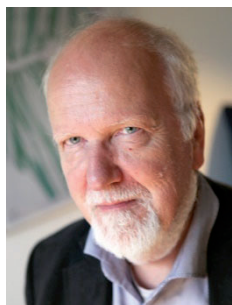


Table of Contents (ToC)[†]

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Abstract: A table of contents (ToC) is a kind of document representation as well as a paratext and a kind of finding device to the document it represents. TOCs are very common in books and some other kinds of documents, but not in all kinds. This article discusses the definition and functions of ToC, normative guidelines for their design, and the history and forms of ToC in different kinds of documents and media. A main part of the article is about the role of ToC in information searching, in current awareness services and as items added to bibliographical records. The introduction and the conclusion focus on the core theoretical issues concerning ToCs. Should they be document-oriented or request-oriented, neutral, or policy-oriented, objective, or subjective? It is concluded that because of the special functions of ToCs, the arguments for the request-oriented (policy-oriented, subjective) view are weaker than they are in relation to indexing and knowledge organization in general. Apart from level of granularity, the evaluation of a ToC is difficult to separate from the evaluation of the structuring and naming of the elements of the structure of the document it represents.

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1.0 Introduction

A table of contents (ToC) is a very common part of books and of some other kinds of documents (but not of all kinds). It has, however, been much neglected¹ as an object of research (with some exceptions, especially its importance for information retrieval, when added to bibliographical records, see Section 5.2). There has, for example, not been an entry about ToC in the seven-volume work *Encyclopedia of Library and Information Sciences* (McDonald and Levine-Clark 2017), and entries in other encyclopedias are also rare, and when existing they are brief and far from the ambition of the present article. Only one book (in French) has been identified (Mathieu and Arnould 2017), which is more a sample of case studies than an attempt to develop an overall view about ToCs, omitting most of what is covered in the present article. ToCs are so ubiquitous, that they may be regarded in line with the taken-for-grantedness infrastructures described by scholars such as Bowker and Star

(1999). The infrastructures described by these authors are critically analyzed and are shown to not to be neutral tools, but to have consequences, that were not obvious before their examination in this book. It is an ideal that specific things are approached from general perspectives and vice versa: That the study of specific things contributes to the development of general perspectives. In this case ToC is the specific thing, and the epistemological principles such as the non-neutrality of knowledge representations (as in Bowker and Star), is a general perspective of knowledge organization. Whether ToCs can be subjected to studies like Bowker and Star, or whether there are special reasons that this is difficult will be illuminated in this article and answered in the conclusion.

This article reports about the definition and function of ToCs, normative principles for their design, the history, and forms of ToCs (including ToCs in different kinds of documents), and the roles of ToCs in information searching with an attempt to provide a comprehensive but not exhaustive

coverage of the literature. Because the literature is sparse, large parts of the article is rather fragmented and patchy. This is especially the case with the section “Normative guidelines for ToCs”² and “History and forms of ToCs”, but it has been found relevant to report about what has been found.

2.0 Definition and functions of ToC

2.1 Definition

A table of contents (ToC) is (usually)³ a part of a document that provides information about the contents of that document (for example, a book, an issue of a journal, or a cumulated volume of a journal), by listing the headings/titles of the parts of the documents in the same order⁴ as they appear in the document and with locators (usually page-numbers) for each element. So, a ToC may be a listing of the chapters in a book, or it may be more fine-grained and include sections and subsections, but if such elements are not listed in the order, in which they appear in the book, we are speaking of an index rather than of a ToC.

Another formulation, consistent with that just given, but narrower, was provided by Jacques, Nonnecke, Preece and McKerlie (1993, 236): A TOC “shows how the content of a book [or other document] is related to its structure; and it provides the terminology of the book grouped in the context of its use.” This definition has the extra demands that the ToC must use the same terminology as the document represented (which is normally correct, but not true for *Current Contents*, presented in Section 5.1, which translate non-English titles).

Text processors often have the facility to make automatic tables of contents⁵ and they provide an understanding of how a ToC typically is understood: They use the structure of headings and subheadings in a document, providing a model of this structure in the same order in which they appear in the document and assign page numbers to each heading and subheading.

The above definition is the suggestion of the author of the present article, and it is maintained although the following quote may implicitly consider it “static” and suggest a “dynamic” alternative (Szlávik, Tombros and Lalmas 2012, 958):

Summarising the document structure is often done manually resulting in static tables of contents. For example, someone determines that it is sections and sub-sections that should be in the ToC, and this rule is applied no matter how long a document is, how rich and deep logical structure it has, etc. As manual textual summarisation evolved into automatic summarisation in the middle of the last century, ToC creation

should also be done automatically. The static nature of manually created ToCs, or – more precisely – the vague definition of what should be in a ToC (i.e. is it sections and sub-sections to be included or sections only, etc.) has been found to be unsatisfactory in user studies carried out as part of the INEX Interactive Track (Malik, Larsen, & Tombros, 2007), in the context of XML retrieval (Szlávik, [Tombros and Lalmas] 2006b). We also found in our study that a ToC should reflect the user’s query and that it is not enough to determine ToC-worthiness only based on type (e.g. section, paragraph) of an XML element but other features, such as content length and depth in the structure, need also be considered. In other words, we found that there is a need for automatically identifying ToC-worthy elements, and for dynamically generating tables of contents for single documents. (See also Section 4.4 subsection *XML documents*.)

This quote seems theoretically important by moving our attention from formal document characteristics in the direction of the function of ToCs for the users. It does not invalidate the suggested definition, however, because the definition does not exclude the possibility that the selection of sections reflects a request-oriented perspective (about the difference between document oriented and request-oriented perspectives, see Hjørland 2017, 58-59, Section 2.4).

The definition can also survive the suggestion made by Sarkar and Saund (2008, 387) that “table” is a bad metaphor for ToC, who wrote (emphasis in original):

The term ‘table’ turns out not to be a particularly useful description of either the logical or the layout structure of many TOCs. [...]

Therefore, we propose that the underlying logical structure of a table of contents is not that of a table at all, but of a hierarchical listing. Formally the structure is a tree, where nodes describe chapters, sections, or rhetorical chunks at other levels of granularity. In the TOC-tree, we shall call each node an *entry*. Each entry is a triple: (*descriptor*, *locator*, *children*).

Still, this does not change the above definition: A ToC is a listing of the headings/titles of the parts of the documents in the same order as they appear in the document and with locators for each element.

2.2 Functions of ToC

A ToC is a kind of document representation as well as a paratext (more precisely a peritext),⁶ and a main function is to serve as a kind of user-interface, an access or retrieval tool or a “finding device” to the document being represented by its

ToC. Whereas library catalogs, for example, are typically tools for identifying single documents within a collection, ToCs are typically tools for searching within single documents (Liesaputra, Witten and Bainbridge 2009). A ToC is a finding device that tends to increase both recall and precision of searching as well as help users to decide the relevance of a given document for their needs. DeHart and Matthews (1990) wrote that the contents-levels appearing in ToCs may serve as a weighting device to indicate the importance given to various topics within documents.

Although a “back-of-the-book-index” also fulfils the criterion of being “a part of a document that provide information about the contents of that document”,⁷ ToCs and indexes are generally understood as two different kinds of devices, a ToC may be understood as a list, an inventory, or a complete list of items, of the contents of a document. Some of the differences between ToCs and indexes are:

- A ToC is structured in the same way as the document itself, while an index normally is structured alphabetically, chronologically, or according to another order (sometimes the index is split in more indexes, e.g., a name index and a subject index, but ToCs may also be split in different parts, cf., below).⁸ ToCs are thus closely related to the logical structures of documents, which also means that methods for mapping this structure can be used to produce ToCs (Le Bourgeois, Emptoz and Bensafi 2001).⁹
- An index usually contains many more words than a ToC, it has a higher level of granularity: an index often refers to information on each page, while a ToC refer to sections, which may cover many pages, but both ToCs and indexes comes with great variety of granularity.
- Normally ToCs rely exclusively on headings or terms appearing in the headings and subheadings, while an index may rely on words in the whole text (both are kinds of “derived indexing”), but an index may also contain words that are not in the text (“assigned indexing”).¹⁰ (There are however, exceptions, for example, ToCs translated to other languages than the document, see below about Current Contents.)

As an implication of their different qualities, ToCs support primarily browsing, while indexes primarily support searching (somewhat like hierarchical navigation in directories versus keyword searching in search engines).

Frické (2012, 74) wrote about the function of ToCs:

There have been Tables of Contents pretty well since there have been written forms. What does a Table of Contents do? It tells you the contents and structure (especially if the IO [information object] is something like a linearized ordered tree of chapters, sections etc.). There is a coarseness to a Table of Contents. An IO

itself, or a part of an IO, may have many words, sentences, and statements. A Table of Contents for that IO will have a lesser number of words. It is a distillation, an abstracting, a pilot text, as to the true full actual contents. One atom in a Table of Contents may point to an entire chapter in the text. It achieves this distillation by labeling what sections of the content are about, its subjects or topics.

The most important function of ToCs according to this quote that it provides a structure and an overview of a text that makes it a necessary complement to an index, again supporting the browsing function of ToCs. Carey, Hunt and Lopez-Suarez (1990, 58) found that a ToC “is an aid to both ways-finding and sense-making”. ToC’s may also serve aesthetic, emotional and other purposes not just related to information searching, for example, in books for children (see Paoli, Innocent, and Morellato 2017).

