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RESEARCH ARTICLE

# Remembering and Forgetting by Means of Subject Headings: A Contribution to the History of Knowledge Organization

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Over the last thirty years, much historical research has focused on the early modern practice of note-taking and the compilation of commonplace-books. Actors' choices of headings, however, is a still poorly investigated theme, especially given the fact that such choices were crucial for the organisation of access to information when knowledge was stored in external repositories. In this article, I analyse how early modern scholars addressed this technical problem and tried to tackle it. By means of mostly seventeenth-century sources I show that scholars formulated both theoretical and practical rules to create working indexing systems as tools to discriminate between remembering and forgetting. My hypothesis is that the novelty in the choice of subject headings for early modern commonplace-books and filing cabinets lay in the fact that subject headings became a choice. This paved the way to an epoch-making transition from universal topics to a universal index upon all authors.

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**Keywords:** commonplace-books; indexing systems; note-taking; social memory; subject-headings

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One of the main topics on which the research of scholars in the field of the history of knowledge organisation has focused in the last thirty years is the practice of note-taking and early modern compilation of commonplace-books. The literature on this topic continues to grow, even if it is still quite limited.<sup>1</sup> About ten years ago, Ann Blair stated that "the history of note-taking has only begun to be written."<sup>2</sup> In the meantime, a number of contributions have been made to this history, but there is no doubt that much work remains to be done.<sup>3</sup>

In my article, I deal with some problems which early modern scholars addressed when they realised that in order to accommodate the growing claims of advancement of learning, they had to be prepared to interact with their commonplace-book as if it were a personal archive. This requirement forced them to reflect on what it means to archive and index knowledge in order to be able to retrieve it at the right moment to obtain information. In an archive, in fact, it is not only what is stored that is important, but also how the user can access the contents of the archive. For users, this second requirement is actually even more decisive than the first. No one would enter a library or archive to browse through all the available documents one by one in order to find what they are searching for. The indexing system of the resources stored in the archive, i.e., the organisation of access to information, is therefore actually more important than what is stored in the containers: it is this system that users turn to first and foremost whenever they are looking for something.

Those who have to decide how to organise access to information, on the other hand, are well aware that there is no such thing as a perfect indexing system, and that in the face of the complexity of knowledge, the risk is that the user will not find—or will only find after a time-consuming and arduous search—something

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<sup>1</sup> See, just to mention a few works, Décultot, *Lire, copier, écrire*; Blair, *Too Much to Know*; Zedelmaier, "De ratione excerptendi"; Cevolini, "Verzetteln lernen"; Cevolini, *De arte excerptendi*; Nakládalová, *El arte de anotar*.

<sup>2</sup> Blair, "Rise of Note-Taking," 316.

<sup>3</sup> Eddy, "Interactive Notebook"; Vine, *Miscellaneous Order*; Cevolini, "trascegliere e notare."

that is stored in the archive. Every search implies, in fact, a drastic selection of what is relevant. In turn, this selection depends on the viewpoints, prior knowledge, and real interests of the users, which are by definition unpredictable. A poorly categorised resource or, even worse, one that is not categorised at all, is therefore irretrievable: it ends up being forgotten. Indexing systems are, therefore, crucial for any discrimination between remembering and forgetting.

The hypothesis I investigate in this article is that early modern scholars addressed these problems when they realised that subject headings must be decided. The novelty in the choice of subject headings devised to compile a working indexing system for commonplace-books and filing cabinets to be used as information processing systems lies, in other words, precisely in the fact that subject headings became a choice. To understand the historical significance of this novelty for the organisation of knowledge, however, one must first understand the profound changes that swept through rhetorical culture at the beginning of modernity.

Therefore, in the next two sections I clarify first of all an apparently contradictory fact, that is, that early modern commonplace-books are a humanist innovation, though they are an ancient technology for information storage and retrieval too. This strange concomitance of continuity and discontinuity can only be explained, in my opinion, if one understands that the commonplace-book underwent, in early modern society, a functional change: from a mnemotechnical aid, the commonplace-book became a substitute for the reader's personal memory.

In the third section, I explain how these changes are correlated with a new temporal orientation: whereas medieval culture focuses mainly on the past and prioritises redundancy, early modern culture focuses on the future and prioritises knowledge variation. As a result, the personal archives of learned readers are transformed into open-ended information storage and retrieval systems, which patently subverts a fundamental principle of rhetorical culture according to which scholars should not read an infinite number of books, as they would end up memorising nothing.

Having clarified these preliminary arguments, I present the hypothesis that these changes correspondingly transformed the function of commonplace-books, which became index entries designed to store expansions of a theme. This functional change also impacted on the internal structure of the commonplace-book, which gradually emancipated itself from the methodical and systematic orders traditionally provided by the universal topics and experimented with looser orders, such as miscellaneous order and the use of index cards. It was precisely these loose orders that made it all the more urgent to set up a working indexing system that would allow the reader to interact with their own personal archive to access and process information.

In the last section I return to the core hypothesis of this article. On the basis of a number of sources, I try to show that early modern scholars had very lively debates about the problem of heading choices, formulating both theoretical and practical rules for organising access to information. These debates also show that early modern scholars were gradually taking a more direct and active role in the choice of headings, with the consequence that control over the organisation of knowledge was transformed into a kind of self-control by the learned readers over their own way of remembering and forgetting. I therefore conclude with the hope that historical research will deepen into this as yet little explored topic.

