunications, Logic, Semiotics, Linguistics, etc, but each one of them ties itself to a different aspect or manifestation of information. Documentation corresponds to the study of the marked aspect, which is not object of study, actually, of any other discipline. Said in another way: the study of representation, storing, retrieval and diffusion of registered knowledge in documents requires a demand of a specific scientific discipline, whether it is named Documentation or X (CODINA, 1994, p.444; 447-448).

An emblematic work entitled *Informatique Documentaire* was produced by André Deweze in French. Here, we notice once more the centrality of the documentary principles, from which the incorporation of the electronic technology elements is developed. Then, to the author, the Documentary Informatics is the set of applications of Informatics to Documentation. It is understood that it deals with a technique which concerns to informatics intervention in the several phases of production and use of documents: production of texts (to printing or photocomposition), diffusion by editor, management through the library, analysis and indexation to the constitution of bibliographic database and to the selective diffusion, software for questioning of these database (DEWEZE, 1994, p.1). Like Codina, this author also contemplates specially the bibliographic information.

It is André Chonez who talks about the history of Documentary Informatics in France, where, according to previous study (ORTEGA, 2002), we identified the origin of this expression. Chonez (1993) points the seniority of the informatics intervention to the documentary processes, in reports of French and US experiences in the 1950s, besides experiences of mechanization of the bibliographic search in the 1930s in the same countries. The editors of the magazine present the article questioning if there would be a possibility to study the history of Information Science, without approaching the ones from the documentary techniques.

Jacques Chaumier has produced since the 1970s about Documentary Informatics and Documentary Linguistic, although these expressions were not usual in that period. Especially in the classical work which deals with the documentary techniques (CHAUMIER, 1971; 2003), the author describes the constitution of Documentation and its sedimentation in the 1930s in France, besides presenting, in a substantial way, the techniques and technologies related.

We could mention other authors who show the amplitude and the continuity of these studies, mainly in Europe and in countries of the same inherited language. In Brazil, some researchers from the Group Temma already mentioned dedicate, more recently, to the constitution of the subfield Documentary Linguistic, searching to operate with a concept of information which is mainly connected to the discursive communities by means of the observation of their terminologies.

This way, as we resume the configuration of the pioneer countries in the theme, we observe that the Documentation produced in the United States in the 1950s eventually focused on the mechanical processing of information, while documentary works of European and Soviet origin, produced from the 1960s on, are more encompassing. Authors, such as Gardin (1962; 1966; 1973), Coyaud (1966), Van Dijk (1964), Chaumier (1971) and the Russian Chernyi, Gilvarevskii and Mikhailov (1973) started the approach about the documentary languages on their groundings, presenting their structural and functional characteristics based on linguistic contributions, and talking about the technological resources related. On the other hand, the research produced in England interests since it opposes the European and US approaches, as can be demonstrated in the work which deals with the mechanical methods to treatment and retrieval of information. However, it recognizes the unicity of the retrieval problem before the traditional methods such as distinct approaches which started to converge (VICKERY, 1962).

It would be worthwhile to evaluate the studies about language accomplished in English language, and then to check how the continuity of Hutchins work took place and how the language, considered nowadays in this context, can be seen as contribution to studies of organization and retrieval of information.

5.2 The Issue About Names

The advent of the term Information Science – due to the internationalization of the US current represented by this expression – aimed to replace the terms considered then inadequate to the scientification of the area as Documentation and Information Retrieval (FONDIN, 2005). For this author, the Information Science is, tautologically, the ‘science of information’. From this, the interest of researchers in treatment techniques, storing, search and diffusion of documents and their contents according to the documentary approach (the one to offer information to...) started to have a more global approach about information which eventually generated vagueness and ambiguity.

In Europe some terminological transpositions counted on expressions in the plural form, such as: *Ciencias Documentais* (Portugal), *Ciencias de la*

Documentación and *Ciencias de la Información* (Spain) and *Sciences de la Information et de la Documentation* and *Sciences de la Information et de la Communication* (France).

In a topic entitled *Singulier ou pluriel* from an article about Information Science, Estivals (1983 *apud* DESCHAMPS, 2005) states that the plural form *Sciences de la Information et de la Documentation* adopted in France covers its own imprecision because the argument that their domains are not so advanced to delimitate them is a '*pirouette*' which conceals badly our own ignorance.