3.0 Normative guidelines for ToCs

A ToC should be placed where it is easily identified and where the user expects it to be found. Today, this is normally in the beginning of the document, just after the title page and beginning on a right page (recto). Formerly, especially in French and German books, it was common to place it in the back of the book, and certain practical issues supported this decision: the ToC must be made after the rest of the book has been typeset. Information about the graphical design of ToCs can be found in Sarkar and Saund (2008), and small amounts also in Hochuli (1993, 37-41), Temming (1967, 48-58) and Wikipedia (2021).

The *Chicago Manual of Style* (2017) provides some information about the designing of ToCs. §1.38 is about the place and coverage of book ToCs (with illustration showing front matter, introduction, parts, chapters, back matter, and location of photo gallery). §1.87 is about journal table of contents, which should include the title of the journal (or special issue its title and editors), date, month, or season and year of publication, volume and issue numbers, title of articles along with the names of their authors and the page range (or beginning page) for each article. Additional items may include review articles, book reviews, book notes, commentaries, editorials, or other substantial items, and should also include a list of all electronically published articles.

The ISO 18:1981 standard and the ANSI Z39. 1-1977 standard (American National Standards Institute 1977) provide rules for the presentation of the contents list of a periodical.

It should be said that although such normative guidelines appear to be neutral, we must assume that they have epistemological implications. For example, norms may have different value in different scholarly fields or kinds of work.

Above we mentioned the need to move the attention from formal document attributes towards functional values for users. Especially the level of granularity of ToCs seems important such as parts of chapters, which may be solved by having both a brief and a comprehensive ToC.

4.0 History and forms of ToCs. ToCs in different kinds of documents

The history of ToCs has to our knowledge not yet been written, not even in a brief outline. As Winke (1999, 19) wrote, “investigations into the structure and composition of TOCs themselves has been relatively scant, leaving an incomplete and inadequate understanding of TOCs.” The quote by Frické above suggested that ToCs are as old as written forms, but this is contradicted by another source, Fayet-Scribe (2017), who wrote that Pierre de la Ramée (= Peter Ramus, 1515-1572) is the putative inventor of the table of contents. However, as it is the case with other parts and processes in relation to documents (such as alphabetization, see Korwin and Lund 2019) things may not be invented once and for all, but graduate, and this development is influenced by different functional demands and is often intimately connected to the development of the documents themselves and available technologies. ToCs seems to have developed from (1) no content indication over (2) lists of headings without page numbers to (3) headings with asterisks marking how well the topics are covered to (4) headings with page numbers and further to (5) ToCs with several levels of typographical hierarchy (for some empirical details see endnote 11).

Blair (2010, 135; italics in original) also provided the following information about the evolution of ToCs:

Lists of contents are generally thought to have been rare in antiquity and the early Middle Ages, though they were present in some early compilations like Pliny's *Natural History* and Isidore's *Etymologies*. The major works of the twelfth century, notably Gratian's *Decretum* and Peter Lombard's *Sentences*, featured lists of contents and these became standard as of 1250 especially in stationery-produced manuscripts. Vincent of Beauvais's *Speculum maius* opened with a list of *tituli*, which then appeared throughout the text as headings for different sections.¹² This technique of announcing the contents of a work was justified by one compiler, Godfrey of Viterbo, at the turn of the thirteenth century, as ‘guiding to the desired port readers rowing through the seas’ of a large work.¹³ In the thirteenth century lists of chapters were frequently added to older manuscripts which had none.¹⁴

This quote contributes some concrete, empirical elements to the history of ToC, that still waits to be written. The different roles of authors and editors (or “correctors”) has also implications for ToCs. Grafton (2020, 35) wrote about book making in Early Modern Europe:

Correctors did many other things as well. They corrected authors' copy as well as proofs. They identified and mended typographical and other errors, to the best of their ability. They divided texts into sections and drew up aids to readers: title pages, tables of contents, chapter headings, and indexes.

This quote points to the close connection between the ToC and the structure of the document represented. If the structure is poor, the task of making a good ToC cannot be separated from the task of improving the structure of the document itself (dividing the text into proper sections). Professional writers probably go forth and back adjusting the texts to the ToCs and the ToCs to the texts during the writing process, but sometimes, the help of an editor or corrector may be needed.

In computer science there have been important developments in relation to ToCs, for example, as we saw in Section 2.1, from “static” to “dynamic” ToCs, which must be considered an important part of the history of ToCs. Belaïd (2001) described an approach for automatic recognition of ToCs in digital libraries and Chen et al. (2016) developed a “Within-document Analysis Tool”.¹⁵

There have of course been developments in relation to broader theoretical frameworks of relevance for understanding ToCs. Due to their contextual dependency, it is here suggested that the best theoretical lenses for considering ToCs probably is genre studies (Rafferty 2021).

4.1 Books¹⁶ and dissertations

Winke (1999) examined a sample of 648 current English-language books which have been cataloged by the Library of Congress (LC), of which 601 titles included “usable” ToCs. Based on this sample, he distinguished two types of ToCs in books: “author based” and “subject based” (21):

Generally, author-based TOCs are books produced under editorial direction in which a different author writes each chapter, and the names of these authors appear with the chapter title. Subject-based TOCs are generally found in books in which a person or persons is responsible for the intellectual content of the whole book.

The author/title based ToCs accounted for 25.62 % of the sample (the number or percentage of subject based ToCs

were not reported but should then be 74.38 %). Concerning the length (granularity) of the ToCs were said (23):

Of the 601 TOCs examined, the average number of words in each was 67.75, with a range from 9 to 2,078 words and a median of 81 words. Only 32 (570) TOCs exceeded 300 words, and in only 2 instances (0.33 %) did the number of words exceed 1,000. (As stated above, some of the unusable TOCs were deemed to be so due to excessive length). Of the 67.75 average words per TOC, not all of these might be considered "subject rich," nor would all of them be new words added to a bibliographic record.

The levels of hierarchies in the ToCs were also reported. 46.59 % had only one level, while 42.93 % had two levels, 7.82 % had three levels, 2.33 % has four levels and only 0.17 % five levels and this (0.17 %) was also the case with six levels. It was found (21) that ToCs with three or more levels typically included subchapter level analysis (but word counts at a level below chapter-level were excluded from Winke's study).

Wilke (1999, 21) wrote that "that there was no attempt to identify the number of 'subject-rich' words that might be added to keyword indexes from each TOC. While such information would certainly be useful, such a task would consume more time than was available." We have not identified in the literature about ToCs examinations of their quality, or what should be considered criteria for evaluation of their quality (except vague reference to number of subject-rich words).

Wilke also examined the distribution of ToCs in different subject fields (based on *Library of Congress Classification*). None of the 648 books were classified A (general works) or V (naval science). Of the books deemed to be lacking usable ToCs, 61.7 % were in class P (language and literature), which the author found was expected, as works of imagination, such as novels, typically do not contain ToCs. The same is the case with biographies of authors, which also frequently is found in class P. Disciplines with many ToCs were H (social sciences) 27.01 %, D (world history), P (language and literature; 19.44 %, 14.9 % when unusable ToCs were removed), B (Philosophy, Philosophy and Religion) 7.41 % and J (political science) 7.10. These figures may not, however, reflect a representative sample of published books.

Books may have more than one ToC. They often contain lists of, for example, figures, tables, and equations, which may be considered kinds of separate ToCs if these elements are listed in the order of the book (if not, they may be considered indexes). Books may also have both a short and a long ToC. For example, *XML for Dummies* (Dykes and Tittel 2005) contains "Contents at a Glance" (one page) and "Table of Contents" (8 pages). The short one mentioned

the parts and the chapters, the long one mentioned in addition the sections and the subsections of the chapters. Another example is *Information Retrieval Design* (Anderson and Pérez-Carballo 2005) which contains three ToCs: "Brief Table of Contents (iii), "Summary of Contents" (iv-vi) with content notes about each chapter and "Full Table of Contents (vi-xiv) with 3 subchapter levels. A variant appears in the *Chicago Manual of Style* (2017) where the main ToC is supplemented with more detailed ToCs at the start of each chapter (reminding somewhat about expandable ToCs, described in Section 4.4 under hypertext).

Searching information in e-books users mostly rely on the search function, but may also go to the ToC and guess which section contains the information they seek (Liesaputra, Witten and Bainbridge 2009).

About dissertations *Guidelines for Subject Access in National Bibliographies* (Jahns 2012, 29) wrote: "One of these tools [such as abstracts, ToCs etc.] can be chosen depending on the type or genre of the resources. For example, better searching of doctoral theses can be achieved when abstracts and tables of content are included."¹⁷

4.2 Encyclopedias¹⁸ and dictionaries

Loveland (2019, 164) wrote:

Works of reference, by contrast [to ordinary books to be read linearly], were printed as books and could, in extreme cases, be read cover to cover, but they were designed to allow multiple points of entry and exit. Many encyclopedias, moreover, were meant to show how knowledge connected as a non-linear network. Achieving these goals required organizational tools going beyond the book's intrinsic structure of sequential pages and lines. To ensure ease of access, the most powerful organizational tool was alphabetical order, but it had the effect of dispersing even as it organized, thus necessitating other tools to register links among entries.

Because of this, encyclopedias and dictionaries need not have a ToC, as Frické (2012, 104) wrote:

An Encyclopaedia need not have either a Table of Contents or an Index. And often they do not; in fact, most do not, even today. Instead of having an alphabetical index to sections, the sections themselves could be arranged alphabetically. That approach, which results in a Dictionary of Knowledge or Dictionary-Encyclopaedia builds the index into the text itself; it makes a real Index redundant, and it also makes a Table of Contents redundant. Searching is supported by direct jumped key entry into the text.

An entry on ‘Stock-Doves’, if there is one, appears late in the S entries (after the R entries and before the T entries). However, this approach tends to destroy meaningful browsing, simply because alphabetically contiguous entries usually will not signify related subjects or will do so only by accident.

