Documentation and Information Science: On Some Forgotten Origins of the French Contribution[1]

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Abstract

Purpose/Thesis: This paper presents a review of the French contribution to the epistemology and theory of documentation and information science. It is focused on the authors, theories, and practices that have been neglected, or forgotten by French information specialists. An attempt was made to assess their contribution and influence on information science and the theory of the document.
Approach/Methods: The author focused on the analysis of the literature either printed or available as online texts, and proceedings of the ISKO-France conference held in Paris in 2017.
Results and conclusions: The review of the French contribution to the epistemology and theory of documentation and information science is carried out according to a triple chronological perspective. The first one goes back in time, as far as the contribution to the development of knowledge organization methods and theories of Enlightenment French philosophers' and Gabriel Naudé. The second period covers relatively recent history, from the nineteenth to the twentieth century with the birth of the francophone document theoreticians such as the philosopher Auguste Comte and his Broad System of Ordering, and later Suzanne Briet's view of a document as something (potentially anything) *made into* a document, offering the view that the word "document" should be used in a technical sense within information science to denote anything *regarded as* signifying something. The third period is represented by the thriving activities of what we call in France the forerunners among whom I have focused on the specific position of Eric De Grolier for his role in defining and expanding Ranganathan's categories as well as that of Jean-Claude Gardin, their contribution and their impact on information science with a special focus on knowledge organization.
Originality/Value: The theme of the 4th International Scientific Conference on *Information Science in the Age of Change: Innovative Information Services* from which this paper is derived implies that speakers would give a state of the art on Innovative Information Service. However, I would like to suggest that talking about the European tradition of information science underpinning the innovation in information services would be worthwhile. It is because this tradition played a central role in developing the connection between modernism and information science, especially in relation to schemes for bibliography and documentation that emerged in the late 19th and early 20th century. The impact of the French tradition and its modernism in documentation and information theory is tremendous, but I chose only a few of these authors, mostly those understudied, because I find it surprising that there is so little reference to them in more recent work.

Keywords

Auguste Comte. Document theory. Epistemology of information science. Epistemology of knowledge organization. Eric de Grolier. French Encyclopedists. French Enlightenment philosophers. French modernism. French tradition. Gabriel Naudé. Jean-Claude Gardin. Suzanne Briet. Theory of information science. Theory of knowledge organization.

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[1] This paper is drawn from a keynote address given at the occasion of the 4th International Scientific Conference on Information Science in the Age of Change in Warsaw, 2017.

1. Introduction

This article focuses on the authors, theories, and practices that have been neglected, or forgotten by information French specialists. It tries to assess in this retrospective exercise their contribution and impact on information science (IS) and document theory, contemporary library and museum services and with the nature of library and information science (LIS). This exercise can be divided into three chronological periods: the first one goes back in time, as far as the Enlightenment French philosophers, many of whom took part in the all-encompassing Encyclopedia project but that also includes the significant contribution to classification theory and the footprint of Gabriel Naudé on knowledge organization (KO). The second period covers relatively recent history, from the 19th to the 20th century with the birth of the francophone document theoreticians such as the philosopher Auguste Comte and his Broad System of Ordering, a classification inspired by the sequence of sciences running from mathematics and physics, through chemistry, biology and psychology, all the way to the social and human sciences. And later Suzanne Briet's view of a document as something (potentially anything) *made into* a document, offering the view that the word "document" should be used in a technical sense within IS to denote anything *regarded as* signifying something. This view solved the conceptual problem of incorporating museum objects into a coherent view of information studies (Buckland, 1991a, 1991b; 1999; 2018). The third period is represented by the thriving activities of what we call in France the forerunners (Palemiti, 2000) among whom we can mention Eric de Grolier, Jean-Claude Gardin, Robert Pagès, Robert Escarpit and Jean Meyriat. In the present paper, I will examine the specific position of Eric De Grolier (1911–1998) for his role in defining and expanding Ranganathan's categories as well as that of Jean-Claude Gardin (1925–2013), their contribution and their impact on IS with a special focus on KO. Jean-Claude Gardin is considered as a precursor of digital humanities (DH) in its relationship with our IS discipline. I will briefly sketch out the contribution of those who are fairly known but I will rather focus more on the forgotten or neglected authors: philosophers, library scientists, document theoreticians, the forerunners of today's DH.