According to Ribeiro (2005, p.19; 21-22), the expression *Ciencias Documentais*, as used in Portugal, does not have literal equivalence to other European languages, but it is close to the French term *Documentation* and from the Spanish *Ciencias de la Documentación*. It refers to the junction of several disciplines, presumably scientific, in a same formative model and more in consonance with the technical and technological challenges of the emergent Society of Information. Currently, some courses adopted the name Information Science. The adoption of the singular form meant the affirmation of a scientific area with identity and unit from the epistemological point of view. This way, the information science is understood as a scientific area which encompasses applied components centered over the object 'information', contextualized in systems, services and several and plural organic environments.

Fondin (2005) states that this question does not interest to the Anglo-Saxons, the ones who recognize the Information Science (singular form) on its disciplinary autonomy. In the United States, Journalism researchers act in the Communication Science, and the ones from the Informatics, in the Computer Science.

Given the probable initial use of the expression 'information and documentation', by Otlet in 1905, we suppose that since then several compound expressions were and are used by the area, leading to difficulties of identity construction, as: bibliography and documentation, information and documentation, librarianship and documentation, information science and documentation, librarianship and information science, librarianship and information management.

Ribeiro (2005, p.22) questions the expression 'information and documentation' as conceptual clarification of an area, since the second part of the

expression can only exist as specific difference of the first and not as something distinct and diverse. Other authors as Meyriat and López Yepes also question the fragile feature of these expressions.

Meyriat (1993) points the words 'information' and 'documentation', for the first time employed together by Otlet, as a way to specify and reinforce each other. He states that the polysemy which the term adopted by him acquired was productive, because it was well used especially in French, but was also the source of ambiguities which led to its substitution in some contexts and countries after its apogee in the 1950s.

López Yepes (1995, p.211) discusses the issue when dealing with the German current, explaining the notion of 'documentation' as the one which contemplates the phase of production, that is, of analytical-synthetic processing of documentation, what presupposes the extraction of information contained in the documents, and of 'information' as the process effectively 'informative' of storing, retrieval and transmission of information. He argues that the Documentation, however, represents a more crucial than complementary role because it studies only the process which permits to take adequate information to the users, and not the nature of information. For López Yepes, this science of the domain of 'documentary information' has as object 'informative-documentary' processes, from which it proposes the name 'Documentary Information Science'.

As we understand, based on a systemic approach, it would not be coherent that a phase of the process (information organization) were of distinct nature of the phase that follows it (storing, retrieval and dissemination of information), because all this would affect the idea itself of the system organicity and, consequently, its functionality.

López Yepes (1995, p.313) informs that the name Documentation (opposed to Documentation and Information) gained strength in Spain with the creation of the under-graduation course in 1992 (supposedly in the *Universidad Complutense de Madrid-UCM*, institutional affiliation of this researcher) and, internationally, has been accepted once its informative connotation has been acknowledged by the academy.

This way, in the article *Documentation redux: prolegomenon to (another) philosophy of information*, Frohmann (2004, p.405-406) states that the documentary

practices are the first practices in information and that the contemporary studies owe much to the efforts of the documentalist movement of the final of the XIX Century and beginning of XX Century, pointing to the importance of retrieving and rethinking about the documentary practices of the first documentalists. To Frohmann, it is as urgent to study ancient, medieval and modern documentary practices as the practices in electronic documents. According to him, once considered the concepts of documentary practices, the digital form of the contemporary documents does not create special philosophical imperatives, what somehow opposes himself to authors as Capurro, Floridi and Elred, who believe that a philosophy of information is urgent in the digital era.

Considering the vulnerability of the option for a scientific practice supported essentially on technological innovations, Frohmann demonstrates the need of a historical-conceptual support to the consistent analysis of phenomena of an area in any time. The scientific practice, when based on the rigorous exploration of the concepts, holds the quality of the research and promotes higher terminological consolidation, avoiding the adoption of names based on fashion and justified as alternatives to others, although these point many times to stereotyped conceptions.

As we treated in Ortega and Lara (2009), in terminological analysis of texts about the use of the term 'document', "[...] the reiteration of the statements about the document as physical and informative instance corroborates the pragmatic character of the document notion". The name 'Documentation' comes, this way, from the pertinence of the term 'document', which is dear to the area, and which has been resumed more broadly once it contemplates the notion of information with which it operates.

CONCLUSIONS

Even though the proposal of Otlet implied collaboration, and not dispersion of its activities, or rather, it implied common theoretical groundings, and not distinct or competitive areas, the Documentation may not be understood without the exploration of construction of its controversial relation with Librarianship. Many passages of the US and European history presented here indicate to this relation which occurred

initially when it was set out the need of new procedures which would answer to the demands of access to information, whose production started to grow and to diversify systematically. The Documentation was proposed in Belgium, but it settled in France, as a general process to make it available the content of several documents, which the activities of management of collections then carried out by Librarianship contributed to accomplish. However, it developed with focus on the bibliographical technical-scientific information, setting aside and with another group the attention to the activities of reading promotion. The Documentation manifested decades after in the United States, where it was fast replaced by the Specialized Librarianship, and, then, by the area known as *Information Retrieval*. From that, came the dominant current of Information Science. These distinctions demonstrate the features of this area of knowledge and related professions in these two countries of influence.