Frické (2012) discusses ToCs and back-of-the-book-indexes and on other issues related to the organization of encyclopedias and other kinds of documents. Among his examples are Pliny’s table of contents for his encyclopedic *Historia naturalis* (Natural History).¹⁹ Frické (104) also presented Pierre de la Ramée’s influence on the organization of knowledge:

Ramus’s real complaint was not that Aristotle was false, but rather that Aristotle’s works were poorly organized (Ong 1958). Ramus sought to reform the educational curriculum, and existing learning or knowledge was not organized in a suitable form. Ramus’s solution on organization was to invoke the device of division by Chapters, Sections, Headings, etc. and to use these to add structure. So, basically, what he advocated was the use of ordered trees, often ordered binary trees, (on the pattern of genealogical trees) as a means of division and access. This gave rise to ‘Ramism’, which itself relied on the use of binary trees to organize. [...]

A (binary) tree can accelerate search, by successive narrowing, and it can support browsing in as much as sibling children can and should be related to each other. The tree, or a tree, can simply be the structure of the book as a whole; in which case, the book itself is just a sequential ‘paginating’ traversal of the tree, and the tree and the Table of contents are really just one and the same. But it is also possible, as we will see, for a tree to be a third access device, a Tree of Knowledge (or Contents, or Themes) additional to a Table of contents and an Index.

Encyclopedias and dictionaries may or may not have ToCs. For printed works, there are many examples of encyclopedias both with and without ToCs. For electronic works, however, it is not possible or reasonable to display articles in “the same order” as the document of which they form parts (the very idea of such an order may be meaningless as bits may be rather arbitrarily distributed on a disc). Individual articles in encyclopedias may have ToCs (as is the case, for example, with *Wikipedia* and *ISKO Encyclopedia of Knowledge Organization*). Online encyclopedias also often have listings of all their articles (for example, the *Stanford Encyclopedia of Philosophy* and the *ISKO Encyclopedia of Knowledge Organization*), but these are in alphabetical order and should therefore be considered indexes rather than

ToCs. Online encyclopedias allow a long range of organizing principles for articles, e.g., indexes, portals, and hyperlinks. However, as explained, if we say strict to the definition of ToC in Section 2.1, they should be considered indexes rather than ToCs.

It should be said that ToCs in printed encyclopedias as well as alphabetic listings of entries in online encyclopedias helps providing overview and support navigation.

4.3 Journals

Single issues of journals (whether print or digital) normally contain ToCs. In printed issues ToCs may be cumulated in the single volumes. There are also examples of *Cumulative Tables of Contents* spanning more than one volume, such as the journal *Radio Science* which published a *Cumulative Table of Contents* (1959–1967). (Journal articles may of course also be identified in database such as *Current Contents Connect*, see Section 5.1, or in ordinary bibliographical databases such as MEDLINE, Scopus, or Web of Science, where it is possible to select documents from single journals and list them chronologically and in other ways.)

Juhász (1973) investigated the practices associated with ToCs in primary journals such as the presence and location of TOC, reference to location of TOC if not on cover page, author’s name and identification practices, title listing and pagination system, different methods of sequencing of the three major elements (author, title, pagination), leaders between pagination and other elements; the different practices of multilingual and multi-alphabetical TOC’s. The paper also provided recommendations (which influenced the ANSI Z39. 1-1977 standard).

Guidelines for Subject Access in National Bibliographies (Jahns 2012, 29) wrote “Electronic TOCs are also an effective way to identify journal articles and conference papers.”

Perhaps we can say ToCs in journal issues are important when scanning new issues, but that the function of ToCs is less important in relation to cumulated volumes, because journals, as opposed to books and encyclopedias often are more heterogeny collections, and why search functions become more important compared to the scanning function provided by ToCs.

4.4 Internet sources etc. (Hypertext, XML-documents, and videos)

4.4.1 Hypertext

This section reports of a just a single study (Tenissara 2003), who wrote that many studies have examined techniques and design strategies to find the proper structure of a hyperdocument whereas others have investigated navigational tools such as overview diagrams, maps, menus, and/or tables of

contents that help users navigate through complex hyperdocuments.

Her study investigated the effects of table of contents and frames as user interface on user performance and user satisfaction, and examined three kinds of navigation aids: Frames, traditional ToCs and expandable tables of contents. She wrote about the last kind of ToC (3):

The interface design for table of contents can vary in hypertext systems. The TOC may be truncated if viewing the response to a query, and may use a fisheye view (Furnas, 1986).²⁰ An expandable TOC, for example, presents the structure of a hypertext system by employing a fisheye-view method. The expandable TOC, while containing only the highest hierarchical level of headings when a document first displays, allows users to expand each section to its next lowest level and open as many different parts of the table of contents as desired at the same time. Types of interface chosen for tables of contents can affect user behaviors, navigation patterns, and ultimately user performance and satisfaction with hypertext systems.” (The article mentions also the term WebTOC.)^{21,22}

The overall goal of Tenissara (2003) was to examine 6 hypotheses, whereof 3 were related to ToCs (3 related to frames, which are not considered here) (8):

- H1: Users’ performance in information searching and browsing with expandable table of contents will be more accurate than with traditional table of contents.
- H2: Users’ speed in searching and browsing with expandable table of contents will be higher than with traditional table of contents.
- H3: The navigation will be more satisfy using expandable table of contents as opposed to traditional table of contents.

However, the experimental results reported in the paper did not support any of these three hypotheses, and the paper concluded (17): “In general, in all of the dependent variables measured, the expandable table of contents users performed worse and had less favorable attitudes towards the system than the traditional table of contents users.” However, in the conclusion the author suggests that the used research methods may not be suitable for examining such research questions and called for holistic comparisons. But as it stands, the article is a support of the importance of ToCs also in the hypertext environment.

4.4.2 XML documents

Szlávik, Tombros and Lalmas (2012) is one article among others in a research program. They found:

In structured document retrieval, it is not only documents that are returned in response to a query, but also, portions of documents (Lalmas & Baeza-Yates, 2009). The relevance of these portions can be determined by exploiting the logical structure of documents. Nowadays, structured document retrieval is mainly studied in the context of XML documents where the logical structure of documents is provided via the XML markup (Lalmas & Tombros, 2007). The logical units (e.g. sections, subsections, etc.) of documents, called elements, form a hierarchical structure in an XML document. This hierarchical structure of a document can be overwhelmingly rich, hence, users need to gain an overview of the logical structure in order to find the document portion(s) that might contain the specific information they are looking for. In other words, the structure also needs to be ‘summarised’ and a structure summary needs to be displayed. This paper is concerned with the generation of such structure summaries.

Their article distinguished between document summarization and structure summarization (although they are highly related activities), (956-7): “while a snippet is a selection of sentences, phrases, etc. of the textual content of a document, a structure summary is a selection of elements that provides an overview of the logical structure of the document.” In other words: A structure summarization provides a ToC. The article says further (957):

Traditionally, one chooses the elements to be displayed in a table of contents (ToC) by simply selecting all the sections, subsections, etc. However, we have shown in previous work that some portions of documents might be more important to a user, and thus, these portions should be made more prominent in the table of contents (Szlávik, [Tombros and Lalmas] 2006b). For example, for some sections, we might need to include paragraphs in the corresponding ToC, while other sections (being unimportant or not relevant) might be completely omitted from it. The ‘right’ ToC should be determined automatically.²³ The structure summarisation discussed in this paper is used to automatically determine which portions of documents are ‘worthy’ of inclusion in a ToC.

Szlávik, Tombros and Lalmas (2012) provided detailed empirical analysis and evaluations of criteria for determining

“ToC-worthiness” based on a range of features. As such, this research program seems to represent the front-line of research about ToCs. The suggestion that different parts of a ToC should be omitted, and other parts further developed, raises fundamental problems in relation to the nature and function of ToCs. There is a danger, that the suggested kinds of ToCs may not provide the user the necessary overview of the document, because it does not display the objective structure of the document, but instead a structure emphasizing the parts of the document found relevant to a given query. It may serve passage retrieval better, but will it serve browsing as well as traditional ToCs?

Nonetheless, the paper is an important contribution challenging traditional views and raising important questions. It is still the expectation, however, that even if a user-oriented view is accepted, this research may benefit by considering broader theoretical issues, such as genre-theory and epistemology. How do we in the end decide what is best? By asking users? Which users? Should we expect that a random sample of users is the best option, or should we assume conflicting views based on different “paradigms”? (This involves the problem of the concept “relevance”, see Hjørland 2010.)

4.4.3 Videos

Cojean and Jamet (2017, 2018 and 2022) explored enhancing the learning process based on videos. They found that the information-seeking activity of learners can be improved by providing macro- and micro-scaffolding. Macro-scaffolding is provided by harvesting text and acoustic properties of the videos to form a hierarchical content table (displaying the structure of the video like a table of contents available in a textbook). Micro-scaffolding is made by providing markers in the timeline. Both kinds of scaffolding were shown to have positive effects on search outcomes, but also that they need to be used in combination to improve search times. However, learners with scaffolding had less accurate mental representations of the video than those without scaffolding. One suggestion is that a table of contents, especially when it is interactive, can be an organizational aid during the construction of a mental model, but learners may underestimate its usefulness. Mukherjee et al. (2019) found that online educational videos often are long and do not have enough metadata and presented a novel architecture to curate content tables for educational videos.

5.0 ToCs in information searching

ToCs play an immense role in information searching. For example, we all use the ToC of a book to orient ourselves about its content. However, the important roles of ToCs stand in contrast to the modest amount research that have paid attention to them and, as we shall see, to their limited

or delayed representations in, for example, library catalogs and national bibliographic databases.

