# Documents as context: rethinking the materiality of content and its impacts on knowledge organization

#### José Augusto Chaves Guimarães

PhD in Communication Sciences from the Universidade de São Paulo

Professor at the Departamento de Ciência da Informação at the Universidade Estadual Paulista Júlio de

Mesquita Filho (UNESP). Marília, São Paulo, Brasil.

E-mail: chaves.guimaraes@unesp.br

Lattes: http://lattes.cnpq.br/6380929054652063 ORCID: https://orcid.org/0000-0002-0310-2331

Submission date: 03/10/2022. Approval date: 27/02/2023. Publication date: 22/09/2023

#### **ABSTRACT**

Organizing, recovering, preserving and making society's memory available, in its most diverse aspects, has always permeated the knowledge and actions of humanity, which, over time, sought to build artifacts that could go beyond the limitations of human memory, in order to host an ever-increasing volume of data, information and knowledge. However, it was from the 19th century, after the information explosion, that the concern with organizing knowledge recorded in institutionally preserved documents intensified. In view of this, the indexical - or testimonial - character of documents is discussed, not only regarding their content, but, and, mainly, as a result of production, an aspect that will impact their organization. In this sense, the new configurations of documentary content – the core of knowledge organization – are analyzed, which go beyond this subject to add elements related to its provenance, organicity, authorship, as well as its space-time context.

Keywords: documents; knowledge organization.

#### INTRODUCTION

An aspect that has always permeated humanity's knowledge and practices lies within organizing, recovering, preserving and making society's memory available in its most diverse aspects. Over time, society sought to build artifacts that could go beyond the limitations of human memory, in order to host an ever-increasing volume of data, information and knowledge.

Thus, in Ancient Times, rock inscriptions in caves and descriptive clay tablets made of papyrus and parchment in Mesopotamian palaces, as well as the classification system of Callimachus, in Alexandria, were important milestones in this record and representation trajectory, which, in the Middle Ages, is evidenced in the glosses and in the marginal markings of copyist monks, for example.

In turn, this aspect was greatly enhanced as the movable type was invested by Gutenberg, enabling the multiplication of knowledge records and, therefore, their wider dissemination.

Because of humanism in the 17th and 18th centuries, this concern became more pronounced and sophisticated by means of Encyclopédie by Diderot and D'Alembert, the Classification of Living Things by Linnaeus, the first periodicals and the biblical concordances by Alexander Cruden.

But it was notably in the 19th century, with the information explosion, that the concern with knowledge organization recorded in institutionally preserved documents intensified, whether with Répertoire Bibliographique Universel by Paul Otlet, or with the Dewey Decimal Classification, among other initiatives.



Particularly, Otlet raised more effective concern with the adoption of communication technologies that were at the service of knowledge organization, an aspect that became more notably effective after the Second World War when Vannevar Bush, who created the Memex, sought to provide humanity with "auxiliary memories" that could serve as broader, more comprehensive and more powerful extensions of human memory - the computer – which became part of a large network of interconnected citizens at the end of the 20th century, providing not only large storage capacity, but, above all, wider and faster communication, transmission and interconnection possibilities.

And, with that, more notably in this century, we are faced with the phenomenon – and challenge – of data, structured or not, that is generated in large volumes, in rapid and continuous growth characterizing *Big data*. If such a challenge was cause for concern to the biological and physical sciences, today it is a reality for the humanities and social sciences, with the so-called *Digital Humanities*, bringing new perspectives for access, storage, organization and dissemination of information in institutions dedicated to the preservation of society's memory, such as archives, libraries and museums.

All this intricate context brings with it the need to reflect more closely on documents and on the challenges and perspectives that arise for the purposes of organizing the knowledge recorded in them.

In view of this, this work, starting from the notion of information as a thing (Buckland, 1991), discusses the indexical – or testimonial – character of documents, not only regarding their content, but, mainly, as a result of a production context, an aspect that will impact their organization. In this sense, the new configurations of documentary content – the core of knowledge organization – are analyzed, which go beyond the subject to add elements related to its provenance, organicity, authorship, as well as its space-time context.

# **DOCUMENTS AS A FOCUS**

The concept of document constitutes a central element in Information Science, because only when based on such concept can one think about the processes that affect information and that are part of the object of study of such science. To this end, the inspiring words of Borko (1968, p. 3, tradução nossa)<sup>1</sup> are rescued, for whom:

Ciência da Informação é a disciplina que investiga as propriedades e o comportamento informacional, as forças que governam os fluxos de informação, e os significados do processamento da informação, visando a acessibilidade e a usabilidade ótima.