## **The Commonplace-Book: An Ancient Technology for Information Storage and Retrieval, or a Humanist Innovation?**

The art of excerpting noteworthy passages from texts and digesting them for future re-use is ancient and goes back to classical Greco-Latin culture.<sup>4</sup> It is, in short, to use the words of a modern source, to always have at hand, at the right moment, the memorable things that the reader happened to find.<sup>5</sup> In order to avoid wasting time looking for them, Aristotle had already suggested keeping separate the propositions extracted from the writings of others, by placing the list of these propositions under respective subject headings, e.g., "soul," "vices and virtues," "God."<sup>6</sup>

This technique favoured the production of collections of extracts known, in the classical and medieval cultures, as "anthologies," "florilegia," "collectanea," "eclogues," "polyanthea," etc.<sup>7</sup> These collections were

<sup>4</sup> Dorandi, "Notebooks and Collections of Excerpts."

<sup>5</sup> "Illa, quae occurrunt, memorabilia suo tempore in promptu habere" (Sidelius and Schubart, *Positiones*, 8).

<sup>6</sup> Aristotle, *Topica*, I, 14, 105b14–25.

<sup>7</sup> Cf. Sagittarius, *Commentatio*, 91–92; Placcius, *De arte excerptendi*, 1.

compiled by learned readers for personal use but also with a view to publication. In any case, *selectivity* was essential: of everything they read, learned readers retained only a little and discarded everything else. This at least saved them the trouble of having to read something superfluous every time they needed to retrieve relevant content to deal with a particular topic. In this sense, the florilegium constituted an artisanal form of information processing.<sup>8</sup>

The compilation of florilegia was continuously practised across Europe throughout the medieval age and was subsequently embraced by early modernity as a crucial educational tool and a scholarly device for information storage and retrieval.<sup>9</sup> The technical innovation of typography had suddenly relieved the reader from the slow and laborious work of copying, not only making available many more books than before, but also freeing up cognitive resources that could be spent in other ways.<sup>10</sup> It is therefore understandable that the first effect of the printing industry on the administration of knowledge in early modern Europe was to encourage scholarly readers to secure a vast abundance (Latin: *copia*) of material to be re-used to produce new texts or orations. The commonplace-book was thus primarily conceived as a *copy*-book to be kept close at hand.<sup>11</sup>

From the sixteenth century onwards, the technology of the commonplace-book was not only practised, but also taught in schools and universities all over Europe.<sup>12</sup> In the words of a scholastic text that was a resounding success a century later, it was a question of learning the best way to read books fruitfully.<sup>13</sup> This pedagogical reflection was both theoretical and methodological in nature, and it continued to be cultivated until the end of the eighteenth century. It contributed enormously to the spread of a real “commonplace mentality” in Europe.<sup>14</sup> The latter resembled, in fact, the classical and medieval practice of the florilegium, but it was taking on profoundly different connotations, both functionally and structurally.<sup>15</sup>

In all transitional stages involving a certain evolutionary advance, after all, continuity and discontinuity are always combined. If one views the commonplace-book as a tool for organising access to knowledge, it is obvious that it appears first and foremost as an essentially medieval information-retrieval system.<sup>16</sup> On the other hand, however, it is also a humanist innovation produced by adapting an ancient technology to suit early modern pedagogical needs, as Ann Blair rightly said.<sup>17</sup> Of these two aspects, the one most difficult to understand is certainly the aspect concerning discontinuity. In the next sections I show how this discontinuity affected both the function of the commonplace notebooks as well as their internal structure.

## A Shift in the Function of Commonplace-Books

The ways in which a society organises and reproduces knowledge never change abruptly. In this regard, it should be remembered that early modern savants were educated in the context of a culture that was still essentially rhetorical, in which they learned to defend their own theses and attack the theses of their adversary in oral disputes that were conceived to all intents and purposes as a form of verbal fighting.<sup>18</sup> In situations of this kind, the only memory the speaker could resort to was his own. To aid this memory, as we have seen, the learned reader collected what he considered memorable from the texts he read and kept it in a notebook—the florilegium—which he could use whenever he wanted to extract material to use in his own conversations. This material, however, had to be assimilated from memory, since once engaged in an oral struggle, scholars could only rely on themselves and what they were able to extract from within themselves. The practice of excerpting, as admitted by Aulus Gellius, was therefore functional to create a

<sup>8</sup> Simon, “Future of Information Systems.”

<sup>9</sup> Morlet, *Lire en extraits*.

<sup>10</sup> Eisenstein, *The Printing Press*, 660–61.

<sup>11</sup> Ong, *Ramus*, 211.

<sup>12</sup> Extremely important were Erasmus’ seminal books *De ratione studii* and *De duplici copia verborum ac rerum* (1512). See Moss, *Printed Commonplace-Books*, esp. 101–102. On the long-lasting effects this technology had on the Anglo-Saxon culture, see Beal, “Notions in Garrison”; Havens, “*Of Common Places*”; Allan, *Commonplace Books*; Vine, *Miscellaneous Order*.

