

# Catalogues and the Collecting and Ordering of Knowledge (I): ca. 1550–1750<sup>1</sup>



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**RÉSUMÉ** Cet article est la première de deux parties d'une étude qui explore le rôle qu'ont joué les catalogues dans la collection et l'organisation du savoir dans les cultures naissantes des bibliothèques, des musées et des archives. Le présent article se concentre sur l'émergence et l'épanouissement des catalogues de bibliothèques, de musées et de centres d'archives en Europe de l'Ouest entre la seconde moitié du XVI<sup>e</sup> siècle et la première moitié du XVIII<sup>e</sup> siècle, dans le but d'élucider certaines des manières dont ils ont reflété et incarné les transformations plus larges qui se manifestaient à cette époque dans les divers systèmes et institutions du savoir. Aux débuts de la période moderne, la collection et l'organisation de livres, d'artefacts et de documents par les bibliothèques, les musées et les archives étaient motivées, en partie, par la crainte que les sources essentielles du savoir pourraient disparaître à cause de la violence ou de la négligence. Les bibliothèques, les musées et les centres d'archives étaient de plus en plus en position d'être des lieux sûrs pour ces sources du savoir, ainsi que des lieux pour la production de nouveau savoir. Les catalogues ont joué un rôle important dans ce positionnement en organisant les sources réunies de savoir et en les rendant disponibles (à des degrés divers) à une communauté grandissante d'utilisateurs. Entre 1550 et 1750, les principes d'organisation sous-jacents de ces catalogues ont été façonnés et refaçonnés pour répondre aux changements des courants de pensées concernant l'organisation du savoir érudit, scientifique et politique. Cet article retrace les façons distinctives dont les catalogues de bibliothèque, de musées et de centres d'archives reflétèrent et incarnèrent ces changements.

**ABSTRACT** This is the first of a two-part article exploring the role played by catalogues in collecting and ordering knowledge within the nascent cultures of libraries, museums, and archives. The present article focuses on the emergence and growth of library, museum, and archival catalogues in western Europe between the second half of the 16th century and the first half of the 18th century, with a view to elucidating some of the ways in which they reflected and embodied broader transformations

1 I would like to thank the anonymous peer assessors for their very valuable comments on an earlier draft of this article, which prompted me to consider connections and disjunctions between and among library, museum, and archival catalogues that I otherwise would not have considered.

taking place during that time in various systems and institutions of knowledge. In the early modern period, the collecting and ordering of books, artifacts, and documents by libraries, museums, and archives were motivated, in part, by the fear that critical sources of knowledge might disappear, either through violence or neglect. Libraries, museums, and archives were positioned, increasingly, as safe havens for these sources of knowledge as well as sites for the production of new knowledge. Catalogues played a significant role in this positioning by ordering the collected sources of knowledge and making them known (in varying degrees) to a growing community of users. Between 1550 and 1750, the organizing principles underpinning these catalogues were shaped and reshaped in response to shifting currents of thinking about the organization of scholarly, scientific, and political knowledge. The article traces the distinctive ways in which library, museum, and archival catalogues reflected and embodied those shifts.

In its earliest English usage, a catalogue was simply “a list, register, or complete enumeration.” By the middle of the 17th century, however, a definitional shift had taken place, and a catalogue was now “distinguished from a mere list or enumeration, by a systematic or methodical arrangement, alphabetical or other order, and often by the addition of brief particulars, descriptive or aiding identification, indicative of locality, position, date, price, or the like.”<sup>2</sup> Catalogues corresponding to the latter definition emerged as part of the descriptive apparatus of libraries, museums, and archives in the late 16th century. Unlike the inventories and shelf lists that preceded them, catalogues did not simply quantify the contents of a given library, museum, or archival collection; they contextualized the contents in particular ways and, in so doing, participated in broader discussions about the collecting and ordering of knowledge.

This is the first of a two-part article exploring the role played by catalogues in contextualizing knowledge within the nascent cultures of libraries, museums, and archives.<sup>3</sup> The present article looks at the emergence and growth of library, museum, and archival catalogues in western Europe in the early modern period with a view to elucidating some of the ways in which they were implicated in changes taking place within various systems and institutions of knowledge during that time. The (more or less) systematic collecting and ordering of books, artifacts, and documents in the early modern period was motivated, in part, by what Ann Blair has described as a “fear of catastrophic

2 *Oxford English Dictionary Online*, s.v. “catalogue.”