2. The first period: The Enlightenment French philosophers and the Encyclopedist Movement

The Enlightenment French philosophers and the Encyclopedists made a significant contribution to classification theory through their models and showed the influence of Gabriel Naudé on KO, an affiliation going back to Conrad Gesner[2] and the French Encyclopedists Bayle, Diderot and D'Alembert.

[2] Conrad Gesner (1516–1565) was a renaissance Swiss physician, naturalist, bibliographer and philologist. The history of bibliography is ordinarily presented as a linear progression from Conrad Gesner's *Bibliotheca universalis* (1545) to the present. See also Araujo, Crippa & Sabba (2016).

2.1. Gabriel Naudé (1600–1653)

Gabriel Naudé was a French librarian and scholar. He was an heir of Renaissance humanism and a forerunner of Bayle and Fontenelle who mark the transition to the classical period. Naudé was a prolific writer who produced works on many subjects including politics, religion, history and the supernatural. He wrote an influential work on library science when he published in 1627 his book *Advice on Establishing a Library*. Later he was able to put into practice all the ideas that he had put forth in Advice, when he was given the opportunity to build and then run the library of Cardinal Jules Mazarin who was at the time the kingdom's Prime Minister.

His first publication, *Le Marfore ou Discours Contre les Lisbelles*, brought him to the attention of Henri de Mesme, President of the Paris Parlement, De Mesme offered Naudé a librarian job to manage his personal collection. Naudé's service in De Mesme's library gave him the experience and knowledge necessary for writing his seminal work *Advice on Establishing a Library* which he considered as simply being a guide for building and maintaining De Mesme's library. In 1629 he became an official librarian and joined Cardinal Guidi di Bagno in Rome. After coming back to Paris, for the next ten years he devoted his time to bringing together from all parts of Europe the impressive collection of books known today as the Bibliotèque Mazarine. Naudé, in his career as a librarian, was opposed to censorship and encouraged library owners to allow others to use their collections, a practice he considered a great honor for the owner – an honor equal to that of having the opportunity to build a fine library. He was adamant about collecting in all languages, about all religions, subject matters, and literature. During his career in librarianship, Naudé helped instruct collectors and libraries in the selection and acquisition of their titles and on how to create catalogs for their libraries. For the first time, a scholar claimed that libraries were not just for scholars, elites, and bibliophiles. He is thus known in information science as the founder of public reading[3].

Advice (Naudé, 1627; 1950) was written as a set of instructions for private collectors and was based on Naudé's own experience and research. In the introduction to his book, Naudé wrote that he was not an expert in the field of librarianship but that he presented what he believed to be the most important ideas. He based some of the opinions in *Advice* on his own experience in De Mesme's library and wrote out for De Mesme what the accepted practices and principles of librarians of the time were.

Here are some examples that show his influence in France, Europe and the world: first we can mention his influence on the French philosopher Bayle, who took up Naudé's work on knowledge organization and used it to develop a classification model and a few years later his encyclopedic *Dictionnaire historique et critique*. Bayle was the forerunner of the Encyclopaedia, but these were Diderot and Alembert who continued his work and developed the idea of a book of universal knowledge. He also influenced Francis Bacon who was inspired by Naudé's taxonomy and cataloging rules for his Knowledge Tree. The pragmatism and scientificity of Naudé's writings attracted many philosophers at that time.

[3] The Bibliothèque *Mazarine* is still operating in Paris, 23, Quai de Conti. It became the first public library in France and remained so because of Naudé's insistence in 1644 that it should be open to the public.

2.2. Pierre Bayle: A proto-Enlightenment French philosopher and his influence on knowledge organization

Pierre Bayle was the author of the *Dictionnaire historique et critique*, published in 1697, which can rightfully be considered as a major forerunner of the Encyclopedia. Voltaire called Bayle "the first of the skeptical philosophers," but he might also be called the first of the Encyclopedists. Bayle considered his dictionary as a corrector of obsolete words, both his and those of his predecessors. The climax of his work is symbolized by a new edition of the dictionary published in 1734. In this version, new words, generally related to religion and philosophy, were accompanied by annotations/remarks of one or two lines[4]. Bibliographic references were also added in the margins. This layout is strangely reminiscent of that of the Bible. It is thought that during his studies and following his conversion, the layout of the Bible was a revelation for him about how a message should be conveyed. Recently, the ARTFL project[5] was launched to make the dictionary more accessible. The model did not change, it just became electronic. The user types a keyword in a space so as to be redirected towards the pages that deal with issues related to the item. The site also contains hypertext links which refer to the articles cited.