<sup>13</sup> I refer to Francesco Sacchini’s (1570–1625) handbook *De ratione*.

<sup>14</sup> Lechner, *Renaissance Concepts*, 77.

<sup>15</sup> My hypothesis is opposite to Merton’s opinion, “*Topos und Commonplace*,” 37 according to whom Humanism and Renaissance changed nothing in the use and design of commonplace(-books).

<sup>16</sup> Moss, *Printed Commonplace-Books*, 44.

<sup>17</sup> Blair, “Humanist Methods,” 541.

<sup>18</sup> See Ong, *The Presence*, chap. 5. In the Middle Ages, theology could still be organized into *quaestiones* (Thomas of Aquin), while in the early modern age it could be re-arranged much more abstractly by means of commonplaces (Melanchton).

supply of topics to aid individual memory, to be used on occasion as a sort of promptbook.<sup>19</sup> In other words, the florilegium was, for any scholar who had been intensively engaged in study and reading, “the essential book of memory.”<sup>20</sup>

A century or so after the invention of printing, the commonplace-book gradually became a substitute for the individual’s natural memory.<sup>21</sup> This change came about rather unnoticed: the early modern scholars were convinced that they were still following the rules and principles of rhetoric, but in fact they were getting used to managing knowledge on the basis of claims that were in clear contradiction to rhetoric. It is, however, primarily because of this change of function that the early modern commonplace-book was similar to, but at the same time very different from, the classical and medieval florilegium, as Joan M. Lechner has pointed out. My hypothesis is that this transformation was both a consequence and a presupposition of the desire of learned readers to accumulate in their notebooks a rich abundance of material to be re-used at later times. In what follows I show that it was a consequence in the sense that it was unplanned and unintended, and it was a presupposition because as readers understood that they could not memorise the content of printed books, they started to arrange their commonplace-books as kinds of personal archive.

One should take into consideration, first of all, that the printing press emerged in Europe as a real industry, with machines and skilled workers. It required venture capital and quickly generated its own market characterised by supply and demand. Since books could be reproduced in a mechanical and standardised way, they gradually became consumer goods and were no longer considered as assets to be jealously guarded in a cabinet. But perhaps the most profound change is the fact that, by imposing itself as a true capitalist activity, book production became growth-oriented. Printing workshops were not opened to print a certain number of books and then cease operations. As long as the books were sold, the workshop continued to print. The production of books, therefore, inevitably turned to the search for novelty. The readers who were willing to spend money to buy new books expected, in fact, to find something new in the books they bought.

The desire for abundance (*copia*), on the other hand, was an essential principle of rhetoric, as we have seen. The orator preparing to speak in front of an audience had to avoid either speaking too little, remaining soon with nothing to say (*inopia*), or speaking too much, and in a pedantic and repetitive way (*loquacitas*).<sup>22</sup> It is quite understandable, therefore, that the advent of printing first encouraged the quest for abundance. However, this pursuit quickly became almost an obsession, as the opportunities to collect something memorable offered by the printing industry were unlimited.<sup>23</sup> The ancient practice of excerpting was therefore first and foremost conceived as a way to cope with the increasing complexity of knowledge. But the early modern commonplace-books filled up, rather quickly, with so much material that no reader, however gifted with a prodigious memory, would have been able to memorise it.<sup>24</sup> A container that had originally been conceived as an *aide-mémoire* for not forgetting thus ended up becoming an archive to which one could entrust an impressive number of memories that the reader could forget.

Early modern notebook culture thus subverted a crucial principle of rhetorical culture: learned readers should not read many books (*multa*), they should rather read a few books very intensively (*multum*), so that the latter can be assimilated well into their personal memory. A savant should not give in to the temptation to read everything that is available because no one can learn by rote an infinite amount of information.<sup>25</sup> A few well assimilated books are, therefore, more useful than many books read and then forgotten.

The revolution brought about by the printing industry soon made it difficult, if not impossible, to keep to this principle any longer. Instead of intensive reading, scholars began to prefer extensive reading, constantly searching for something to enrich their notebooks with.<sup>26</sup> Ironically, the ancient art of excerpting lent itself well to support this scholarly activity, as it allowed the reader to read and extrapolate in a drastically selective way only what had real information value for him, discarding everything else. The reader could

<sup>19</sup> Gellius, *Noctes Atticae*, Praef., §2 (“[...] indistincte atque promisce annotabam eaque mihi ad subsidium memoriae quasi quoddam litterarum penus recondebam [...]”).

<sup>20</sup> Carruthers, *Book of Memory*, 176.

<sup>21</sup> This transformation has been brilliantly described by Lechner, *Renaissance Concepts*, 170.

<sup>22</sup> Cave, *Cornucopia*, 33.

<sup>23</sup> So Lechner, *Renaissance Concepts*, 168.

<sup>24</sup> Yeo, “John Locke’s ‘New Method,’” 9; Yeo, “Notebooks as Memory Aids,” 129–30.

<sup>25</sup> Hugh of St. Victor, *Eruditionis didascalicae*, col. 796A.