The Documentation, markedly European, was forgotten between the 1930 and 1950s, while the US current of Information Science, emerged in the 1960s has presence in almost all the world. The effacement of Documentation in these 20 years is theme to be still explored since, although it has lost the commitments of the initial proposal, many European lines preserved substantially the capacity to hold theoretically and methodologically the dealing with the bibliographical, archivist and museology information, under the generic name of 'documentary processes'.

The results of this research put in evidence the strong inheritance of the Documentation in France, Spain and Portugal, as well as, afterwards, in some lines of Brazilian research it has demonstrated its meaningful consolidation since the beginning of the XX Century.

The advances in the processes of organization and retrieval of information proposed by Documentary Linguistics and by Documentary Informatics present themselves as inter-disciplinary articulations meaningfully consolidated. The lack of retrieval of these references collaborates to the growing segmentation of knowledge and abilities.

The principles and documentary methods present abstraction which subsidize the preparation of information services in several contexts of the current society. In the mentioned studies, it is possible to identify its empirical object –

documentary processes which have as purpose the promotion of the access and use of information –despite the ambiguities caused by its several names.

Being probably one of the first generalizations accomplished in this scope, we approach the Documentation as a line which contributes to the epistemological consolidation of Information Science. Its relevance is shown by its potentiality to get over the restrictive approaches assigned to the Librarianship, and the continuous and circular discussions about the object of Information Science.

Compared to the actions which aimed the expansion and the upgrade of the area, we observe certain displacement in the direction opposite to the construction of a project of scientific character. Considered by some as academic advance and a tool to the opening of market, this displacement accomplishes itself by means of arbitrary juxtaposition of concepts of several areas, what can lead to: scorn of the techniques, either on its fundamental aspects or in operative ones; diffuse terminologies as from the area as a whole as from its parts; and approach about the object 'information' as liable to be explored – without implications – under the point of view of each one of the involved areas.

The 'reinvention of the wheel', identified in the literature, shows ways already traced and discarded, but which are being traced in new ways, despite the state of art of the area. These investments are, in fact, old problems coated with new clothes, which start to demand efforts of research exclusively to its reformulation. Once recognizing the existence of ancient and relevant literature about the issues of Information Science, it turns necessary to expand the preparation of systematic reviews, as one of the ways to guide and ground the research, including the one named inter-disciplinary.

The study allows us to find that the stir which involves the question of identity of Information Science does not manifest itself in a relevant way in the literature, and in the professional practices guided in Documentation, the one which has presented, simultaneously, focus and density along the time. The history of Documentation permits to question the speeches about the lack of consensus in Information Science, and about the fragile core nature due to its technical dimension and to the supposed fluidity intrinsic to its limits and boundary areas.

It is concluded that the documentary principles are configured as a base part of the groundings of Information Science, and are emblematic of its identity unit.

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ⁱ We dealt with the historical route of the creation and use of the terms Librarianship and Documentation in Ortega (2004).

ⁱⁱ According to Meyriat (1993, p.192), the semantic malleability of the word Documentation is evident in the *Traité de Documentation*, once Otlet oscillates between an assimilation of the term 'bibliology' defined as science of the book, and the notion "[...] of an encyclopedic discipline which would encompass Librarianship, Bibliography, Archival Sciences, Museology [...]".

ⁱⁱⁱ The IIB had its name changed to International Institute of Documentation (IID), in 1931, and to International Federation of Documentation, in 1937. From 1986 on, it got the name International Federation of Information and Documentation (FID), keeping its original acronym. The FID stopped its activities in 2002. Available in: <<http://people.ischool.berkeley.edu/~buckland/fidhist.html>>. Access in: Nov. 11 2009.

^{iv} Second William (1997 *apud* SILVA; RIBEIRO, 2002, p.50), in the Decade of 1950, the documentalists of the United States sought to distinguish of the librarians, including of the librarians specialized: for this author, in this period, the documentalists became identical to the librarians specialized of the initial phase and these the generalist librarians resembled.

^v The IBBB was transformed in the *Instituto Brasileiro de Informação em Ciência e Tecnologia* (IBICT), in 1976.

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