We must remember that only documents, understood in its broad conception, allow one to effectively perceive this information and everything that can be applied to it.

To this end, considering the current context of the information universe, one must take into account that organizing, recovering, preserving and making society's memory available is feasible under the concept of document which, in turn, presupposes materiality, socialization, intentionality and knowable content.

It was more specifically from original work *Qu'est-ce que la documentation*, authored by Suzanne Briet (1951), in a verticalization of *Traité de documentation*, by Paul Otlet (1934), that documents could be the object of analysis themselves, as if in an *in vitro* experiment. For the author, documents constitute, on the one hand, an element of evidence that supports a fact and, on the other hand, a concrete representation of a physical, intellectual or symbolic phenomenon, which is conserved in space and time, as subsidy to the memory of humanity.

Briet (1951, p. 7, tradução nossa)<sup>2</sup> sees documents as "[...] base de conhecimento fixada materialmente e suscetível de ser utilizada [...]", an aspect that is complemented by the vision of Buckland (2017) for whom term document corresponds to recorded knowledge, the content of which must be understood from the social context of its producer compared to the social context of its user.

Due to their tangibility, documents, for Buckland (1991), constitute objectified information, which provides the starting point for the development of the so-called information as a process that will result in information as knowledge. The materiality of documents, although essential, is not enough to generate information and, subsequently, knowledge, as this materiality must be clearly and intentionally placed in a social context, which presupposes that it will be made available and collectively used.

As highlighted by Smit and Barreto (2002), such socialization needs documents to undergo a process of institutionalization, so that the information contained therein can be portable in space and time. This results in a process of institutional management of knowledge (Fernandes, 1995), the responsibility of which is that of cultural institutions (Homulos, 1990).

As they can later be institutionalized for social use, documents, especially in Information Science, intentionality, presuppose which manifests itself from the moment knowledge is recorded with the clear intention of transmitting it. With regard to intentionality, Briet (1951) compares the phenomenon of a star visible in the sky to its documentation represented by a photograph in an archive or library collection; or a stone in a river to its function as a document when housed in a geology museum, for example. In these situations, there is a clear intention of recording something and preserving it for posterity, as well as making it available to society as a subsidy for the construction of knowledge.

And it is particularly in the dimension of knowledge that Barité (2001) emphasizes the need for documents to have cognizable content, without which the communicative action that it presupposes when socialized is not effective.

Content represents, for the purpose of building knowledge, the essence of a document, since it is based on content that information is identified, represented and transmitted, resulting from previous knowledge that was recorded there. In turn, such content manifests itself in different perspectives - or layers - whether the perspective of the author (what they sought to convey in the document), of the user (what they seek to recover in the document), or of the system, including the work of information professionals (what was captured and represented for dissemination purposes). Thus, the documentary content itself can be approached from three perspectives, as highlighted by Gil Leiva (2008) and Sousa and Fujita (2014). From the author's perspective, which focuses on what is discussed in the document (Lancaster, 1991; Soergel, 1985), from the user's perspective, the recognition of the document's content takes into account the possible information needs of the users (Albrechtsen, 1993; Fidel, 1994); and, from the perspective of the system or domain, which takes into account not only the two previous contexts, but also that of the document and the institution that houses it (Mai, 2005).

It should be noted, especially from a domainoriented perspective, that a document's content goes far beyond the subject itself, as it was thought of for a long time, to incorporate an entire context of authorship (and the epistemic communities that underlie it). and aboutness (about what the document addresses at different levels of specificity) and the meanings (what the document aims at and what it serves) (Beghtol, 1986). Archival Science brings an important contribution to this reflection by approaching, in archival diplomatics (or contemporary diplomatics), documentary structure as something characterizes a given content and evidences a purpose to be achieved. Thus, documentary content serves as evidence of a production context. In this regard, Tognoli (2013) highlights that:

a Diplomática do documento contemporâneo não se limita mais ao estabelecimento das características de autenticidade e/ou falsidade documental, encontrando uma nova finalidade no campo dos estudos arquivísticos, ao propor a observação do contexto de criação dos documentos, a partir de uma análise da parte para o todo. (Tognoli, 2013, p. 113)<sup>3</sup>



Going further, Tognoli, Schmidt and Guimarães (2022) highlight the centrality of context with regard to archival documentation and its impacts on knowledge organization in this field. However, the production context is not exclusive to Archival Science, since, in Library Science, it is equally important, given that author and editor, while responsible for the production of a document for research purposes, are important contextual elements for the reliability or otherwise of the content expressed in the document.