<sup>26</sup> This overturn of intensive and extensive reading after the invention of the printing press has been investigated by Engelsing, *Der Bürger als Leser*, esp. 182–83. On the combination of excerpting and extensive reading, see also Zedelmaier, “Lesetechniken,” esp. 12–13 and 21–22.

thus continually add to his notebook as one adds to an archive designed to store, potentially, an infinite amount of information.<sup>27</sup> The inevitable consequence was that the notebook soon ended up remembering much more than the reader himself who took notes.

In the seventeenth century, the commonplace-book thus became a substitute for individual psychic memory and, as historical research has shown, “a reliable fixture in the everyday practice of many readers” when they were confronted with printed texts.<sup>28</sup> This holds true not only for school pupils, but also for students and scholars both inside and outside the academy, and for simple readers engaged in household maintenance. Especially in the former two environments, i.e., school and academy, scholars were well aware that in relying on commonplace-books they were losing the habit of personally memorising knowledge. Even an outsider intellectual like Francis Bacon (1561–1626) noted that the commonplace-book was undoubtedly useful to always have at hand “a good digest” of topics, but it was also a tool that inevitably caused “some sloth or relaxation of memory.”<sup>29</sup> On the other hand, it was also clear that what was atrophying was just the psychic memory, not the memory of communication reproducible through written texts and publications, which rather grew, being able to count on personal archives and libraries which always grew richer in information.

Slowly, this also subverted the Platonic precept that true knowledge is that which savants are able to extract from themselves, not that which they can retrieve from some medium located outside themselves. In the mid-seventeenth century, the Italian Jesuit Daniello Bartoli (1608–1685) was able to admit that for “he who does not have in his head a lively library collected through long time study” it is better that “he should take from many books and collect [in a “selva,” i.e., in a commonplace-book] what he will need,” which also implied that he who collects excerpts in a commonplace-book can avoid the trouble of keeping in mind what he has extrapolated from the books of others.<sup>30</sup>

After all, for early modern scholars it was not so much a question of moving from the art of memory to the art of forgetting, but rather from a way of remembering and forgetting to a different way of remembering and forgetting. When scholars stated that the only safe keepers of memories are notes and excerpts and that only childish people train in the art of reminiscence while adult people make excerpts, they were in fact admitting that, in the face of the complexity of knowledge made available by typographic technology, consciousness could no longer be used as a reliable container of information.<sup>31</sup> In fact, storing one’s memories in an external archive from which the reader can retrieve them when needed obviously means, for the reader himself, forgetting them. This is what the German Jesuit Jeremias Drexel (1581–1638) states unequivocally at the end of his manual on excerpting: the purpose of his book, Drexel says, is to teach students to excerpt, not to learn by heart.<sup>32</sup> For early modern scholars, therefore, it was a matter of divesting themselves of the ancient art of reminiscence and gradually familiarising themselves with the use of notebooks and filing cabinets set up to function as veritable personal archives.<sup>33</sup> In this sense, and only in this sense, early modern scholars had to learn to forget.<sup>34</sup>

## An Open-Ended Information Storage and Retrieval System

To the extent that the learned early modern reader was relieved of the burden of memorising what he wanted to remember, he could read and extrapolate much more than before. The energies released could be used to process further information. The reader was thus encouraged to multiply his readings, each time extrapolating what he considered memorable and jotting down his extracts in commonplace-books.

The transition of the commonplace-book from aid to substitute for individual psychic memory was completed when the notebook took the form of an actual filing cabinet. This happened in the mid-seventeenth century, as shown by Thomas Harrison’s (1595–1649) curious invention.<sup>35</sup> For the history of knowledge, the interesting side of this invention is that (external) memory was defined as a “machine” for

<sup>27</sup> A hyperbolic assertion by Drexel, *Aurifodina*, 87 according to whom, by means of his excerpting system, students would have been able to read 100 or 600 authors in different languages every day, without worrying too much about storing. This assertion was clearly an exaggeration, but it also reveals an attitude which would have been inconceivable in the rhetoric culture.

<sup>28</sup> Allan, *Commonplace Books*, 45.

<sup>29</sup> Bacon, *The Two Books*, 81.

<sup>30</sup> Bartoli, *L'uomo di lettere*, 221.

<sup>31</sup> Drexel, *Aurifodina*, 4; Philomusus, *Industria excerptendi*, 3.

<sup>32</sup> “Excerptere, non meminisse hic doceo” (Drexel, *Aurifodina*, 258).

<sup>33</sup> On this model of social memory based on archives, see Esposito, *Soziale Vergessen*, chap. 4.

<sup>34</sup> Cevolini, *De arte excerptendi*.

<sup>35</sup> On the historical background of the form and function of this filing cabinet, see Cevolini, “A Universal Index.”

the first time. Harrison himself, in his manuscript, refers to his filing cabinet as a *machina* with its own internal and external structure. And Samuel Hartlib, commenting on the advantages of this invention, spoke of a “Mechanical way for common-places with removable Notes.”<sup>36</sup> For contemporaries, in short, the *Ark of Studies* was a “machine for making and collecting excerpts”<sup>37</sup> that certainly presented itself as an extremely artificial form of knowledge administration, but also as a technical innovation with great potential on the cognitive level.<sup>38</sup>

Among the main advantages of this way of making excerpts on loose cards was the possibility of expanding the collected knowledge unlimitedly. There was nothing to prevent new index cards being added every day to the entries in the filing cabinet, or new entries being added to those already present.<sup>39</sup> Even this advantage was in contradiction to the rule of rhetoric that dissuaded the reader, as we have seen, from pursuing the infinite. Insofar as knowledge was no longer stored in the reader’s head but in an external memory, it became possible to focus one’s activity of knowledge production and administration on the future. The scholarly reader thus prepared himself to contribute to the advancement of learning and set up his memory in such a way that it would support the development of his own reasoning, which by definition in any scholar is not only always open-ended, but also unpredictable.