3 The second part of the article considers the roles played by catalogues in the nationalization of libraries, museums, and archives between the second half of the 18th century and the first half of the 19th century. Whereas the first part offers a broad overview of developments across a number of western European jurisdictions, the second is a more narrowly focused study of developments within the specific institutional contexts of the British Museum, which functioned both as a national museum and as a national library, and the Public Record Office of Great Britain.

loss,” i.e., a concern that critical sources of knowledge “might be lost through violence, or through simple neglect.”<sup>4</sup> By the second half of the 16th century, the rediscovery of ancient texts in the wake of the humanist movement, coupled with the printing revolution, had resulted in an exponential growth in the number of printed books in circulation. The “re-drawing of the map of learning”<sup>5</sup> that followed in the wake of the scientific revolution and the emergence of empirical methods, coupled with colonial and commercial conquests of new worlds, had multiplied the volume and variety of natural and human-made objects available for empirical study. The rise of the information state, together with the historical revolution, had inspired a new respect for the value of administrative documents both as tools for effective governance and as critical sources for the writing of history. That new respect was accompanied by a growing concern over the perilous state of the government documents that had been piling up in various depositories over the centuries and the overwhelming mass of documents being generated by current administrations.

Libraries, museums, and archives were viewed, increasingly, as safe havens for these new or newly rediscovered sources of knowledge. When Francis Bacon donated a copy of his *Advancement of Learning* to Sir Thomas Bodley in 1605, he wrote in an accompanying letter that Bodley was particularly deserving of the copy because, in refounding Oxford’s main library, he had built “an ark to save learning from deluge.”<sup>6</sup> In 1638, when John Tradescant opened his museum collection to the public – a collection that would later form the core of Oxford University’s Ashmolean Museum – he invoked the same metaphor by naming his museum “The Ark.” And in Spain, the destruction of valuable charters during the Comunero revolt of 1520–21 provided the impetus for the founding of the royal archive at Simancas in 1540.<sup>7</sup>

Catalogues played a significant role in the efforts of libraries, museums, and archives to “save learning from deluge” by ordering the books, objects, and documents being collected and making them known (in varying degrees) to a growing community of users. Between 1550 and 1750, the organizing principles underpinning these catalogues were shaped and reshaped in response to broader cultural shifts in the organization of scholarly, scientific, and political knowledge. This article traces the emergence and growth of printed catalogues of library and museum collections and the (mainly)

4 Ann Blair, “Introduction” [to special issue “In and Out of the Archives”], *Archival Science* 10, no. 3 (September 2010): 198.

5 The phrase is attributed to Francis Bacon in Peter Burke, *A Social History of Knowledge: From Gutenberg to Diderot* (Cambridge, UK: Polity Press, 2000), 114.

6 Kimberley Skelton, “The Malleable Early Modern Reader: Display and Discipline in the Open Reading Room,” *Journal of the Society of Architectural Historians* 73, no. 2 (June 2014): 190.

7 Arndt Brendecke, “‘Arca, Archivillo, Archivo’: The Keeping, Use and Status of Historical Documents about the Spanish *Conquista*,” *Archival Science* 10, no. 3 (September 2010): 269.

manuscript catalogues of archival collections during this period, focusing on the distinctive ways in which they mirrored those cultural shifts.

### The Library Catalogue

“Most early modern [library] catalogs,” Ann Blair tells us, “remained in manuscript form and followed medieval patterns: many favored an organization by discipline, perhaps close to the physical arrangement of the books, with or without an additional alphabetical index by author or title.”<sup>8</sup> Such catalogues functioned primarily as inventories or shelf lists that showed the physical location of books on bookshelves. The Vatican Library catalogue of 1481, for example, “depicted the accepted practice of placing the books in bookcases by broad subject arrangement. The catalog was simply an inventory device to show the location of the materials within the bookcases of the Latin, the Greek, and the Inner libraries, and the Bibliotheca Pontificia.”<sup>9</sup> At the turn of the 17th century, however, “printed library catalogs emerged as a new resource about books beyond the local context.”<sup>10</sup> Around the same time, a new literature of librarianship debating various methods for the physical and intellectual organization of books in libraries began to appear; this literature was motivated, in part, by the information overload brought about by the massive multiplication of books issuing from the printing presses of Europe following the invention of moveable type in the 15th century. In England, “the dissolution of most of the monastic libraries and the subsequent redistribution of their [collections] ... added further complexities.”<sup>11</sup> Whatever the reasons, David McKitterick observes, “the underlying issue was the same: how to deal with books, new and old, in quantities such had never before been encountered.”<sup>12</sup>