We here make a distinction between the fields of *information searching*, *information retrieval* (IR) and *information seeking* (although these terms often used as synonyms). If we look at the field information seeking, for example, the handbook by Case and Given (2016) it does not cover the research about how people use tools such as bibliographies, handbooks, indexes, classification systems, keywords, TOCs, tags, bibliographical references etc., which are of core interest from the perspective of knowledge organization. These tools are, however, core elements in the field of information searching (whether it is called literature searching, document searching, database searching, online searching, etc.). You simply cannot become a professional searcher without deep knowledge of such concepts, and a deep understanding of their relevance for searching. The field IR also tends to ignore these concepts, and just focus on statistical relations between terms in queries, documents, and collections of documents (see Hjørland 2021). Therefore, one possible reason for the neglect of ToCs may be due to the fact that information seeking and IR are much bigger and more established research fields compared to information searching and KO.

The distinction between the library tradition on the one hand and the documentation/information tradition on the other hand may also be important in relation to TOC.²⁴ As Byrum and Williamson (2006, 4) wrote:

Traditionally, standard catalog records have provided bibliographic data that mostly address the basic features of library resources. At the same time, catalogs have offered access to these records through a limited array of names, titles, series, subject headings class numbers, and a relatively small number of keywords contained within descriptions.²⁵

This traditional tendency in library catalogs stands in contrast to bibliographic subject databases connected to the information science tradition, where the provision of abstracts, more comprehensive subject access points (SAPs) and empirical studies of the effectiveness of different kinds of SAPs and search strategies have been prominent activities. Documentalists/information scientists developed, for example, abstract journals which provides indexing of articles in journals, whereas library catalogs typically did not, until recently, index single articles neither in journals nor in books.²⁶

5.1 ToCs in current awareness services

One of the most influential applications of TOCs was a series of journals, today a database, *Current Contents*, estab-

lished by information scientist Eugene Garfield in the 1960s and published weekly by his *Institute for Scientific Information* (today taken over by *Clarivate Analytics*). This series came as different individual journals, such as²⁷

- Current Contents: Physical, Chemical & Earth sciences
- Current Contents. Engineering, Technology & Applied Sciences
- Current Contents: Agriculture, Biology & Environmental Sciences
- Current Contents Life Sciences
- Current Contents Clinical Medicine
- Current Contents Social & Behavioral Sciences
- Current Contents Arts and Humanities

A researcher subscribing to one of these journals every week got an issue, which, besides a few pages of editorial stuff, consisted solely of ToCs reproduced from a large number of recently published journal issues, both in his own discipline and in the adjacent disciplines covered by that specific current content journal.²⁸ Each individual *Current Contents* journal covers approximately the ToCs of 1000 selected journals in the field. They are arranged alphabetically by discipline and produced in a consistent format that is designed for quick scanning and provides complete bibliographic information (journal title, author(s), and page numbers) for all items, including commentaries, book reviews, and letters to the editor.

Indexes as well as author and publisher directories are also included. Speed was (and still is) an important parameter, so the delay from the issues were published to its TOC appeared in *Current Contents* was kept very low (in sharp contrast, for example, to typical library cataloging). It should be mentioned that all titles of articles in other languages in the TOCs were (and still are) translated to English. These *Current Contents* journals functioned as a kind of current awareness services, that supported the popular scientific practice of writing to authors asking for a reprint of their articles (or ordering a copy from the library). Today, Clarivate Analytics still maintains the database *Current Contents Connect*, indexing over 10 thousand of leading scholarly journals and more than 2000 books a year.²⁹

There have been other similar services produced by other publishers,³⁰ but none as well-known and influential as the series published by *Institute for Scientific Information* (although, of course, they may have been of great importance for the specific communities, they served). Related current awareness services were often used in research libraries: As an alternative to circulate the journal issues themselves,³¹ the libraries made copies of TOCs which were distributed to researchers in the institute served by the library.

The development of digital communication technologies has, of course, changed the nature of current awareness

services. There is no longer the same need for retrieving a printed journal, as bibliographies and single journals can be accessed immediately. So, instead of a weekly *Current Contents* you may subscribe to an update by a query stored in a database (for example, in the *Current Contents Connect* or in one of the citation Indexes published by Clarivate Analytics). Updates may be forwarded to you daily or another interval of your choice. In this connection the concepts *TOC RSS*³² *feeds* and *JournalToCs* should be mentioned, which allow users to receive TOCs from new issues of journals chosen by the user (see further Fletcher 2009, Loesch 2012, Glusker 2013 and Penfold 2018).

5.2 ToCs added to bibliographical records

Bowman (2007, 95) described changes in the addition of notes, such as information from ToCs in library catalogs:

Public library catalogues in early twentieth-century Britain frequently included annotations, either to clarify obscure titles or to provide further information about the subject-matter of the books they described. Two manuals giving instruction on how to do this were published at that time [Savage 1906 and Sayers 1918]. Following World War I, with the decline of the printed catalogue, this kind of annotation became rarer, and was almost confined to bulletins of new books. The early issues of the *British National Bibliography* included some annotations in exceptional cases.

Bowman's article described the rise and fall of "annotations" in library catalogs (by annotations he also meant the kind of information provided by ToCs). Although his article is limited to Britain, the issues described are of general interest. The article describes the historical arguments there have been on whether to add "some additional information that went beyond the bare bibliographic description" (96).³³ It is indicated (108) that the fall of annotations is related to the division of labor between descriptive catalogers and subject catalogers:

Contents notes are still relatively common in cases where the publication includes several separate works, but the others have almost fallen into disuse. This is not surprising in view of the fact that AACR2 does not otherwise cover subject matter or the subject approach to retrieval at all. Cataloguers who do not also classify have no reason to examine the subject matter of the materials they deal with. The decline of annotation is borne out by a late reference to it by Bob Duckett [1994, 6] as one of the 'lost arts of cataloguing'.

Why has the inclusion of ToCs in library records and national bibliographies been neglected? Probably the lack of space on standard cataloging cards may have played a role, but this was no longer the case when online public access catalogs (OPACs) replaced card catalogs in the 1980s. Norris (1952, 119-22) wrote though annotation has had its day in general it “serves very little purpose” in an open shelves library.³⁴ The three main reasons to omit ToCs seems to have been (1) a lack of recognizing their importance for the users³⁵ (2) the costs associated with copying the ToCs to the catalog records (3) a very conservative attitude or philosophy towards cataloging, emphasizing other kinds of data – and probably considering library cataloging and classification sufficient for obtaining optimal retrieval. (This is a somewhat disappointing result considering that the field has considered itself a science at least since the fifteenth edition of the *Dewey Decimal Classification* in which class 020 “library economy” was renamed “library science”, but probably much earlier, cf., Schrettinger 1808-1829 and Butler 1933.)

There has been some interest by researchers in studying the costs and benefits of enriching library catalog records with information derived from the books. An early study is Atherton³⁶ (1978) who reported on a project designed to improve subject access to books by augmenting MARC records with subject descriptions. A *BOOKS* database, consisting of humanities and social science books was created and made available for online searching. The availability of suitable information in books to produce augmented subject descriptions, costs associated with creating the data base, and benefits derived from searching the data base were explored. A controlled test of 90 searches comparing online searching of MARC and *BOOKS* records showed more relevant items were retrieved using the *BOOKS* data base. This greater precision together with lower costs for online searching than MARC searching and the ability to answer some queries not possible using catalog information were seen as the major benefits to be derived from searching *BOOKS*. This study sparked the interest in experimenting with the addition of tables of contents to enhance catalog records (e.g., Cochrane³⁷ and Markey 1983; Cochrane 1985; Markey 1983, 1984; Diodato 1986; Markey and Calhoun 1987; Byrne and Micco 1988; Poulsen 1996; Morris 2001; Choi, Hsieh-Yee and Kules 2007 and 2008; Moeller 2007; Tosaka and Weng 2011).

The overall picture of this research is that providing users with access to ToCs increases recall and precision of searches very significantly and that it also meant that the books represented by the ToCs became more used. However, one thing is the conclusions from research, another thing is how these findings are being implemented in practice.³⁸ We have not identified any study examining the presence or absence of ToCs in library catalogs, national bibliographies etc.

However, an OCLC report (Calhoun et al. 2009) as well as *the Guidelines for Subject Access in National Bibliographies* by the *International Federation of Library Associations and Institutions*, IFLA (Jahns 2012, 28-29) recommended ToCs “as a supplement to other subject access tools” and wrote: “For almost three decades, librarians have advocated for the enhancement of online library catalogue records [with contents notes, summaries/abstracts, TOCs, sample text and other publication-related information such as reviews].” They further wrote (29):

Tables of contents and summaries help users understand the subject matter of the resources described. Many of these data can be re-used by NBAs [national bibliographic agencies] from book sellers, publishers or authors. Specifically, TOCs expand the title of a resource to all the titles of its parts, which is often very important in ascertaining all the subjects. Otherwise users should be aware that searching on digitised TOCs is free-text searching.

The Library of Congress established in 1992 the *Bibliographic Enrichment Advisory Team* (BEAT) to do research and take initiatives to enhance the utility of bibliographic records. According to its homepage³⁹ there are projects about machine generated ToCs, about linking information on digital ToCs (dToCs) and more. (The homepage with information about the number of enhanced records has, however, not been updated since 2008.) Byrum and Williamson (2006) describe some of the important undertakings by BEAT. A central emphasis at LC is to utilize the information about books provided by publishers, who have established a publishing protocol “ONIX” (ONline Information eXchange), an XML-based standard metadata format, which has now been split to three standards: ONIX for Books (for printed books as well as e-books), ONIX for Serials and ONIX for Publications Licenses (ONIX-PL), designed to handle the licenses under which libraries use digital resources.