## Commonplaces as Index Entries

Obviously, the transition from commonplace notebooks conceived as aids to commonplace-books (or filing cabinets) conceived as substitutes for the reader’s psychic memory did not take place suddenly. As already mentioned, in every evolutionary transition there is an overlap between continuity and discontinuity with respect to the past, and this inevitably generates ambiguities and contradictions. Among the same contemporaries, one can note perplexity and afterthoughts.<sup>40</sup>

Throughout the seventeenth century, for example, scholars wondered whether indeed commonplace-books were a form of *subsidiary* memory, or whether they were not rather a form of *secondary* memory. The difference was clearly crucial. As the debate within the Jesuit order (e.g., Francesco Sacchini, Jeremias Drexel) had already pointed out, excerpts may have to be re-read frequently to be fixed in the individual’s memory, but it is clear that knowing that one can take them out of one’s notebook as from an archive when one needs them was an incentive to forget them.

The question was resolved in a very traditional way by distinguishing an essential use (*per se*) from an accidental use (*per accidens*) of excerpts. In the first case, still congruent with the rhetorical tradition, learned readers believed that notes should be used as mnemotechnical aids. In the second case, notes could also be employed to lighten the burden of memorisation, relying more on what the reader found in the external archive than on what the reader found within himself.<sup>41</sup>

Echoes of this distinction between *per se* use and *per accidens* use of excerpts reached the beginning of the eighteenth century.<sup>42</sup> But it is clear that the practice and justification of note-taking and excerpting do not always coincide. Even less so when the people involved are understandably disoriented. In fact, by the mid-seventeenth century, learned readers were already reacting to accusations from those who reproached them for neglecting memory, by defending commonplace-books without hesitation. For the English historian Thomas Fuller (1608–1661), for example, many have “a common-place against common-place-books,” but those who entrust their memories to their heads will sooner or later end up begging when their personal memory goes bankrupt (due to illness, or old age). It is therefore preferable to entrust one’s memories to notebooks, from which notions can always be retrieved without gaps or confusion.<sup>43</sup>

This habit of interacting with the commonplace-books as if they were external repositories of information transformed the concept of “place” accordingly. In rhetorical culture, place was still the location where a subject lay hidden, according to Quintilian’s classic definition, and from which it had to be brought out.<sup>44</sup> The concept of place therefore referred not only to an abstract rule devised to produce arguments, as in

<sup>36</sup> Hartlib Papers 29/5/40B, Ephemerides 1655, Part 3.

<sup>37</sup> Morhof, *Polyhistor*, 713 (“ad excerpendum et colligendum machina”).

<sup>38</sup> Placcius, *De arte excerpenti*, 69 (“forma artificiosissima”).

<sup>39</sup> *Ibid.*, 70.

<sup>40</sup> Cevolini, “Memorias virtuales.”

<sup>41</sup> See Stübel’s (1653–1725) academic exercise *Exercitatio academica*, 33.

<sup>42</sup> See for example Sidelius and Schubart, *Positiones*, 8.

<sup>43</sup> Fuller, *The Holy State*, Book III, chap. X, 165–67.

<sup>44</sup> Quintilian, *Institutio oratoria*, V, 10, 20.

Aristotle's *Topica*, but also more concretely to pre-packaged arguments that had to be recalled to provide material for one's orations and could be stored and located, for the orator's best convenience, in the most appropriate place in a florilegium.

However, as early-modern scholars became accustomed to storing their knowledge (their memories) in an external memory, the expansion of which there was no particular limits, the function of places changed accordingly. From places for storing arguments, they became places "for storing *dilations* and *expansions* of a theme."<sup>45</sup> Here too, quite unnoticed, commonplaces were gradually transformed into index entries of what was increasingly conceived, and used, as an actual subject index.<sup>46</sup> At the same time, the titles of the commonplaces became subject headings designed to ensure delayed access to passages extrapolated and noted down from reading.

This profound transformation of commonplaces is not easy to grasp because, while on the surface the maintenance of commonplace-books continued to follow the rules handed down by rhetorical tradition, in reality the relationship between scholars and their notebooks was gradually assuming the form of an interplay between user and machine. The change, in short, took place first and foremost on a functional level, and this without the learned readers already having the right vocabulary to describe it.

In my opinion, this is the true meaning of the transition from knowledge stored in a *topica universalis* to knowledge stored in a "Universal Index upon all Authors."<sup>47</sup> The former was conceived as a true taxonomy, where everything had a fixed place and where there was a place for everything. The assumption was that in the order of knowledge the learned reader should reflect the order of reality, which by definition is closed and immutable. The universal topics therefore had an everlasting validity and supported the repetition of their contents.