Bayle has marked his time as much as ours since his main work has been the inspiration for *L'Encyclopédie ou Dictionnaire raisonné des sciences, des arts et des métiers*, directed and edited by Diderot and D'Alembert, a work itself considered as a major step in the history of classifications and KO.

3. The second period: Late 19th century to the first half of the 20th century: The Document Theory

3.1. Auguste Comte and the Broad System of Ordering

Auguste Comte (1798–1857), a French philosopher, was the founder of positivism, a philosophical and political movement which enjoyed a very wide diffusion in the second half of the 19th century[6]. In 1854, Auguste Comte, in his *System of Positive Polity: or System of Sociology*, gave the following so-called "hierarchy of the sciences," according to which they all are, basically dependent on astronomy. A major contribution was his contribution to classification theory:

> The second pillar of positive philosophy, the law of classification of the sciences, has withstood the test of time much better than the law of the three stages. Of the various classifications that have been offered it is still the most popular today. This classification structures the Course, which examines each of the six fundamental sciences—mathematics, astronomy, physics, chemistry, biology and sociology—in turn. It provides a way to do justice to the diversity of the sciences without losing sight

[4] Pierre Bayle could rightfully be considered as the father of today's semantic annotations on the web.

[5] The ARTFL project was started in 1982 as a result of collaboration between the French government and the University of Chicago. It is a consortium-based service that provides its members with access to North America's largest collection of digitized French resources.

[6] The motto of the Brazilian Republic, displayed on its flag ("Ordem e Progresso") was borrowed from Auguste Comte. It is probably the only national motto in the world directly inspired from knowledge organization.

> of their unity. This classification also makes Comte the founder of the philosophy of science in the modern sense, since Comte's classification is meant not to restore a chimerical unity, but rather to avoid the fragmentation of knowledge" (Bourdeau, 2015).

But the existence of a "Classification of Sciences" is older than Comte's Broad System of Ordering. The law of classification of sciences also has a historical aspect. From Plato to Kant, reflection on science had always taken a central place in philosophy, but sciences had to be sufficiently developed for their diversity to display themselves and give us the order in which they had developed. For example, astronomy requires mathematics, and chemistry requires physics. Each science thus rests upon the one that chronologically preceded it. As Comte puts it, the higher depends on the lower.

> The law of classification of the sciences also has a historical aspect: it gives us the order in which the sciences develop. For example, astronomy requires mathematics, and chemistry requires physics. Each science thus rests upon the one that precedes it. As Comte puts it, the higher depends on the lower, but is not its result (Bourdeau, 2015).

From times immemorial thinkers have been trying to classify knowledge on some basis and the early Greek thinkers had attempted to classify all knowledge under three headings: (1) physics, (2) ethics, and (3) politics. Later on, Francis Bacon reviewed/revisited the classification on the basis of the faculties of man namely, (i) memory, (ii) imagination, and (iii) reason. Thus, the science based upon memory was history, the science based upon imagination was poetry, and the sciences based upon reason were physics, chemistry, etc. Comtean classification of sciences has its own specificities among which the following may be noted. The first half of this sequence is similar to those of other general classifications developed in the 20th century, such as the Bliss Bibliographic Classification, the Russian Library-Bibliographical Classification and the Broad System of Ordering. All are ultimately inspired by the sequence of sciences outlined by Comte himself, running from mathematics and physics, through chemistry, biology and psychology, to the social and human sciences. Bliss (1939) described its application to library collections as a "gradation in speciality," since it ran from very general disciplines to others dealing with more and more specialized parts of the universe. This sequence is often associated to the sequence of integrative levels of increasing organization in nature (Mills & Broughton, 1977, cited by Broughton, 2013; Bianchini, Giusti, Gnoli, 2017).