In turn, this domain dimension presupposes that the aspects related to the source of the document (where does it come from?), organicity (how does it articulate with its counterparts?), purpose (what is its purpose/goal?) and reliability of the information contained therein (especially in times of *fake news* when unreliable information arises, but with characteristics and attributes that impute an apparent character of reliability) should be considered. Moreover, as highlighted by Guimarães (2017), documents, as such, act as a representative – or result – of a space-time configuration – without which it loses much of its meaning.

Considering, therefore, the complexity that increasingly surrounds the concept of document, it is now necessary to investigate the impacts it brings to knowledge organization.

# IMPACTS ON KNOWLEDGE ORGANIZATION

As a subject named as such, Knowledge Organization (KO), according to Dahlberg (1993), dates back to work *The organization of knowledge and the system of the sciences*, by Evelyn Bliss (1929), even though the concern with organizing knowledge produced by man has been following the history of humanity since Ancient Times, through the Aristotelian categories, the Trivium and the Quadrivium characterizing liberal arts teaching in the Middle Ages, the Encyclopédie of Diderot and D' Alembert during the Enlightenment, through the Classification of Living Things by Linnaeus,

and, notably, from the 19th century, through systems for organizing knowledge for documentary purposes, based on the work of Dewey, Otlet, La Fontaine and Ranganathan, among others (San Segundo, 1996). In turn, this trajectory reflects a chronology defined by Pombo (1998), as the organization of knowledge, things and documents.

Over the last three decades, and, in particular, since the creation of the International Society for Knowledge Organization (ISKO), in 1989, which provided this field of knowledge an eminently scientific status, knowledge organization has been "[...] na encruzilhada de ciências como a psicologia, a epistemologia, a ciência da informação, a ciência da comunicação, a linguística, a matemática, a lógica e a ciência da computação [...]" (Garcia Marco, 1997, p. 211)<sup>4</sup>. In this context, this field is faced with the challenges of a world in which production and knowledge grow exponentially while access to it does not grow to the same extent (Jaenecke, 1994).

Assuming that knowledge is built from the analysis and articulation of information in a given context, information that was previously recorded and socialized (documented), collected, preserved, organized and made available, KO acts as mediator in a *continuum* of processes ranging from production to the use and appropriation of previously produced knowledge for the purpose of generating new knowledge, an aspect that takes place in a helical (rather than cyclical) dynamics (Guimarães, 2008). This way, KO seeks to extract and organize documentary content which reflects knowledge that is organic, manifested by a specific form, articulating structure, content and with an eminently contextual nature.

This socialized knowledge, in turn, only makes sense if understood as part of a set and in an intrinsic relationship with its counterparts. Its materialization (record) goes beyond a mere form to reflect content structuring logic that can serve specific purposes. The credibility and testimonial value of its content depend on formal aspects, and each form serves specifically to materialize certain contents. Its genesis is always contextual and only makes sense within the context.

Thus, KO acts so that knowledge can be accessed, establishing, as already mentioned, a link between the production and the use/appropriation of this knowledge, which takes place by means of systems of concepts that are created for scientific, functional or documentation (research) purposes and has an artificial, provisional and deterministic nature (Barité, 2001).

Based on this social, materialized and cyclical conception of knowledge, which takes effect in documents, it is observed that the investigative focus lies with the search for understanding, organizing and representing this knowledge, in such a way that it can make it available and accessible to a larger number of people. In this case, one can see what Dahlberg (1993, p. 214)<sup>5</sup> calls "[...] conhecimento em ação [...]", that is, something about which there is a certain social consensus, a recorded and socialized knowledge, the organization and representation of which will be developed so that, from it, new knowledge can be generated.

In short, it can be said that KO aims to preserve and promote access to knowledge, making use of instruments, which are knowledge organization systems (description standards, classification schemes, ontologies, taxonomies, thesauri, documental typologies, controlled vocabularies, etc), for carrying out processes, based on systematized procedures (identification, diplomatic analysis, classification, description, indexing, etc.) which, in turn, generate products, that is, representations that can be considered *surrogates of knowledge*, such classification notations, temporality tables, indexes, notations, descriptors, catalogues, inventories, among others. (Olson, 2002).