Debus-López et al (2012) report on LC’s use of ONIX to bring publishers’ metadata into the library’s catalogs. They wrote (266):

The library community is discussing ways to use metadata created at the beginning of the bibliographic supply chain to reduce costs associated with cataloging and remove redundant work between publishers and libraries. The ONIX standard holds promise because many of the data elements found within ONIX can be mapped to the MARC standard. The Library of Congress (LC) has developed an ONIX-to-MARC Converter that is being used to create MARC bibliographic descriptions directly from publisher-

supplied ONIX metadata for new publications received through its Electronic Cataloging in Publication Program.

The article further describes how the ONIX-ToC application enhanced hundreds of thousands of bibliographical records through this mechanism (but provides no information about the percentages of enhanced records in relation to the total number of records produced annually, and it did not estimate when this technology, or a combination of different approaches, could ensure that most new catalog records contain information from ToCs).

Some libraries (at least in France) have dedicated a special field (359) in the MARC record to the table of contents.⁴⁰

How far have we come in 2021? A book such as the *Wiley Handbook of Theoretical and Philosophical Psychology* (Martin, Sugarman, and Slaney 2015) has 28 chapters by different authors. Its ToC can be found at the publisher's homepage, in Amazon's "look inside" function and in Google Books. WorldCat provide link to publishers ToC (with full-text, toll-access), but the records at the *Royal Library in Copenhagen*, *The British Library*, and the *Library of Congress* did not contain the ToC of this book, although they contain notes about its contents, but not nearly as detailed as the ToC (the libraries also have the e-book in addition to the print version, and of course the ToCs can be found in the e-book, but this cannot substitute a ToC in the catalog itself, if we consider the issue from the perspective of library catalogs as search instruments). This example may not be representative, but as already stated, no study of the presence or absence of ToCs in contemporary library records have been found. The impression is, that although libraries have improved their bibliographical records,⁴¹ they still in 2021 seem to lack information from ToCs.

6.0 Conclusion

Tables of contents are important finding devices and because many documents are born with a ToC, they are normally easily available for communication of texts, and are often used, for example, in commercial databases. However, the library community has been slow to employ them in catalogs and bibliographies and they may therefore still have unfulfilled potentials in this context.

A central issue about ToCs are criteria for their quality. If ToCs are used for information searching it seems obvious that good and poor ToCs may perform differently. This raises the question: What are quality criteria for ToCs? One central issue is about their level of granularity. Apart from that, more qualitative issues are important: their ability to express the contents that is requested by users. A basic issue considered in this article is whether the ToCs should present the structure in an objective way (corresponding to the

structure of the document they represent) or whether ToCs should emphasize the parts of the documents, deemed important in relation to actual or expected requests (as suggested by Szilávik, Tombros and Lalmas 2012)? A related issue is whether TOCs should rely exclusively on the terminology found in headlines in the text (corresponding to a kind of derived indexing) or whether the ToCs may rely on other terminologies (such as the translation of foreign ToCs to English or choosing synonyms or other terms considered more relevant for users, corresponding to a kind of assigned indexing)?

If the objective solution (with derived indexing) is considered the ideal, the ToCs may be completely adequate if they are made by authors using software for their creation based on headlines and subheadings in the document. In that case, there is very little to discuss: the making of a ToC is a purely mechanical process without independent interpretations or decisions (apart from the level of granularity). In that case the question of the quality of ToCs primarily seems to reflect (1) the quality of the titles/subtitles in the documents themselves (2) the quality of the structure and structuring of the documents (3) the choice of granularity for the ToCs. A main reason for the relative absence of studies of the nature and quality of ToCs may be that from this perspective they cannot be evaluated as objects which are independent of the documents they represent.

Alternatives to the objective view of ToCs may be called the subjective view, the request-oriented views, etc. Such a view was expressed by Tenissara (2003, 6; italics added): "A table of contents orients the reader to the scope of publication *as the authors intend it to be viewed*." This quote provides an important opening to a central philosophical issue (which, however, was not really addressed by Tenissara). It expresses the insight that a ToC can be produced in different ways, which influences the way readers view the document. The word authors in the quote may refer to the authors of the documents in which the ToCs appear, or it may refer to the authors of the TOCs themselves (which, although this normally is the same person, is important *analytically* to be distinguished as two agents).⁴² The author of a document may want it to be viewed in a certain way, and the author of the ToC (including the designer of an algorithm producing the ToC) may have another priority, as we have seen it explained by Szilávik, Tombros and Lalmas (2012). Thus, in relation to ToCs we have the same choice as in indexing: it may be document-oriented or request-oriented. In relation to ToCs, however, the arguments for a request-oriented perspective seems weaker than in relation to indexes because a main function of a ToC is to provide information about the structure and terminology of the documents and about the amount of space allocated to different topics in the document (cf., the quote from Jacques, Nonnecke, Preec and McKerlie in Section 2.1).

In the introduction was stated the epistemological principles such as the non-neutrality of knowledge representations is a general perspective of knowledge organization from which all specific issues (such as ToC) should be viewed, and the question was put if studies, such as those performed by Bowker and Star (1999), can also be made about ToCs? Now the question can be answered. Epistemological issues and studies as Bowker and Star's are only possible to study in relation to ToCs to the degree that the subjective view is relevant. The back cover of Mathieu and Arnould (2017) stated that the common goal of chapters in the book is "to analyze the ideological, even philosophical, aesthetic, pragmatic or commercial implications of the use of the table". Such issues about ToCs represent the highest theoretical level of study. However, that book did not explore the objective and subjective conception of ToCs, their possibility and their relative strengths and weaknesses.

Further studies of ToCs should consider both the objective and the subjective view and should consider ToCs in relation to the documents they represent. What are the criteria for good titles/headlines and good structures in documents, as reflected in ToCs? The problem of good headlines is related to choosing good titles for works. The nature, function, quality etc. of titles as well as of document composition/genre studies are topics with huge literatures, which are not covered in the present article, but hopefully later will be in separate ones. Until then Hjørland and Kylliesbech Nielsen (2001, Section 3.1) is probably the most comprehensive review of titles while the study of the structure of documents can be exemplified by Swales (1990, 2004).

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Notes

1. Contrary to ToCs, much has been written about indexes and indexes; probably one reason is because the indexing of documents has been considered one of the professional jobs for library and information professionals and why indexing has been taught and researched in schools of library and information science. There probably are other reasons too. An anonymous reviewer used the expression that the study of ToCs has been "marginalized". We may, however, compare with the study of copies, as done by de Fremery and Buckland (2021). Copying (in libraries and elsewhere) has had a huge impact on our use of documents, but very little research has been done about it. Perhaps the main reason is not that it has been marginalized but that it has been difficult for research on copying (except the technological development of new machines for copying) has been hard to develop interesting research perspective with important practical implications.
2. For example, about the section "Normative guidelines for ToCs" an anonymous peer-reviewer wrote: "the authors only provide a descriptive list of the guidelines. There is no assessment, nor re-summarising of prior relevant research". My answer to this comment is, that to my knowledge no such research exists! I agree that what is written in this section is extremely sparse, but I have only been able to find a few pages on this subject (some of them even in German). However, after all I find it best to report on what has been written rather than omit the section entirely.
3. In section 5.1 is reported about ToCs which are not part of the documents, they represent, but are derived from original ToCs and listed in a "Current Contents" publication.
4. Loveland (2019, 164): "By the fact of being bound, books have an order. They advance from beginning to end as pages are flipped. Pages of text are also ordered, as lines and columns in sequence. In most books, these orders mirror the order of content, so that a biography or a novel, say, can be read in its intended order by simply "following" the book [Loveland does not here mention scholarly monographs and handbooks which are more important in relation to ToCs]. Works of reference, by contrast, were printed as books and could, in extreme cases, be read cover to cover, but they were designed to allow multiple points of entry and exit. Many encyclopedias, moreover, were meant to show how knowledge connected as a non-linear network. Achieving these goals required organizational tools going beyond the book's intrinsic structure of sequential pages and lines." There are examples of ToCs (or at least they have been called so) that are not organized in the same order as the document itself. Weldemariam, Gordon, Kwatra and Vukovic (2020) invented a "Personalized Table of Contents (TOC) Generation Based on Search Results". Abstract: "The present invention is a system and method that generates a Table of Contents (TOC) customized to the user knowledge about the concept(s) in the user query and the specific context and preferences of the user. The invention identifies search concepts within the search queries, receives search results, and splits the search results into one or more result segments. In a preferred embodiment, a correlation strength between concepts in one or more of the result segments and the user search query, along with reference to the user knowledge, context, and/or preferences determine which result segments are selected in se-