3.2. Suzanne Briet and the document theory

Here I will focus on the document theory, one of the major francophone contributions to information science. One of the major figures is Suzanne Briet (1951) or *Madame Documentation* as Michael Buckland called her (Buckland, 1995). Briet, still largely unknown in the 1990s by the majority of French researchers in information science, enjoys today an important reputation in Anglo-Saxon countries. She is recognized as a leader in the modernization of French libraries and as a pioneer in information science. It is essential to go back to the origins of Briet and the importance of the 1951 manifesto *What is documentation?* to the concept of document, clarifying the many uses of the word information, the materiality of information and the development of a documentary theory that led to what Buckland called as the first effect of Briet's theory:

> Briet's view of a document as something (potentially anything) made into a document was very close to my own emerging view that the word "document" could and should be used in a technical sense within information science to denote anything regarded as signifying something. The immediate effect was to encourage me to work through this line of thought in my book Information and Information Systems, which was my manifesto concerning the nature of our field (Buckland, 1991a).

In other publications Buckland stated (2013, 303–304):

> Since defining an extended range of "information" had been a challenge for me and might be of interest to others, I wrote a separate paper on that point entitled "Information as Thing" (Buckland, 1991b) using the antelope example [...]. That paper attracted attention, was widely cited, and became required reading for students in schools of library and information studies, where antelope-themed T-shirts won at least three T-shirt competitions. The paper was later supplemented by a fuller account of the historical development of this view of document: "What is a 'Document'?" (Buckland, 1997).

In his recent contribution (2018), Buckland noticed that Briet's biography offers a good entry point into history, practical, achievable through the use of writings but he invites us to go further to understand the context (social, intellectual, technical) and the influences at play. He then turns to three parts of Briet's manifesto: the first one which contains the extended theory of the document, the second one which deals with the profession and then the dual role of the documentalist, while the third part looks at the broader context of documentation as social engagement.

A second effect as Buckland stated (2013, 303–304) was:

> [...] to encourage me, after my return to Berkeley, to look at the work of Briet, Paul Otlet, and their contemporaries. This required some immersion in their world since, as of the early 1990s, little had been written about them other than Rayward's biography of Otlet. I felt like an archaeologist rediscovering a forgotten world. Some biographical pieces on Briet and years of detective work on information retrieval pioneer Emanuel Goldberg resulted (Buckland, 1995; 2006).

A third effect according to Buckland (2013) was that it contributed directly to the revitalization of the American Society for Information Science's Special Interest Group in Foundations of Information Science and its expansion into the History and Foundations of Information (SIG HFIS) under the leadership of Rayward's former student Irene Farkas-Conn, Robert V. Williams, and others, including Rayward himself.

A fourth effect was to revive interest in France in Briet and her milieu, notably in the work of Sylvie Fayet-Scribe (2000; 2007; 2009, cited by Buckland, 2013). The most interesting contribution of Briet's document theory is that it solved the conceptual problem of incorporating museum objects into a coherent view of information studies (Buckland, 1999, 2017).

A fifth effect was the development of a *neodocumentalist* view in attempts to revitalize the research and educational agendas of library and information studies, and what later became known as Dokvit, from the Norwegian *dokumentasjonsvitenskap*, designed by Niels Windfeld Lund. It was a proposal for a new library education program at Tromsø, to be called Documentation Studies. This resulted in a new academic program established in 1996 at the University of Tromsø along the same conceptual lines as Otlet's and Briet's approach. The notion of *document* was taken as the central concept and was understood to denote, potentially, any signifying thing. *Documentation* was seen as both the process of *documenting* and the outcome of that process. *Dokvit* was not seen as merely historical inquiry but as the most promising conceptual paradigm for advancing Information Science itself (Lund, 2007; 2009; 2010, cited by Buckland, 2013).

In order to develop the neodocumentalist movement and to encourage other scholars interested in studying documents in LIS and other fields, Buckland and Rayward among many others founded the *Document Academy* as an international forum for examining what a document is and how documents can be created, managed, and used. The first DOCAM (DOCument Academy Meeting) was held in Berkeley in 2003[7].