The universal index upon all authors, on the other hand, is by definition open-ended and each new selection added to the previous selections is aimed not at preserving the stability of knowledge, but at promoting its variation. While the universal topic was thus functional to a hoarding of the past, the early-modern subject index is centred on an open future whose possibilities of expansion are potentially unlimited.

## Subject Headings as a Choice

The functional change of commonplace-books between the sixteenth and seventeenth centuries also had profound repercussions for their internal structure. In this respect, the problem was how to digest the excerpts extracted from books in order to find them quickly, without too much effort, when needed. The (common-)places already allowed for distinguishing the collected material according to its content, as we have seen, but they alone did not solve the problem. In fact, the places themselves could be arranged differently. Historical research has shown that early modern scholars could ultimately choose between three different solutions. The reader could opt for an alphabetical order, a methodical order, or a miscellaneous order. The first two were two different forms of *loci communes*, the last was usually referred to by the untranslatable term *adversaria*.<sup>48</sup>

The *adversaria*-method consisted of avoiding taking any decision in advance about the order to follow: the notes were written down confusedly, i.e., one after the other as it happened. This method meant that at first glance the pages of the commonplace-book appeared to be an "indiscriminate jumble" of annotations, a "huge and disordered heap" of excerpts copied "without any particular order," as Sixtus of Siena (1520–1569) called this type of eclogue.<sup>49</sup> The great advantage was that the annotation could proceed very quickly, because the reader did not have to worry about finding the exact location for the excerpt first. It also avoided the problem of wasting paper, since a new notebook would only be started when the old one was full. The disadvantage came in the phase of information retrieval because, in order to find what he was looking for, the reader had to set up a working indexing system with great care.<sup>50</sup>

Here the solutions could be different and sometimes quite ingenious. Some suggested leaving a wide margin on the notebook pages where the reader would insert a relevant heading alongside the corresponding annotation. These headings would then be collected in an index compiled at the bottom of the notebook,

<sup>45</sup> Lechner, *Renaissance Concepts*, 178. See also Cevolini, "Storing Expansions."

<sup>46</sup> Goyet, *Le sublime du "lieu commun"*, 58–59 and 61.

<sup>47</sup> The latter is Hartlib's definition of Harrison's *Ark of Studies*.

<sup>48</sup> Cf. Beal, "Notions in Garrison"; Chatelain, "Les recueils d'*adversaria*"; Vine, *Miscellaneous Order*.

<sup>49</sup> Sixtus of Siena, *Bibliotheca*, Book III, 251B.

<sup>50</sup> Cf. Placcius, *De arte excerptendi*, 74–96.

or in a separate booklet, in alphabetical order, together with the page number where the reader could find the corresponding annotation. If the number of notebooks increased, the corresponding notebook could be identified by a letter of the alphabet. So, if in the index one searched for the entry "Friendship" and found the reference A.45, B.26, the reader knew to search on page forty-five of the notebook marked with the letter A and on page twenty-six of the notebook marked with the letter B. There he would find some excerpts on the respective topic.<sup>51</sup>

Historical research has shown that, in the course of early modernity, the miscellaneous order was increasingly preferred to the methodical and alphabetical order. There were undoubtedly practical reasons for this preference, but these reasons do not, in my opinion, suffice to justify the preference for a knowledge organization that many scholars regarded as a form of deviation. In this respect, Elisabeth Décultot is quite right when she states that the main advantage of the *adversaria* lay in the emancipation from the pre-established structure of commonplaces, but it remains to be seen why this emancipation was perceived by early modern scholars as an opportunity rather than a danger.<sup>52</sup>

The most likely hypothesis is that, as the *adversaria*-notebook was structured as a future-centred archive that could be expanded without limit, the miscellaneous order was better suited to meeting the expectations of a culture that was irreversibly moving towards the ideal of an unstoppable growth of knowledge. Of course, the clutter of annotations so far collected presupposed that the reader set up an indexing system to unfold the paradox of a "miscellaneous order," that is, to get some order out of disorder.<sup>53</sup> To use the jumble of notes he had accumulated, the user was supposed to record the location of notes in an alphabetical list of subject headings. This raised a further problem: how were the headings to be chosen?

As we saw at the beginning of this article, Aristotle had already suggested assigning headings to his excerpts. This made it possible to keep annotations separate according to their respective topic. The universal topics had preserved this habit, relying on a rather stable and repetitive collection of subject matter. Since early modern scholars were still educated on the basis of rhetorical culture, they received this collection of subject matter in an apparently unchanged way. After all, it is not plausible to imagine that scholarly semantics could suddenly change. Ideas evolve very slowly and often unnoticed. However, my hypothesis is that a novelty was added to the choice of headings between the sixteenth and seventeenth centuries that would not have been possible without the implicit overcoming of a certain improbability: headings became a choice.

This novelty goes hand in hand with the transformation of commonplaces into index entries that was discussed in the previous sections. Little by little the headings became, in other words, index terms by means of which the reader decided how to organise access to the information potentially stored in his personal archive. That this operation was crucial is evident: an annotation indexed in the wrong way, or not indexed at all, is lost. One wonders to what extent early modern scholars were aware of this problem and how they tackled it.