- quenced to form the TOC". Another example is Herrero-Solana et al (2006) who suggested "Graphical Table of Contents for Library Collections".
5. See, for example, University of Michigan Library's guide: "Microsoft Word for Dissertations" <https://guides.lib.umich.edu/c.php?g=283073&p=1886010> (Also in Internet Archive)
 6. Skare (2020, 511, Section 3) wrote: "Genette divides the paratext into a peritext and an epitext (paratext = peritext + epitext): the former being aspects that are relatively closely associated with the book itself, such as the dustcover, the title, genre indication, foreword and epilogue or even various themes, while the latter consists of statements about the book beyond the boundaries of the book such as interviews, letters, diaries, correspondences and articles about the text in, for instance, journals."
 7. Indeed, the *Oxford English Dictionary's* (OED) sense 5.a. of "index" defines it as a ToC: "A table of contents prefixed to a book, a brief list or summary of the matters treated in it, an argument; also, a preface, prologue."
 8. However, the only identified book about ToCs, Mathieu and Arnould (2017), provided four tables of contents of which only one is the order of the book itself! See Appendix
 9. Duncan (2021, 491): "This brings us up against the difference between what, in modern terminology, we would speak of as a table of contents and an index proper. Both, we might say, are the products of *indexing* (they both work by abstraction and arrangement) but in the former, the arrangement comes ready-made: it is one of similarity with its referent; in the latter, however, the terms are reorganized, most commonly into alphabetical order, so that the ordering, in relation to the source, is arbitrary."
 10. Assigned index terms may come from a controlled vocabulary or be the indexers free terms.
 11. Blair (2010, 136): "Domenico Nani Mirabelli thus followed medieval antecedents in offering a list of headings with no page numbers in the first edition of the *Polyanthea*. But Nani's list also indicated (with a single or a double asterisk) whether a heading received a long or a short treatment and if it included a branching diagram (marked 'cum arbore')". Rautenberg (2015; here translated from German): "The predecessors of the table of contents are alphabetical directories of chapter or section headings of a work in manuscripts and in early prints (contemporary: 'Registrum', 'Tabula'). Before enforcing a page or sheet count (pagination, foiling) signature marks or other means of indexing of the target areas were used."
 12. Blair's note 81: "On Chinese 'encyclopedias,' see Establet-Bretelle [Bretelle-Establet] and Chemla (2007), Monnet (1996a, 1996b, 1996c), Diény (1991), Bauer (1966)."
 13. Blair's note 82: "Kurz (2007); Bauer (1966), 681."
 14. Blair's note 83: "Drège (2007), 31–32; Bauer (1966), 686."
 15. Chen et al. (2016) wrote about "THC-DAT" which is designed to help reading multi-topic documents. "With a mass of electronic multi-topic documents available, there is an increasing need for evaluating emerging analysis tools to help users and digital libraries analyze these documents better. The purpose of this paper is to evaluate the effectiveness, efficiency and user satisfaction of THC-DAT, a within-document analysis tool, in reading a multi-topic document."
 16. In the literature books are sometimes termed monographs, which, however, is an ambiguous term: it may be limited to books by one author, or it may be used to also include edited books by several authors (e.g., collections, anthologies). As ToCs are especially useful in relations to the last kind, it would be bad to choose a term, which may be understood as excluding such works. Therefore, we here have chosen the term "book". Reitz (2004): "monograph: a relatively short book or treatise on a single subject, complete in one physical piece, usually written by a specialist in the field. Monographic treatment is detailed and scholarly but not extensive in scope. The importance of monographs in scholarly communication depends on the discipline. In the humanities, monographs remain the format of choice for serious scholars, but in the sciences and social sciences where currency is essential, journals are usually the preferred means of publication. For the purpose of library cataloging, any nonserial publication, complete in one volume or intended to be completed in a finite number of parts issued at regular or irregular intervals, containing a single work or collection of works. Monographs are sometimes published in monographic series and subseries. Compare with book."
 17. Note 26: "Guidelines for Cataloguing Theses by the Australian National Library. www.nla.gov.au/librariesaustralia/training-support/manuals-guides/theses-guid/." Link available in Internet Archive at <http://web.archive.org/web/20140814055130/www.nla.gov.au/librariesaustralia/training-support/manuals-guides/theses-guid/>
 18. The concept *encyclopedia* is unclear. Blair (2010, 168) wrote "'Encyclopedia' did not designate the genre we are familiar with until Ephraim Chambers's *Cyclopaedia* of 1728 and the French *Encyclopédie* (1751–75) it inspired triggered the popularity of both the term and the associated genre". Pliny's Natural History (AD 77) is however often regarded as an encyclopedia. In the Section about encyclopedias we use this broader conception, although we agree with Blair's distinction.

19. Pliny's *Natural History* is often considered as the first or among the first encyclopedias, but which is not an encyclopedia according to Blair (2010, 168). Its ToC may be viewed online in Latin https://penelope.uchicago.edu/Thayer/L/Roman/Texts/Pliny_the_Elder/1*.html and in English <https://www.perseus.tufts.edu/hopper/text.jsp?doc=Perseus:text:1999.02.0137>.
20. [Fisheye view (Furnas 1986, 16) is "a viewing strategy, based on an analogy to a very wide angle, or "fisheye", lens. Such a lens can show places nearby in great detail while still showing the whole world -- simply by showing the more remote regions in successively less detail."]
21. A WebToC is the designation of a web site visualization tool that has a table of contents format. Nation (1998): "WebTOC: A Tool to Visualize and Quantify Web Sites using a Hierarchical Table of Contents Browser". See also Heflin et al. (2001).
22. As described in Section 2.1, the ToC of the *Chicago Manual of Style* can be understood as a kind of expandable ToC in a printed book.
23. It seems a strange claim that "The 'right' ToC should be determined automatically". A few sentences later, the authors wrote: "We are interested to learn if and how structure summaries can be created automatically", which is better. Better yet, if we add that we are interested to learn about the quality of ToCs produced by the suggested methodology.
24. Whereas the library community focused on the MARC standard, the documentalist/information science tradition had different ideals, and developed alternative standards such as the *Common Communication Format* (Simmons and Hopkinson 1992).
25. Rush (1997) wrote: "Traditional bibliographic description yields bibliographic records that do not provide adequate access to information resources. In the realm of serials, an entire industry has been built to improve access to the contents of serial publications that libraries catalog only by title. This industry consists of "secondary" information services that provide abstracting, indexing and other services to facilitate the user's search for and retrieval of relevant information from the vast body of serial literature. [...] To my knowledge there are only two products that specifically address monograph tables of contents. The largest of these is the database of Blackwell North America which contains tables of contents data for over 80,000 titles. This database is available to those who use Blackwell's for purchase of books, thus it supports the acquisitions process. The second product is a CD-ROM database produced by Chadwyck-Healey, which contains, among other things, tables of contents of some 5000 selected books."
26. Winke (1999, 19) wrote: "Preliminary investigations showed that retrieval abilities increase when subject-rich information such as transcriptions of tables of contents (TOCs) were added to records and free-text searching was made available. In the present cataloging environment, however, it is more the exception than the rule to include such data. LC [Library of Congress] greatly restricts the inclusion of content notes in its cataloging records via its rule interpretations. Furthermore, the 'core level' record, currently being touted as the new universally accepted basic cataloging standard, eliminates nearly all notes, including contents notes describing TOCs, with the exception of multipart items with separate titles. Certainly, there are drawbacks to adding such data, such as increased staff workloads and the requirement of more computer storage space. but these drawbacks must be weighed against the benefits."
27. The different series started in different years; they sometimes changed names and subject fields or were discontinued. No attempt has been made here to make a comprehensive and exact listing of the individual *Current Contents* journals.
28. Current Contents are thus examples of ToCs which do not form part of the documents they represent. As we wrote in Section 1: "A table of contents (ToC) is (usually) a part of a document that provide information about the contents of that document."
29. Clarivate Analytics. «Current Contents Connects». See: <https://clarivate.com/webofsciencegroup/sToColutions/webofscience-current-contents-connect/>
30. The title *Current Contents* was, however, a registered trademark. GBV in Göttingen (Gemeinsamer Bibliotheksverbund) has, for example, an "Online Contents (OLC)" service showing ToCs for German libraries: https://www.gbv.de/benutzer/datenbanken/datenbanken_des_GBV
31. Journal issues are often too delayed when circulated to the readers, therefore circulation often is not offered, but new issues were displayed in the library, and readers might copy what they needed. When circulation was used, two forms existed: (1) Controlled circulation (every reader returned the issue to the library, which then circulated it to the next reader etc. (2) Uncontrolled circulation in which the reader forwarded the issue to the next reader.
32. About RSS see also: <https://en.wikipedia.org/wiki/RSS>
33. The idea that a bibliographical description can be "pure" or objective is problematic, and connected to philosophical issues concerning descriptive processes. What is meant is probably a mechanical transformation of certain kinds of information from a book to its cataloging record.
34. Norris (1952) used the term "open access library", but today open access means free online access as opposed to toll access. Therefore, the term "open shelves library" is used here.

35. Byrum and Williamson (2006, 4) wrote: "Today's catalog users expect access to information well beyond what can be offered by traditional approaches to bibliographic description and access". Yes, but this is not just the case with today's users, but has always been the case as, for example, Bowman (2007) showed.
36. The author's full name is Pauline Atherton Cochrane. Her earlier work was published under the name Pauline Atherton or Pauline A. Cochrane.
37. The author's full name is Pauline Atherton Cochrane. Her earlier work was published under the name Pauline Atherton or Pauline A. Cochrane.
38. Pappas and Herendeen (2000, 69) found: "Our biggest disappointment was the difficulty in finding ready tables of contents on the Internet. None of the sites we searched, whether it was a union catalog enhanced by contents supplied by Blackwell's or a publisher's web site with an advertisement for the title, provided perfectly accurate information; indeed, many publishers' contents were often incomplete, contained typographical errors, and sometimes seemed to be haphazardly selected. Whereas we had originally assumed that we would find usable tables of contents for much of our more recent material, thus increasing quantity and saving time, it became evident early on in the project that it would be easier if we performed the scanning ourselves. The scanning and OCR process also proved to have a learning curve of its own."
39. BEAT homepage retrieved 2021-11-18: <https://www.loc.gov/catdir/beat/> (Also Saved in Internet Archive). It says: "This page last updated May 15, 2008."
40. In France, the field 359 in the UNIMARC records is dedicated to the table of contents, while other countries, e.g., Canada, do not have fields specifically dedicated to ToCs, but use the content note, field 327). The French standard is described by *Agence bibliographique de l'enseignement supérieur* (ABES): <http://documentation.abes.fr/sudoc/formats/unmb/zones/359.htm#Exemples> and <https://www.transition-bibliographique.fr/wp-content/uploads/2019/02/B359-2002.pdf>
41. Danish Bibliographic Centre wrote June 23., 2021 (<https://www.dbc.dk/news/lettere-at-finde-relevant-fag-litteratur>) that more ToCs will be added to the records in order to qualify searches. And this page <https://us2.campaign-archive.com/?u=e1796370d9eeca8c7a0ff33&id=215cf4df48> further says that ToCs were formerly mostly added for edited books, but will now also be added to ordinary books consisting of chapters. The focus will be on selected topics and aiming at supporting special kinds/levels of education.
42. Also compare the quote by Grafton in Section 4, about the roles of "correctors" in providing ToCs as well as dividing books into sections.