In this context, one must highlight the cultural perspective of KO which, guided by a sociocognitive tone, has been gaining prominence, notably in the context of ISKO, in topics such as: Discursive Communities, Cultural Assurance / Hospitality; Power to name; Multiculturalism and Multilingualism, Transcultural Ethics of Mediation, Prejudices, Inter and Transdisciplinary Domains, Cultural Interoperability, Ethical Values in KO, etc. (Beghtol, 2002; Berman, 1993; Dahlberg, 1992; García Gutiérrez, 2002; Guimarães, 2006; Hudon, 1997; Olson, 2002; Pinho, 2006).

This perspective, in turn, calls our attention to cultural biases. These *biases*, when negative, are based on attitudes, beliefs or feelings that result in the unfair treatment (segregation) of something or someone because of their characteristics or identity and include, among other aspects, prejudice (attitude, belief or feeling constructed without prior knowledge, reflection or reasoning, based on previous and unsubstantiated ideas) and proselytism (concern in converting people – often surreptitiously – to a point of view that is different from the one they originally have) (Milani, 2015).

The biases in KO are inherent to its procedures, instruments and products, as they are always committed to a certain worldview and to the assumption of a set of values and beliefs. Thus, they are present in authors, indexers/classifiers, in the KO creator, in the environment and users. Furthermore, they are clear in space and time because attitudes that are unacceptable today may already have been considered moral values in other times, just as virtues in a given social context may be seen as sins in another context.

Endowed with an eminently space-time nature, the biases of KO, as highlighted by Guimarães (2017) are articulated in conceptual and terminological dimensions.

In the conceptual dimension, biases, particularly in the representation of knowledge, are manifested when a given concept is re-signified over time and/ or in space while the term that represents it remains the same. As an example, one can mention the term marriage which, over time, encompasses different conceptions, from the union exclusively between a man and a woman to, in our days, the union between man and woman, between woman and woman and between man and man. In the spatial dimension, one also has the concept of polygamy which, in most societies, is seen as morally unacceptable, while in others, it is a social practice.



In the terminological dimension, in turn, a concept remains unchanged while its terminological representation changes over time and/or space over time. For example, over time, these terms were used: idiots; mentally-ill; people with mental disabilities; and people with special needs, and people started adopting these new terms to refer to the same group of people, most of the time, out of a concern for political correctness and to provide a more inclusive and respectful approach. In terms of space, it is observed, for example, that terms "aipim", in southern Brazil and Rio de Janeiro, "mandioca", in São Paulo, and "macaxeira", in Northeast Brazil, are all used to designate the same edible tuber (cassava).

Regarding the aforementioned political correctness, care must be taken not to generate metaphorical, artificial or even incongruous terms, as in the examples provided by Guimarães (2017): Aesthetically challenged (for ugly people); African-American (for black citizens, as Africa was not originally home to just this ethnic group); Person of size (for obese people), and, at the extreme, Hymenally challenged (for raped women).

### FINAL CONSIDERATIONS

Documents, in an increasing complexity, due to their different perspectives of production, presentation and dissemination, particularly in times of strong technological presence, give rise to concerns that must be taken into account by KO nowadays, notably in times in which form and content can no longer be treated as watertight and isolated dimensions.

This way, efforts must be directed towards avoiding the recovery of "informational garbage" (and here, accuracy in representation must be the object of serious reflection), so that increasingly friendly – and interoperable – tools are developed to ensure their speedy recovery, but with ensured reliability and authenticity of records in a digital environment (especially in times of *big data* and permeated by *disinformation misinformation and malinformation*);

and, further, to avoid biases in representation, proselytism, cultural domination, prejudice, censorship often inherent to the power to name (Guimarães, 2006; Olson 2002) so that transcultural ethics of mediation (Garcia Gutiérrez, 2002) with cultural warrant can be promoted (Beghtol, 2002). In other words, it becomes necessary to reflect on the complex and difficult power that society grants to those responsible for the organization and representation of knowledge so that they act on its behalf, a power that must be reflected in representations that encourage inclusion and dialogue between different user communities, based on representations that reflect - or at least do not hide or oppose – the intrinsic values of the different communities.

It is observed, therefore, that the concept of document expands in its modalities, and form and content are no longer distinct instances to be integrated into a broader and more cohesive spectrum and, consequently, it starts to include, in different units of information, elements of provenance, organicity, authorship, reliability and space-time contextualization.

ALEA JACTA EST!