3.3. Otlet and Briet's legacy: The role of biographers in interpreting and spreading their ideas

Boyd Rayward, Micheal Buckland, Sylvie Fayet-Scribe, Emanuel Goldberg, Niels Windfeld Lund, Charles van den Heuvel, among many others have played a central role in developing the connection between modernism and IS, especially in relation to schemes for bibliography and documentation that emerged in the late 19th and early 20th century. One of most important contribution of the biographers to information science lies in its relationship to DH. Buckland showed the way how Briet's ideas could be relevant to the current GLAM[8] service in modern information science:

> My own view was that there was no lack of opportunities for schools of library and information science to develop their research interests and to diversify their educational programs, but that their field was under-theorized: the concepts and terminology seemed inadequate for an expanded vision. So I set out to provide my own explanation of the nature of this evolving field. The first stage was a framework for understanding library services, written on sabbatical leave in Austria in 1980 and published as *Library Services in Theory and Context* (Buckland, 1983). The second stage, which would have to wait for another sabbatical leave, was to generalize this framework to include archives, management information systems, museums, databases generally, and other species of collection--based information services, museums, databases generally, and other species of collection-based information services (Buckland, 2013, 305).

4. The third period: From the mid-fifties to today

In this section, I will focus on two major figures of information and documentation in France: Eric de Grolier and Jean-Claude Gardin.

4.1. Eric De Grolier (1911–1998)

Eric De Grolier was born in Paris in 1911. In 1927 he entered the Joseph Gibert Bookstore as an apprentice bookseller and quickly became passionate about classification. A year later he attended philosophy and history seminars at the Sorbonne and at the École Pratique des Hautes Etudes en Sciences Sociales (EHESS). In 1929 he graduated from the publishing and bookstore courses of the *Cercle de la librairie*. At the same time, he created the three exclusive Hachette catalogues, designed according to the dictionary catalogue system. In 1936 he created the Association pour le développement de la lecture publique – Association for the Development of Public Reading (Fayet Scribe, 1996; Palermiti 2000).

[7] See http://site.uit.no/documentacademy/

[8] GLAM stands for Galleries, Libraries, Archives and Museums.

Eric de Grolier was strongly interested in studies dealing with mass communication, propaganda and public opinion. He followed the studies of Laswell and Tchakhotine and published two studies: *Propaganda and Public Opinion in the United States* and *Information and Propaganda in the USSR* which showed his interest in politics. In 1939 he began to organize the first UFOD courses led by Jean Girard (Palemiti et al. 1992). In 1952 he graduated as a documentalist from the Institut National des Techniques de la Documentation, where he later returned as a teacher (the current INTD-CNAM in Paris).

The most important contribution to modern information science is his book *Study of General Categories Applicable to Classification and Coding in Documentation* (1962). In this work, De Grolier wrote, in reference to Ranganathan facet theory, that there was no generally accepted definition of category and that there still is a general confusion about its meaning. He noted that among other more high-level understandings, Foskett (CRG) regarded it as generally synonymous with facet and that Ranganathan's use was very specialized. His work was analyzed by Broughton where she stated:

> Strikingly he concludes that "in Ranganathan's facet model it seems to be related to a very practical pre-occupation, that of insuring a uniform sequence of the 'facets' under various subjects". In this respect CC and CRG appear closer together than might immediately be the case, the CRG having given some considerable attention to the business of ordering (through the use of Integrative Level Theory and General Systems Theory), but relatively little to the nature of categories which seem mainly to be derived from analyzing the terminology of subjects in a pragmatic manner. [...]
> De Grolier discussed a number of systems, including those produced by the CRG, which span a period going roughly from the origins of the UDC till 1960, immediately prior to publication. In many of these indexing languages the distinction between a category and a role indicator is blurred, as indeed it is in the CRG work. His own analysis of Ranganathan's fundamental categories regards them as a posteriori standardization of a purely 'practical method' (Broughton, 2013, 744–745).

There is no doubt that the KO community acknowledges his role in better defining and expanding Ranganathan's categories. Besides, facet analysis is considered as being a coding tool (Broughton, 2013). This author attributed this idea to De Grolier's through his examination of Ranganathan's categories when describing their role in both classification and coding (De Grolier, 1962).

Another important issue about coding is that it is used alternatively, coding taken as a means to content analysis is now a very common qualitative methodology in social science and humanities research. It is seen as an important technique for the qualitative data analysis in texts derived from interviews, observations, or field notes, as well as for more formal document types (Broughton, 2017). Unlike most of the coding methods used in information retrieval and documentation, coding of textual content uses lexical labels to denote content. The coding is an intellectual exercise, but can be managed electronically, resulting in the codes being entered into a frame to the right of the text itself at the appropriate point. As in the case of the subject analysis of document content for classification and indexing, the coding is interpretative and conceptual, i.e. the wording of the codes may differ from the wording of the text (Broughton, 2017).