43. See the review of this book (Buckland 2008).
44. Scansion is the method of determining and representing the metrical pattern of a line of verse. See: <https://en.wikipedia.org/wiki/Scansion>.

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Appendix:

English translation of chapter abstracts and author information of Mathieu and Arnould (2017): *La Table Des Matières: Son Histoire, Ses Règles, Ses Fonctions, Son Esthétique* (The Table of Contents: Its History, Its Rules, Its Functions, Its Aesthetics).

7 to 8: Alain Wexler, "The Table of Contents."

This contribution was inspired by the way in which its author treats things, objects, or diverse ideas when he wants to make a text! It was a house of cards and even a map. The table plays, speaking of the furniture, a social role. It is vaguely a meal in the restaurant. The menu is the pretext.

Alain Wexler is a former schoolteacher. He is founder with Claude Seyve of Verso magazine in 1977. He has published texts in numerous French and Belgian magazines and in anthologies, as well as several collections: *Reifs* (Le Mesnil-Le-Roi, 1983), *Tables* (The Mesnil-Le-Roi, 1998), *Nodes* (Le Mesnil-Le-Roi, 2002), *Échelles* (Montreuil, 2009). Photographer, he exhibits fairly regularly.

9 to 16: Georges Mathieu, "Things this Volume is About."

Georges Mathieu is one of the editors of this book. He is a graduate of Modern Letters and Doctor of Letters. He is interested in the construction of stories, their division, their illustration, their title. He notably published *Change of Chapter* in *Les Misérables* (Paris, 2007).

17 to 26: Sylvie Fayet-Scribe, "La Table des Matières as the Title of a Novel?" [Fayet-Scribe 2007]

Pierre de la Ramée is the putative inventor of the table of contents. His fictionalized biography explains the differences in usage between the index that uses associative access and the table of contents that uses the classification paths. This technology of intellect, often without prestige and invisible, precedes that of the global documentation network created by Paul Otlet at the end of the 19th century, which foreshadows the development of the Internet.

Sylvie Fayet-Scribe is a teacher-researcher at the University Paris 1 Panthéon-Sorbonne in the double specialty of information science and history of the nineteenth century. His novel *The Table of Contents* (Paris, 2007), follows his memoir HDR, *History of documentation in France. Culture, Science, Information Technology* (1895-1937) (Paris, 2000).

27 to 47: Jean Maurice, "Table of Contents and Summary in Two Encyclopedias in the 13th Century Vulgar Language."

From the Image of the World and the Treasury Book, works chosen because of their success and their influence, this study, without ignoring the specific difficulties related to the physical presentation of codices, formulates hypotheses on the mind, the method, and potential recipients of the table of contents, medieval paratext transformed into text by the modern analyst and revealing of the entire economy of the book.

Jean Maurice is professor emeritus of medieval literature in Rouen and former director of CEREdI. He has published books on *chanson de geste* and the subject of Brittany. His latest work is on rewriting the Merlin legend in the 20th century and his first research theme, bestiaries.

49 to 71: Alice Lamy, "Table of Contents of Scholastic and Renaissance Commentaries (XIII-XV centuries). A Major Index of Evolving Knowledge."

Medieval and Renaissance tables of contents, catalogs, or inventories are indispensable tools for transmitting Aristotelian philosophy and compiling geographical knowledge. If they emphasize the methodical and institutional assimilation of scholastic knowledge, they also implicitly form an open space, a diversity of intentions, where each master of the arts expresses his singularity and where the geographer delivers his fascination for unknown lands.

Alice Lamy is a member of EA 4081 "Rome and its Rebirths" at Paris-Sorbonne University. Her research focuses on the history of medieval philosophy, its quantitative and cosmological objects. She published *The Greatness of Being in the fourteenth century* (Paris, 2012), *The Thought of Pierre d'Ailly, a committed philosopher* (Paris, 2013) and articles on the scholastic reception of Aristotelian philosophy.

73 to 113: Mohammed El Amraoui, "The Science of History According to Ibn Khaldoun. The Summary of Prolegomena."

This article presents the translation of Al-Muqaddima's summary (The Prolegomena) of Ibn Khaldūn (14th century). This summary, which is not only an introduction to the science of history, but to all sciences, shows a precise methodology: preliminaries composed of sections, chapters, subchapters and supplements of sections. Ibn Khaldūn, step by step, defines, examines, analyzes and identifies the elements that make up the history of a society and a civilization.

Mohammed El Amraoui is a poet, performer, and translator. He writes in French and Arabic. He appears

in several anthologies and collective books. He has published several books of poetry and translations, including an *Anthology of Contemporary Moroccan Poetry* in No. 38 of *Bacchanales* (Saint-Martin-d'Hères, 2006) or *Ex.* (Marseille, 2013).

115 to 142: Danielle Sonnier, "Foreword and Index, or the Table of Contents Laboratory in Erasmus Adages."

After briefly describing and comparing the table of Adages to the Renaissance and that of the *Belles Lettres*, this article examines how Erasmus facilitates research work and sets up, by multiplying the indexes, a free and inventive reading mode. In this laboratory, the table of contents is perfected and contrabanded, by the lists of titles offers new texts, kinds of small fables, proving once again the heuristic virtue of the *dispositio*.

Danielle Sonnier is a professor of Khagne in Lyon and Paris. She has published translations of Pliny (*History of Nature*), Michael Ranft (*Mastication*), Bruno (*Magic, Links*), Alberti (*Pictura*), Aeschylus (*Persians*), Politician (*Ulceration*). She participated in the edition of *Adages d'Erasmus* and works on an exchange of pamphlets between Hutten and Erasmus.

143 to 174: Witold Konstanty Pietrzak, "The Tables of Contents in Short Narrative Books 1486-1656."

The tables of contents envisaged are published in the collections of short brief stories of all inspiration: comic and tragic, entertaining and moralizing. The analysis of the problems they pose – denominations, aesthetics, genres, forms of intertitles, mimesis, functions – allows us to conclude that these tables, which no one has codified yet, are not merely instrumental as they are today, but are distinguished by the richness of their formal and thematic aspects.

Witold Konstanty Pietrzak is Professor of French Literature at the Chair of Roman Philology at the University of Łódź (Poland) and Editor of *Folia Litteraria Romanica*. Specialist in the brief narrative production of the sixteenth and seventeenth centuries, especially tragic stories, he published *Le Tragique* in the new copies in France in the sixteenth century (Łódź, 2006).

175 to 188: Charles-Olivier Stiker-Métral, "Think, Classify. The Tables of Collections of Short Forms in the Seventeenth Century."

The presence of tables of contents in collections of short forms which, under the impulse of the worldly taste, take the relay of humanist compilations during the seventeenth century, raises questions about the links between *inventio*, *dispositio* and *elocutio*. They structure the discontinuous text, thus establishing a rhetoric of reading. Moreover, their content makes it possible to

identify the composite nature of these works, which are considered as belonging to the “moralist writing”.

Charles-Olivier Stiker-Métral is a lecturer at the University Charles de Gaulle – Lille 3, author of *Narcissus thwarted. Self-esteem in the moral discourse in France 1650-1715* (Paris, 2007) and *Autobiography* (Paris, 2014). He works on the forms of moral discourse in the seventeenth century and the constitution of the category of moralist in literary history.

189 to 209: Christophe Blanquie and Myriam Tsimbidy, “Memoirs of Saint-Simon from Headlines to Tables.”

The tables developed by Saint-Simon have always embarrassed its editors. Questioning the editorial establishment of the table of contents of the *Mémoires de Saint-Simon* in its three editions of references, this article shows how the editorial operation of gathering the headlines to build the table changes their status and guides the interpretation of text: the tables developed by the author are, as much as a working tool, a scansion⁴⁴ of the work of which they form an integral part.

Christophe Blanquie is a specialist in the forms of writing memorialists, he published *The Epistolary Masks of Saint-Simon* (Paris, 2009), the epistolary Portraits of Cardinal Retz, with Myriam Tsimbidy (Paris, 2011) and *Saint-Simon or the Political Memories* (Paris, 2014).

Myriam Tsimbidy is professor of literature of the seventeenth century at the University Bordeaux Montaigne, is a specialist in Memoirs, Correspondence and Mazariades. She has published in particular *The Memory of Letters* (Paris, 2013), *Portraits épistolaires of Cardinal de Retz* with C. Blanquie (Paris, 2011), and *Dialogues Intérieurs* with F. Charbonneau (Paris, 2015).

211 to 232: Maryse Colson, “‘At the Table!’ Indexing and Organization of Cookbooks in the 17th and 18th Centuries.”

In the 17th and 18th centuries, cookbooks set up a system for indexing recipes and organizing the textual and referential content of each book. The peritextual apparatus, with its indexes and tables, becomes an essential element of the culinary work. These new peritextual materials have organizer, didactic and pragmatic functions, which are presented in this article.