# **REFERENCES**

ALBRECHTSEN, H. Subject analysis and indexing: from automated indexing to dominion analysis. *The Indexer*: the international journal of indexing, [s. l.], v. 18, n. 4, p. 219-224, Oct. 1993.

BARITÉ, M. Organización del conocimiento: un nuevo marco teórico-conceptual en Bibliotecología y Documentación. *In*: CARRARA, K. (org.). *Educação, Universidade e Pesquisa*. Marília: Unesp-Marília-Publicações; São Paulo: FAPESP, 2001. p. 35-60.

BEGHTOL, Claire. Bibliographic classification theory and text linguistics: aboutness analysis, intertextuality and the cognitive act of classifying documents. *Journal of Documentation*, Bingley, v. 42, n. 2, p. 84-113, June 1986.

BEGHTOL, C. A proposed ethical warrant for global knowledge representation and organization systems. *Journal of Documentation*, Bingley, v. 58, n. 5, p. 507-532, Oct. 2002.

BERMAN, S. *Prejudices and antipathies*: a tract on the LC subject heads concerning people. 2. ed. Jefferson (NC); London: McFarland, 1993.

BLISS, H. E. *The organization of knowledge and the system of the sciences*. New York: Henry Holt and Company, 1929.

BORKO, H. Information Science: What is it? *American Documentation*, v. 19, n. 1, p. 3-5, Jan. 1968.

BRIET, S. *Qu'est-ce que la documentation?* Paris: Éditions Documentaires Industrielles et Téchniques, 1951.

BUCKLAND. M. K. Document theory. *In*: Encyclopedia of knowledge organization. [*S. l.*]: ISKO, 2017. Available at: https://www.isko.org/cyclo/document. Access on: 5 Sept. 2022.

BUCKLAND. M. K. Information as thing. *Journal of the American Society for Information Science*, [s. l.], v. 45, n. 5, p. 351-360, 1991.

DAHLBERG, I. Ethics and knowledge organization: in memory of Dr. S. R. Ranganathan in his centenary year. *International Classification*, [s. l.], v. 19, n. 1, p. 1-2, 1992.

DAHLBERG, I. Knowledge organization: its scopes and possibilities. *Knowledge organization*, [s. l.] v. 20, n. 4, p. 211-222, 1993.

FERNANDES, G. C. O objeto de estudo da Ciência da Informação. *Informare*, [s. l.], v. 1, n. 1, p. 25-30, 1995.

FIDEL, R. User-oriented indexing. *Journal of the American Society for Information Science*, v. 45, p. 572-576, 1994.

GARCÍA GUTIÉRREZ, A. Knowledge organization from a "culture of the border" towards a transcultural ethics of mediation. *In*: LÓPEZ-HUERTAS, M. M. (ed.). *Challenges in knowledge representation and organization for the 21<sup>st</sup> century*. Würzburg: ERGON, 2002. p. 516-522.

GARCIA MARCO, F. J. Avances en Organización del Conocimiento en España: los II Encuentros sobre Organización del Conocimiento en sistemas de información y documentación. *In*: GARCIA MARCO, F. J. (coord.). *Organización del conocimiento en sistemas de información y documentación* 2. Actas del II Encuentro de ISKO-España, 1995, Getafe. Zaragoza: Librería General, 1997.

GIL LEIVA, I. *Manual de indización*: teoría y práctica. Gijón: Trea, 2008.

GUIMARÁES, J. A. C. Slanted knowledge organization as a new ethical perspective. *In*: ANDERSEN, J.; SKOUVIG, L. (org.). *The organization of knowledge*: caught between global structures and local meaning. Bingley: Emerald, 2017, p. 87-102.

GUIMARÁES, J. A. C. Aspectos éticos em organização e representação do conhecimento: uma reflexão preliminar. *In*: GONZÁLEZ DE GÓMEZ, M. N.; ORRICO, E. G. D. (org.). *Políticas de memória e informação*: reflexos na organização do conhecimento. Natal: EdUFRN, 2006. p. 237-264.

GUIMARÁES, J. A. C. A dimensão teórica do tratamento temático da informação e suas interlocuções com o universo científico da International Society for Knwoledge Organization (ISKO). *Revista Ibero-Americana de Ciência da Informação*, [s. l.], v. 1, n. 1, p. 77-99, 2008.

HOMULOS, P. Museums to libraries: a family of collectinmg institutions. *Art Libraries Journal*, [s. l.], v. 15, n. 1, p. 11-13, 1990.