The shifts in the organization of the library catalogue that took place between the mid-16th and mid-18th centuries were emblematic of broader transformations taking place within the institutions and systems of knowledge during that period. As Alex Wright observes, “The discovery of new worlds, the recovery of ancient texts from the Greeks, and the rise of secular universities

8 Ann Blair, *Too Much to Know: Managing Scholarly Information before the Modern Age* (New Haven, CT: Yale University Press, 2010), 161.

9 Eugene R. Hanson and Jay E. Daily, “Catalogs and Cataloging: History,” in *Encyclopedia of Library and Information Sciences*, 3rd ed., ed. Marcia Bates and Mary Niles Maak (New York: Taylor & Francis, 2010), 823.

10 Blair, *Too Much to Know*, 161.

11 David McKitterick, “Libraries and the Organisation of Knowledge,” in *The Cambridge History of Libraries in Britain and Ireland*, vol. 1 (to 1640), ed. Elisabeth Leedham-Green and Teresa Webber (Cambridge, UK: Cambridge University Press, 2014), 598.

12 *Ibid.*, 598.

all contributed to a growing demand for new sources of knowledge.”<sup>13</sup> In his 1627 theoretical treatise *Advis pour dresser une bibliothèque*, the French librarian and scholar Gabriel Naudé expounded the idea of “a universal library open to all, representing all disciplines of learning in all languages.”<sup>14</sup> Inspired by Bacon, Naudé envisaged the library as an institution that not only preserved existing knowledge but also actively participated in the production of new knowledge.<sup>15</sup> The physical order of books in a library “should mirror the world of learning itself”<sup>16</sup> and serve “natural memory” by following the “easiest, the least puzzling, the most natural, and the most commonly used” system of classification.<sup>17</sup> For Naudé, a classification based on the university curriculum would best serve natural memory. What he advocated, in fact, were two types of catalogues: the first, a classified (or thematic) catalogue based on the higher faculties of theology, medicine, and law, along with the disciplines of history, philosophy, and mathematics, and organized according to their disciplinary divisions; the second, an alphabetical author catalogue.<sup>18</sup> Naudé believed the classified catalogue to be the more important of the two because it enabled the reader to “apprehend in the twinkling of an eye all who had written on a particular subject”; the author catalogue, on the other hand, was intended mainly “to avoid buying books twice and to detect missing items.”<sup>19</sup>

- 13 Alex Wright, *Cataloging the World: Paul Otlet and the Birth of the Information Age* (Oxford: Oxford University Press, 2014), 22.
- 14 Paul A. Nelles, “Libraries, Books and Learning, from Bacon to the Enlightenment,” in *The Cambridge History of Libraries in Britain and Ireland*, vol. 2 (1640–1850), ed. Giles Mandelbrote and K.A. Manley (Cambridge, UK: Cambridge University Press, 2015), 29. In 1661, John Evelyn published an English translation of Naudé’s treatise, entitled *Advice on Erecting a Library*; see Blair, *Too Much to Know*, 119.
- 15 Paul Nelles, “The Library as an Instrument of Discovery: Gabriel Naudé and the Uses of History,” in *History and the Disciplines: The Reclassification of Knowledge in Early Modern Europe*, ed. Donald R. Kelley (Rochester, NY: University of Rochester Press, 1997), 43. Bacon’s own views on libraries were somewhat ambivalent. He did not consider them to be institutions that produced new knowledge, but only “one of the many institutions that preserved existing knowledge.” See Sachiko Kusakawa, “Bacon’s Classification of Knowledge,” in *The Cambridge Companion to Bacon*, ed. Markku Peltonen (Cambridge, UK: Cambridge University Press, 1996), 70. Bacon also worried that the knowledge libraries preserved was not necessarily useful knowledge. See Skelton, “The Malleable Early Modern Reader,” 187–90.
- 16 Nelles, “The Library as an Instrument of Discovery,” 47.
- 17 Gabriel Naudé, *Advis pour dresser une bibliothèque* (Paris, 1627), 133, 134, translated and quoted by Lorraine J. Daston, “Classifications of Knowledge in the Age of Louis XIV,” in *Sun King: The Ascendancy of French Culture during the Reign of Louis XIV*, ed. David Lee Rubin (Washington, DC: Folger Shakespeare Library, 1992), 213.
- 18 Burke, *Social History of Knowledge*, 105; Nelles, “The Library as an Instrument of Discovery,” 47.
- 19 Nelles, “The Library as an Instrument of Discovery,” 47.