Maryse Colson holds a Master's degree in French and Romance Languages and Literatures. She is also the author of a doctoral thesis entitled “The Birth of the Cookbook. A Discursive Study of the Culinary Works of the Ancien Régime (1651-1799)”, in which she pursues and refines her research on culinary literature.

233 to 249: Françoise Poulet, “The Table of Chapters in the Comic Stories of the Seventeenth Century. A Place to Think the Novel.”

In the comic stories of the 17th century, the functional use of the table is erased in favor of other playful and parodic functions that make this peritext the place of a debate of the novel. The comic story even goes so far as to abolish the boundaries between text and peripatium by inventing the novel-table chapters form short story divided into short sections and sections, combining fiction and commentary of fiction, against the aesthetic conventional novels-rivers.

Françoise Poulet is a lecturer in language and literature of the seventeenth century in Bordeaux. Her thesis is devoted to representations of extravagance in the theater and novel of the years 1620-1660. She pursues research on comedy (Beys, Corneille, Desmarests of Saint-Sorlin) and comic history (Sorel, Du Verdier, Scarron).

251 to 281: Richard Williams, “‘Pretty Weird, to Say the Least.’ The Invention of Tables of Contents in American Reissues of Detective Novels.”

When, in the forties, the Dell editions republish detective stories in popular format, they decide to add a table of contents designed to bait the reader. To achieve this goal, we will use many methods of style, playing on the syntax, the choice of words, the relationship with the content of the chapter. And the translators, then, will have much to do to adapt these titles.

Richard Williams is a historian of culture. He has published works on masked theater and dialogue analysis in Greek comedy. He is currently working on Erle Stanley Gardner's manuscripts.

283 to 301: Mathieu Béra, “The Table of Elementary Forms of the Religious Life of Durkheim. Between Neutrality and Expressiveness.”

This article begins by describing the eight pages of the table of contents of Durkheim's ultimate work (1858-1917), *The Elementary Forms of Religious Life* (Alcan, 1912). If it is at first sight a neutral textual space (“securitization” of propositions, scientific rhetoric, impersonality of the subject, scarcity of proper nouns ...), the analysis shows that it has a clear expressive dimension (tone polemicist, uses of maxims and formulas) which gives to see the style of the author.

Mathieu Béra is a senior lecturer in sociology in Bordeaux. He first privileged the sociology of art (thesis on art critics in the press) and culture. He published *Sociology of Culture* (Paris, 2011). Since 2008, he has turned to the history of sociology, with a strong specialization on Durkheim. He published on this subject *Durkheim in Bordeaux, 1887-1902* (Bordeaux, 2014).

303 to 318: Cécile Barraud, "Journals by their Tables. Summary Readings of the *Revue Blanche* and Some Others."

The half-century of culture during which the *Revue Blanche* appears can be seen in its summaries. The table of contents indeed concentrates a complex reading process and at the same time questions the reports of the "threshold" that it constitutes to the media that is the magazine. This study is extended to other journals of the end of the century, but also to more recent publications, whose tables of contents exhibit a similar operation.

Cécile Barraud is a graduate of modern literature, she devoted her thesis to literature and literary criticism in the *Revue Blanche*, and then published an anthology of this periodical (Paris, 2010). Her research focuses on European literature and cultural journals of the late nineteenth century.

319 to 345: Marie-Françoise Lemonnier-Delpy, "Tables of Contents and Epic Narrative Works of the Twentieth and Twenty-first Centuries."

What specificities does the table of contents offer in contemporary epic narrative prose, composed, and published between 1918 and the first years of the twenty-first century? Reflection and marker of the epicism of the works observed, the table of contents oscillates between minimalism and luxuriance. It heals the symbolism of its division, presents a number of features of the epic, whether formal or thematic. It mixes tradition and modern distancing.

Marie-Françoise Lemonnier-Delpy is professor of French literature at the University of Picardie Jules Verne. She is a member of the Center for Novel and Novel Studies (CERR, CERCLL). She is the author of *Joseph Delteil, an epic work in the twentieth century* (Toulouse, 2007).

347 to 381: Philippe Chométy, "Table of Contents or Tables of Matter? Presence of Science in Anthologies of French Poetry (20th-21st Century)."

Against all odds, so-called scientific poetry haunts most anthologies of French poetry. The table of contents is the place par excellence where it manifests itself. But it is just as much the place where it is hidden. To try to understand this paradox, we tried to describe the operation of the table through several scrambling phenomena, which led us to reflect on how to renew in depth our approach to the relations between poetry and science.

Philippe Chométy is a senior lecturer at Toulouse – Jean-Jaurès University (EA 4601). He published "*Philosopher in the Language of the Gods*". Poetry of ideas in France in the century of Louis XIV (Paris, 2006). He is a member of the group "ANR-Euterpe: scientific poetry in France from 1792 to 1939". He is preparing a book on

Lucretia's translations and an anthology of science poems (16th-18th century).

383 to 406: Sylvie Paoli, Véronique Innocent, and Mireille Morellato, "Use of the Table of Contents in Children's Literature. Panorama from a Specific Corpus."

This study is devoted to the tables of contents in the children's literature, where one finds a great freedom of tone. The approach, both in written form and presentation, is mostly playful, humorous, or poetic. Around a few examples, this article shows the use of schoolteachers with their Cycle 3 students (9 to 11 years old). Tables play an important role in the entry into literature for apprentice readers.

Véronique Innocent is a schoolteacher and a master trainer in Marseille in a public elementary school labeled Léa, a place of education associated with research through the French Institute of Education (Ifé). It puts in place educational didactics on the construction of numbers and operating algorithms and analysis, with mathematical didactics, their implementation.

Mireille Morellato is a teacher of schools and master trainer in Marseille in a public elementary school labeled Léa, place of education associated with research through the French Institute of Education (IFE). It sets up didactic engineering on the construction of numbers and operating algorithms and analysis, with mathematical didactics, their implementation.

Sylvie Paoli is responsible for the university library of the ESPE in Marseille. It contributes to the pedagogical work of master trainers by providing knowledge in youth literature and by proposing corpus (work basis) from this library.

407 to 447: Gilles Rouffineau, "Orienting Oneself to Digital Editions. Contents, Index, Table of Contents or ... Interface?"

As soon as the first computer interfaces appear, the word list is an effective solution to guarantee access to data and allow the user to find and act. Inheriting the book's index, this interface design continues to be refined through the digital editions of the 1990s. Six cultural CD-ROMs bear witness to this, with varied content: a musicology class, a cult film, a history textbook, a photographic essay and an art center database

Gilles Rouffineau teaches at the Grenoble-Valence School of Art and Design. A photographer by training, his critical practice is in the field of archeology of digital editions, the subject of his thesis in aesthetics. He participates in the emergence of research in art and design through various programs: Art and Programming, Bass Def. and the challenges of graphic design.

449 to 476: Georges Mathieu, "Sketch of a Poetics of the Table of Contents."

To include in his book a table of contents, is not only to give the reader a tool, different from the index, it is also to show that the work is rational, to invite the reader in an orderly speech, to prove that we are a competent writer. Everything in its presentation makes sense; therefore, every choice manifests a literary bias, and writers, novelists and poets in particular, did not hesitate to play it, thus affirming their virtuosity and their values.

Georges Mathieu is a graduate of Modern Letters and Doctor of Letters. He is interested in the construction of stories, their division, their illustration, their title. He notably published *Change of Chapter* in *Les Misérables* (Paris, 2007).

477 to 478: Jean-Pierre Bobillot, "Table."

Ideally, the table of contents would be a true text, in its own right, of the volume in which it appears. Playing on the paginal layout and typography, that of the author's article *News from the POetic forehead* suggests both the uncertainties of genericity and hierarchies, as well as those relating to the very notions of poetry, poetics, ... collection.

Jean-Pierre Bobillot, POète bruYant, practices reading / action (in public) and re / sound creation (in the studio). He published *News from the POetic Front* (Paris, 2011) and *Janis & Daguerre* (St-Quentin-de-Caplong, 2013). He develops an alternative history of poetry, considered from a "mediopoetic" point of view. Rimbaud. The murder of Orpheus (Paris, 2004) and *Quand éCRIre is CRler* (St-Quentin-de-Caplong, 2016).

479 to 481: Gilles Rouffineau: "The Island of Memory of this Work."

483 to 485: Appendix I: Table of contents according to the construction of the studied volumes

487 to 489: Appendix II: Draft table of contents according to the genre of the works studied and, in each genre, in alphabetical order of the authors of the articles to avoid any suspicion of a desire for historical exhaustiveness.

491 to 493: Appendix III: Table of contents in chronological order of the objects studied.

495 to 507: Index

<https://classiques-garnier.com/export/pdf/la-table-des-matieres-son-histoire-ses-regles-ses-fonctions-son-esthetique-index-en.html?displaymode=full>

509 to 517: Abstracts and presentation of authors:

<https://classiques-garnier.com/export/pdf/la-table-des-matieres-son-histoire-ses-regles-ses-fonctions-son-esthetique-resumes-et-presentations-des-auteurs-en.html?displaymode=full>

519 to 522 Table of illustrations:

<https://classiques-garnier.com/export/pdf/la-table-des-matieres-son-histoire-ses-regles-ses-fonctions-son-esthetique-table-des-illustrations-en.html?displaymode=full>

523 to 525: Table of contents:

<https://classiques-garnier.com/export/pdf/la-table-des-matieres-son-histoire-ses-regles-ses-fonctions-son-esthetique-table-des-matieres-en.html?displaymode=full>