HUDON, M. Multilingual thesaurus construction: integrating the views of different cultures in one gateway to knowledge and concepts. *Knowledge Organization*, [s. l.], v. 24, n. 2, p. 84-91, 1997.

JAENECKE, P. To what end knowledge organization? *Knowledge Organization*, [s. l.], v. 21, n. 1, p. 3-11, 1994.

LANCASTER, F. W. *Indexing and abstracting in theory and practice*. Londres: The Library Association, 1991.

MAI, Jens-Erik. Analysis in indexing: document and domain centered approaches. *Information Processing and Management*, [s. l.], v. 41, n. 3, p. 599-611, May 2005.

MILANI, S. O. Biases na representação de assunto: uma perspectiva a partir da literatura internacional de Biblioteconomia e Ciência da Informação. *Brazilian journal of information science*, [s. l.], v. 9, p. 1, 2015.

OLSON, H. *The power to name*: locating the limits os subject representation in libraries. Dordrecht: Kluwer, 2002.

OTLET, P. *Traité de documentation*: le livre sur le livre. Bruxelles: Mundaneum, 1934.

PINHO, F. A. Aspectos éticos em representação do conhecimento: em busca do diálogo entre Antonio García Gutiérrez, Michèle Hudon e Clare Beghtol. Marília: UNESP, 2006. Dissertação (Mestrado em Ciência da Informação). Available at: https://repositorio. unesp.br/bitstream/handle/11449/93693/pinho\_fa\_me\_mar. pdf?sequence=1&isAllowed=y. Access on: 5 Sept. 2022.

POMBO, O. Da classificação dos seres à classificação dos saberes. *Leituras*: Revista da Biblioteca Nacional de Lisboa, n. 2, p. 19–33, 1998.



SAN SEGUNDO, R. Sistemas de organización del conocimiento: la organización del conocimiento en las bibliotecas españolas. Madrid: *Boletín Oficial del Estado*: Universidad Carlos III de Madrid, 1996.

SMIT, J. W.; BARRETO, A. A. Ciência da informação: base conceitual para a formação do profissional. *In*: VALENTIM, M. L. (org.). *Formação do profissional da informação*. São Paulo: Polis, 2002. p. 9-23.

SOERGEL, D. *Organizing information*: principles of data base and retrieval systems. New York: Academic Press, 1985.

SOUSA, B. P. de; FUJITA, M. S. L. Análise de assunto no processo de indexação: um percurso entre teoria e norma. *Informação & Sociedade*: Estudos, [s. l.], v. 24, n. 1, p. 19-34, jan./abr. 2014.

TOGNOLI, N. B. *A construção teórica da Diplomática:* em busca de uma sistematização de seus marcos teóricos como subsídio aos estudos. Marília, UNESP, 2013. Tese (Doutorado em Ciência da Informação). Available at: https://repositorio.unesp.br/bitstream/handle/11449/103383/tognoli\_nb\_dr\_mar.pdf?sequence=1&isAllowed=y. Access on: 5 Sept. 2022.

TOGNOLI, N. B.; SCHMIDT, C.; GUIMARÁES, J. A. C. Context as a core concept in archival knowledge organization. *In*: LYKKE, M.; SVARRE, T.; HAYNES, D.; SKOV, M.; THELLEFSEN, M.; MARTÍNEZ-ÁVILA, D. (ed.). *Knowledge organization across disciplines, domains, services, and technologies*. Baden-Baden: Ergon, 2022. p. 273-284.



#### **ENDNOTES**

- <sup>1</sup> Original: "Information science is that discipline that investigates the properties and behavior of information, the forces governing the flow of information, and all the means of processing information for optimum accessibility and usability" (Borko, 1968, p. 3)
- <sup>2</sup> Original: "[...] toute base de connaissance fixée materièllement et susceptible d'être utilisée pour consultation, étude ou preuve [...]" (Briet, 1951, p. 7).
- <sup>3</sup> Translation: "contemporary document Diplomatics is no longer limited to establishing the characteristics of document authenticity and/or fraud, finding a new purpose in archival studies, by proposing the observation of the context in which documents were created, based on a part-to-whole analysis" (Tognoli, 2013, p. 113, editorial translation).
- <sup>4</sup> Translation: "[...] at the crossroads of sciences such as psychology, epistemology, information science, communication science, linguistics, mathematics, logic and computer science [...]" (Garcia Marco, 1997, p. 211, editorial translation).
- <sup>5</sup> Translation: "[...] knowledge in action [...]" (Dahlberg, 1993, p. 214, editorial translation).