4.2. Jean-Claude Gardin (1925–2013)

Jean-Claude Gardin was born in 1925. After an interdisciplinary training in political economy, in the history of religions and in linguistics, Gardin moved to archaeology in 1950 as

a full CNRS (Centre National de la Recherche Scientifique) researcher. He was a member of the French archaeological delegation in Afghanistan, then of the French Institute of Archaeology of Beirut, where he worked on documents retrieval and synthesis. This activity led him to question the scientificity of the scholarly discourse produced in his discipline, and more generally in the social sciences. Through his interdisciplinary background, Gardin played a major role in revealing an important triangulation among Documentation, Linguistics, and Logics (Guimarães, 2018). He developed a methodology based on an interdisciplinary logical-linguistic pattern – the *analyse documentaire* (by identifying, extracting, selecting, translating, and representing contents from documents), and the search of reliable tools that could build solid bridges between the document, the documentary system, and the user: the *languages documentaires*.

With the analysis, the conceptualization of texts and the search for their formalization, the work of Gardin was expanding to be interested in the whole discursive constructions in archaeology, from empirical observation to the formulation of hypotheses through the analysis and reasoning specific to the social and human disciplines.

Through his innovative ideas at that time Gardin is recognized worldwide as one of the promoters, or we might even say the founder of archaeological computing – since actively participated in the international cultural movement that was spreading in the fifties around the new methods of automatic processing and retrieval of scientific information and laid the foundations for the development of computer applications in the humanities in general, and in archaeology in particular. As early as in 1962, synthesizing his experience, he wrote:

> Information automatique et archéologie, la juxtaposition peut paraître surprenante; son intérêt pourtant est de souligner la généralité des recherches sur le 'traitement automatique de l'information' [translated: Automatic information and archaeology, this juxtaposition may seem surprising; its interest, however, is to underline the generality of research on 'automatic information processing'] (Gardin, 1962, 25, cited by Moscati, 2016).

From the second half of the fifties to the early sixties, he contributed to the activities initiated and promoted by leading World and European organizations, such as UNESCO and EURATOM. He received funding from the Rockefeller Foundation to disseminate internationally the new methods of documentation that he was developing. He then founded and directed scientific research laboratories in France, starting in 1957 with the Centre Mécanographique de Documentation Archéologique of the CNRS, what allowed him to cooperate closely with renowned French scholars such as Henri Seyrig, Fernand Braudel, Jean Leclant, André Leroi-Gourhan and Claude Lévi-Strauss, just to name a few, as observed Moscati (2016).

Annoyed by the repetitiveness of the archaeological cataloging procedures and mindful of the need to adopt new documentation strategies to speed up data acquisition and organize bibliographic work, Gardin benefitted from Henri Seyrig's support while in Beirut in the application of mechanical techniques for the storage and retrieval of data. This initiative helped in making easier the sorting and searching tasks that are the basis of any archaeological classification as Gardin and his team described:

> In comparative work in archeology, the investigator ought not to spend more time in assembling data than in analyzing them. Yet with the vast accumulation of publications in recent years, sheer bibliographical research (involving sources that not even all large libraries possess) demands a huge effort. Important descriptive details are scattered in the text and in the illustrations, so that the student

> must return again and again to the source once he has located it. This process is repeated endlessly by different archeologists using the same materials; hence, the total duplication of effort is enormous. Moreover, description is insufficiently standardized both because of the variations in usage between languages and because of different codes and conventions that prevail among archeologists. Points can be settled if illustrations are excellent and abundant, but the cost of publication makes it rare for both of these conditions to be met. Can one resolve – or partially resolve – these difficulties by the construction of standard categories that are relatively culture-free and by the use of mechanical aids such as systems of punch-card indices? (Gardin, 1958; Gardin, et al. 1974, cited by Moscati, 2016).

In 1956 Gardin published the first file developed by the members of the mission in a brochure called *Le fichier mécanographique de l'outillage*, in order to describe metal tools of the Bronze Age discovered in a large area ranging from the Balkans to the Indus (Gardin, 1956). The earliest five "Codes" for the analysis of archaeological objects, which involved pottery, weapons and tools, Greek coins, oriental seals and iconographic themes, were also created in 1956. These analytical codes, which are stored in the Archives with the related documentation, were not published until a few decades later (Christophe, Deshayes, 1964; Digard et al., 1975; Le Rider, 1975; Gardin, 1976; Gardin, 1978, cited by Moscati, 2016).