In this respect, Ann Blair has argued that "given the central importance of the process, it is remarkable how rarely pedagogues or note-takers discussed heading choice."<sup>54</sup> In my opinion, this statement is contestable. Empirical research on this point is still scarce, but there is already much evidence that early modern scholars were aware of the problem and tried to solve it in some way.<sup>55</sup>

A first piece of evidence, also admitted by Blair, is that in early modernity the choice of headings becomes "more idiosyncratic to each note-taker and no longer follows a set of subject-headings" which the printed commonplace-books themselves made, moreover, readily available in highly standardised forms.<sup>56</sup> Some contemporary sources confirm this opinion. The German theologian and Leibniz's clerk Johann Friedrich Hodann (1674–1745), to mention one, argued that when readers do not know what headings they should use while taking notes, rather than resort to available lexicons, they should devise "headings of their own."<sup>57</sup>

<sup>51</sup> An immense popularity was gained, especially in the Anglo-Saxon world, by the indexing method devised by John Locke (1632–1704). Cf. Locke, "Méthode nouvelle" and Locke, "A Letter" for an English translation. See also Yeo, "John Locke's 'New Method'"; Dacome, "Noting the Mind"; Allan, *Commonplace Books*, chap. 5; Stolberg, "John Locke's 'New Method.'"

<sup>52</sup> Décultot, "Introduction," 16.

<sup>53</sup> Cf. Vine, "Commercial Commonplacing"; Vine, *Miscellaneous Order*, 215–20; Vine, "Note-Taking."

<sup>54</sup> Blair, *Too Much to Know*, 88.

<sup>55</sup> It suffices to mention one source: Udenius, *Excerptendi ratio nova*, chap. 4 ("Wie des Excerptir-Buches Register und Titul zu verfertigen" [How to prepare the register of a commonplace-book and its subject-headings]).

<sup>56</sup> Blair, *Too Much to Know*, 63.

<sup>57</sup> Hodann, *Adminicula sapientiae*, 11.

The overall impression, indeed, is that scholarly readers were gradually orienting themselves, in their choice of headings, to their own viewpoints and their own capacity for abstraction, rather than drawing concepts from the reserve that the rhetorical culture made available. The reader, in other words, gradually got used to keeping himself in mind whenever he had to decide how to assign a category (a tag, in modern terms) to an annotation, knowing full well that future access to the information would depend on the category and not on the annotation in which the information was potentially contained. In this sense the choice of headings was emerging as a form of *self-control*: the reader decided not only what, but also how to remember and forget.<sup>58</sup>

This form of self-control was indeed absent in the topic: knowledge was valid independently of the scholar, just as a map of a territory is independent of the explorer. While becoming familiar with the use of notebooks and filing cabinets functioning as external archives, the early-modern reader took a more direct role in organising access to information. This led scholars to gradually replace the *topical* classification of knowledge with a *categorical* classification of knowledge.<sup>59</sup> Although not immediately engaged in indexing practices, the well-known Ramus' dichotomizing method of knowledge organization reflects this detachment from an ontological order of knowledge to the extent that his dichotomies, as Walter Ong pointed out, had "little, if any real theoretical foundation" because "the practice of dichotomization preceded the theory."<sup>60</sup> This also implies that, when opting for dichotomies, scholars' personal viewpoints played a more crucial role than topical distinctions for knowledge organization.

At the same time, in the seventeenth century the view was established that, in the preparation of subsidiary memories to be used as personal archives, the choice of headings is the crucial point of the whole matter.<sup>61</sup> Many therefore endeavoured to formulate the rules that learned readers should follow in choosing categories. Even a cursory survey of the sources of the time shows that a vast debate took place on these rules, which should be investigated more closely. It was the result of a profound transformation in the organisation of knowledge taking place between the sixteenth and seventeenth centuries. In what follows, I briefly outline the crucial points of this debate, without any pretence of presenting a complete survey. This outline is based upon evidence consisting of more than twenty primary sources, which is too many to admit a tertiary character of the present investigation, and too few to say that evidence is complete.<sup>62</sup>

The first rule suggested to use common sense, that is, to proceed rationally, but it is so general that it is of practically no use.<sup>63</sup> The manuals on how to read and make excerpts from books therefore try to give some more precise advice: pay attention to the main subject in the entry and choose the first word well, because it will affect the access to the archive when consulting the alphabetical register of entries. If, for example, something is noted on the origin of the sources, it is better to choose as a heading "Sources, origin of" because here the subject is the sources, not the origin. Or, if you write something about the incredible increase in divine grace, of all the possible alternatives, you should prefer the heading "Grace, divine, incredible increase in," because the main subject is grace and this is more likely to be the word under which the reader will look for something in his commonplace-book.<sup>64</sup>

The rules then multiply and become increasingly detailed. The indexer must be able to express many things in a single word, or just a few words.<sup>65</sup> Index terms can be, in other words, simple (e.g., "Father") or compound (e.g., "Father caring for his newborn son").<sup>66</sup> The indexer's skill lies in finding the right term to indicate a complex subject. Headings can then be structured according to a hierarchy of universal (or general) and special headings, but also of temporary and permanent headings, and so on.<sup>67</sup> Titles should be written in Latin, but terms in Greek or German may also be used if they express the content of the

<sup>58</sup> Cf. Frank "Die Anlage einer Exzerptensammlung," 2, according to whom to excerpt is a form of "self-control."