In this respect, the words often used by Gardin in describing his own method enable us today to better understand his classificatory approach as a way of breaking down the information into various elements, and in expressing in different ways the relations according to which they are assembled. By fragmenting the continuous representation of objects in a discrete series of characteristic elements, Gardin moved towards a classification approach based on a "relational" structure, overcoming the cataloguing process centered on objects and promoting a representation of data whose uniqueness was made explicit through a specific combination of words to both the constitutional elements and to their relationships. Moscati noticed:

> By following Gradin's lines of thought, we can suggestively close our eyes and have the feeling that we are listening to a modern advocate of data standardization and knowledge sharing in a semantic web environment (Moscati, 2016).

Moscati gave more details about the Centre's activities and Gardin's tremendous work which spanned archeology and discourse analysis using religious texts:

> In the early sixties, the Centre's activity rested mostly on three main pillars: objects, iconography and texts. We will not dwell here on Gardin's work on textual analysis, although it had accounted for a large part of his initial interests. Whether it carries out the analysis of clay tablets from the ancient Near East (Christophe, Digard, Gardin, 1958) or of a religious text such as the Quran (Allard et al., 1963; Gardin, 1989), or still of the myths of the Zuni Indians (Dossier Jean-Claude Gardin, *L'analyse structurale des myths: ébauche d'une méthode*), the study does not directly address the literal form of the document but rather its semantic content. This is why Gardin argued that the exegeses carried out at the CADA differed from the research work undertaken with the help of punched cards and focused on the philological rather than the semantic aspect of some texts[9] (Moscati, 2016).

We can see here the direct kinship with Father Roberto Busa, the father of today DH.

Gardin also showed the way towards an exceptional but possible cooperation at that time between Humanities scholars on the one hand and engineers and mathematicians, computer scientists. This cooperation is described today as the building blocks for today DH. He encouraged and clearly stated that this interdisciplinary collaboration would not

[9] See his work on the collected works of St. Thomas Aquinas analyzed by Father Roberto Busa (Gardin, 1960; Dossier Jean-Claude Gardin, *L'analyse sémantique et la mécanographie*).

be successful unless the former party became knowledgeable at least in general terms about the outlook of the latter party and vice versa. This is again one of the landmarks of modern DH:

> [...] Gardin was already well aware of the fact that, the proper use of the computer, as a physical machine that allows researchers to perform logical processes on data, requires a full knowledge of the theoretical aspects underpinning the same machine (Moscati, 2016).

In his recent article, Guimarães reported about Gardin's seminal work as a witness of a great documentation tradition going back to the early francophone's one such as Otlet and Briet and its global impact:

> The French documentary tradition inaugurated by Otlet was mostly focused on the need of knowledge organization tools that could guarantee the vital mediation between the context of production and use of the socialized knowledge, an aspect that was more specifically explained by Suzanne Briet referring to the dimensions – or meanings – that a certain knowledge acquires when it is documented and becomes information as a thing [...] Such tradition was deeply reflected in Jean-Claude Gardin's (1925–2014) ouvrage, more especially in the decades of 1960 and 1970, revealing an important triangulation among Documentation, Linguistics, and Logics. [...] (Guimarães, 2018).

Gardin played a major role in the epistemological dimension of KO through the development of an interdisciplinary methodology, based an interdisciplinary approach among epistemology, artificial intelligence, archaeology, linguistics, semiology, semiotics, logic, terminology, automatic translation, and documentation – l'analyse documentaire (consists in identifying, extracting, selecting, translating, and representing contents from documents), and the search of reliable tools that could build solid bridges between the document, the documentary system, and the user: the documentary languages. Gardin's biography is deeply permeated by as well as it was responsible for the creation of important research centers as the Centre d'Analyse Documentaire pour l'Archéologie de l'École des Hautes Études en Sciences Sociales, in 1958, and the Centre de recherches archéologiques at CNRS, in 1970.

5. Concluding remarks

The third period, which extends into our own time, is rather well known and it would be too long to deal with it in details. I would rather invite the reader to look at the ISKO-France 2017 Conference proceedings which spans historical and current contribution of the French theoreticians to documentation and information science (Mustafa El Hadi, 2018). However, I would like to highlight an important achievement and some implications for information and documentation science. From 1951 to 1974, Gardin, De Grolier and Pagès independently engineered a shift in focus from bibliographic description to content analysis and eventually to automation of document processing (Hudon, 2018). This most striking contribution is by far the paving of the way for today's digital humanities. Gardin was one of the first scholars who applied computer processing to a humanities domain[10].

[10] For a complete review, a detailed and updated bibliography on J-C. Gardin, see Guimarães (2018).

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Nauka o dokumentacji i informacji: o niektórych zapomnianych początkach francuskiego udziału w rozwoju dyscypliny

Abstrakt

Cel/Teza: Artykuł jest przeglądem wkładu francuskich badaczy w kształtowanie epistemologii i teorii nauki o dokumentacji i informacji. Uwagę skupiono na autorach, teoriach i praktykach, które zostały niedocenione lub zapomniane przez francuskich specjalistów informacji. Podjęto próbę oceny ich wkładu i wpływu na naukę o informacji i teorię dokumentu.

Koncepcja/Metody badań: Autorka skupiła się na analizie literatury drukowanej lub tekstów dostępnych online oraz materiałów z konferencji ISKO-France, zorganizowanej w Paryżu w 2017 r.

Wyniki i wnioski: Przegląd francuskiego wkładu w epistemologię i teorię nauki o dokumentacji i informacji przeprowadzony został według potrójnej chronologicznej perspektywy. Pierwsza sięga wstecz aż do udziału francuskich filozofów oświeceniowych i Gabriela Naudé w rozwoju metod i teorii organizacji wiedzy. Drugi okres obejmuje relatywnie niedawną historię, od XIX do XX wieku, od narodzin frankofońskich teoretyków dokumentów, takich jak filozof Auguste Comte i jego szeroki system porządkowania, do Suzanne Briet i koncepcji dokumentu jako czegoś (potencjalnie czegokolwiek) co pełni rolę dokumentu; koncepcja ta wskazuje, że termin „dokument" w nauce o informacji powinien być używany w sensie technicznym, aby oznaczał *dowolny obiekt*, który można uznać za coś dla kogoś znaczącego. Okres trzeci reprezentują działania tzw. francuskich pionierów, wśród których uwagę skupiono na szczególnej pozycji Erica de Groliera i jego roli w definiowaniu i rozwinięciu kategorii Ranganathana, oraz Jeana-Claude'a Gardina, jego wkładzie i wpływie na rozwój nauki o informacji, a w szczególności organizacji wiedzy.

Oryginalność/Wartość poznawcza: Temat IV Międzynarodowej Konferencji Naukowej „Nauka o informacji w okresie zmian: Innowacyjne usługi informacyjne", na którą przygotowany został referat stanowiący podstawę niniejszego artykułu, zakładał, że mówcy przedstawią najnowszy stan wiedzy na temat innowacyjnych usług informacyjnych. Chcę jednak zasugerować, że warto mówić też o europejskiej tradycji nauki o informacjach, stanowiącej podstawę innowacji w zakresie usług informacyjnych. Tradycja ta odegrała centralną rolę w rozwijaniu związku między modernizmem a nauką o informacji, zwłaszcza w odniesieniu do schematów organizacji bibliografii i dokumentacji,

które pojawiły się pod koniec XIX i na początku XX wieku. Wpływ francuskiej tradycji i jej modernizmu w teorii dokumentacji i informacji jest olbrzymi, ale wybrałam do omówienia tylko kilku spośród wielu autorów, którzy do niego się przyczynili, głównie tych, którzy są niedocenieni, o czym świadczyć może zaskakująco mało odesłań do ich prac w późniejszym piśmiennictwie.

Słowa kluczowe

Auguste Comte. Epistemologia nauki o informacji. Epistemologia organizacji wiedzy. Eric de Grolier. Francuscy encyklopedyści. Francuscy filozofowie oświeceniowi. Francuski modernizm. Gabriel Naudé. Jean-Claude Gardin. Suzanne Briet. Teoria dokumentu. Teoria nauki o informacji. Teoria organizacji wiedzy. Tradycja francuska.

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