<sup>59</sup> I draw this distinction from Ong, *Ramus*, 112, yet I reverse it.

<sup>60</sup> Ong, *Ramus*, 199.

<sup>61</sup> Kerger, *Methodus*, f.4r ("nervum totius rei excerpndae").

<sup>62</sup> For my research, secondary sources were, obviously, also crucial to select and contextualize early modern literature addressing indexing problems, as I recognize from the very beginning of this article.

<sup>63</sup> Drexel, *Aurifodina*, 136 ("cum iudicio"); Quensted, *Ethica pastoralis*, §5. ("Titulus rei annotandae cum iudicio est formandus" [the heading of the topic to note down should be made rationally]).

<sup>64</sup> Kerger, *Methodus*, f.4r; Drexel, *Aurifodina*, 135.

<sup>65</sup> Quensted, *Ethica pastoralis*, §2.

<sup>66</sup> Schubert, *Sciagraphiam*, Membrum V, §8.

<sup>67</sup> Quensted, *Ethica pastoralis*, §3; Erhardt, *Clavis aurea*, 39–40. Erhardt's pedantic study on subject headings is interesting if one considers the motivations of such pedantry, i.e., the risk of choosing the wrong subject heading.

entry better and more concisely.<sup>68</sup> Finally, metaphorical expressions should be avoided and everyday words should be used, as the latter are easier to recall.<sup>69</sup>

As this brief review shows, the choice of headings was a crucial concern of early-modern learned readers confronted with the problems of indexing knowledge stored in an external memory, such as an archive or a filing cabinet. This very concern is evidence, in my opinion, that headings were becoming a choice. A crucial point here is that in choosing a heading the reader is always confronted with a particular circularity: he has to decide in the present how in the future he will try to access the past. In this circularity it is easy to end up on a wild goose chase. The risk is a “post-activation analysis paralysis”: the meaning is complex and every categorical selection excludes many other equally valid possibilities.<sup>70</sup>

The problem is, in principle, unsolvable. The universal topics had simply neutralised it by providing a taxonomy where everything had a secure place and there was a place for everything. But as the complexity of knowledge increases, so does the need for selection. This makes the universal topics (which is a functionally equivalent solution to the subject index) inadequate to solve the problem of organising access to information. As the Swiss theologian Johann Heinrich Hottinger (1620–1667) said, deciding which category (i.e., index term) to assign to a book in a library is much more difficult than pulling content out of the book and assigning it a category (i.e., a respective heading). The former is a quite complicated performance, but upon it, as Hottinger very lucidly admitted, it depends whether one makes a great saving or a great waste of memory.<sup>71</sup>

When the learned reader sets up his own notebook or filing cabinet to function as a personal archive, he obviously has to rely on his own abstraction capability in choosing subject headings. Here, the active role of the reader in organising the memory is evident. If, for example, the subject is “Children against parents,” the reader might opt for this heading, but also for the opposite heading “Parents against children.”<sup>72</sup> The inversion is not unimportant, since the first letter of the heading determines the placement of the entry in the alphabetical register and affects the quick retrieval of information. The problem becomes more acute when the reader considers whether to opt for other equally relevant headings, such as “Obedience,” or “Family,” or “Conflict,” knowing full well that none of these solutions is necessarily the right or the wrong one, because they are all right and wrong at the same time.

However, the instructions on the most effective methods of making headings provided by early-modern scholars also refer to more practical problems. For example: many suggest keeping the index separate from the commonplace-book in order to manage it better and make it easier to consult.<sup>73</sup> Knowing full well that it is not easy to find the most relevant category right away, some also suggest postponing the moment of assigning it, by writing on a provisional paper slip a category that one considers suitable.<sup>74</sup>

As can be seen, these suggestions go in the direction of both practical and temporal differentiation of indexing from the note-taking activity. The choice of headings assigns the reader a more active and direct role in organising access to information than in the universal topics. The headings themselves, in turn, perform a drastic selection between what is remembered and what is forgotten, not only because they determine access to the material stored in the archive, but also because the headings themselves are what the user of the archive actually remembers, forgetting everything that does not appear as a subject heading in the indexing system. In the end, all of this has an impact on the way in which knowledge is reproduced and disseminated in society. This is why, in my opinion, the choice of headings plays such a decisive role. The hope is that historical research will delve into this issue and continue to search the sources of the time for empirical evidence of those profound transformations that, in early modern Europe, led to the restructuring of knowledge management in the direction of an open-ended advancement of learning.

## Competing Interests

The author has no competing interests to declare.

<sup>68</sup> Schubert, *Sciagraphiam*, Membrum V, §8.

<sup>69</sup> Udenius, *Excerptendi ratio nova*, 75.

<sup>70</sup> Peters, *Folksonomies*, 162.

<sup>71</sup> Hottinger, *Bibliothecarius*, 79.

<sup>72</sup> Udenius, *Excerptendi ratio nova*, 76.

<sup>73</sup> *Ibid.*, 62.

<sup>74</sup> *Ibid.*, 74.

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