The relegation of the author catalogue to supplementary status reflected a more general ambivalence toward alphabetical order as a method of organizing knowledge. As Lorraine Daston observes:

Alphabetical indices had been a scholarly tool since at least the twelfth century, but they had also been objects of suspicion for at least that long. Alphabetic arrangements were the quintessence of the arbitrary, and subverted every natural ordering devised by classification. They shattered unity and severed connections. Moreover, they corrupted the faculty of memory that was the hallmark of the scholar, steeped as he was in a select collection of key texts that formed the corpus of learning.<sup>20</sup>

Alphabetical order was considered “a kind of miscellaneous order” because it juxtaposed items “that had no conceptual relevance to one another.” Systematic orders, on the other hand, such as the hierarchical order of faculties and disciplines, “were valued because they claimed to match the natural relationships between things, by treating related topics in one section.”<sup>21</sup> In the late 17th century, Gottfried Leibniz, who, like Naudé, believed that a library should function in a manner akin to an encyclopedia,<sup>22</sup> adopted a similar scheme for the organization of the books in the Bibliotheca Augusta at Wolfenbüttel, i.e., a classified catalogue, organized according to university faculties, which was supplemented by an alphabetical author catalogue.<sup>23</sup>

Library catalogues were viewed, collectively, as a kind of virtual embodiment of a universal “library without walls.” Furetière’s 1690 *Dictionnaire* offers three definitions of *bibliothèque*: a place for putting books; the books housed in such a place; and “the books that contain the Catalogs of the books in the *bibliothèques*.”<sup>24</sup> According to Roger Chartier, “For anyone who might wish to design an open and universal library, the possession of such catalogs was a necessity.... Thanks to the circulation of the catalogs, the closed world of individual libraries could be transformed into an infinite universe of books noted, reviewed, visited, consulted, and eventually borrowed.”<sup>25</sup> This last usage of the term *bibliothèque* has been linked to the work of Konrad Gessner, the so-called “father of bibliography.” Sachiko Kusukawa explains that “for Gessner, the sum of human knowledge was represented in books, and the world to be understood was a huge library – a *respublica litteraria*.”<sup>26</sup> In his

20 Daston, “Classifications of Knowledge,” 217.

21 Blair, *Too Much to Know*, 127.

22 Burke, *Social History of Knowledge*, 105.

23 The main classes of Leibniz’s catalogue are illustrated in Hans G. Schulte-Albert, “Gottfried Wilhelm Leibniz and Library Classification,” *Journal of Library History* 6 (April 1971): 138–49.

24 Roger Chartier, “Libraries without Walls,” *Representations* 42 (Spring 1993): 39, 41.

25 *Ibid.*, 41.

26 Kusukawa, “Bacon’s Classification of Knowledge,” 70.

*Bibliotheca universalis* (1545), Gessner listed, annotated, and evaluated 12,000 works; a second volume, the *Pandectae* (1548), was a classified arrangement of those books.<sup>27</sup> Gessner's *library* "detached the word from its material definition and invested the library without walls proposed in his book with universality."<sup>28</sup> As Chartier points out, this usage of the term also served as a somewhat melancholy reminder that a universal library could only be immaterial, "reduced to the dimensions of a catalog."<sup>29</sup>

The library catalogues printed and distributed across Europe and overseas over the course of the 17th and 18th centuries did not simply participate in the ordering of knowledge; they also publicized the library's collections and, in so doing, showcased the eminence of both the collections and the institution itself. Catalogues also served as a guide for other institutions and individuals interested either in acquiring or cataloguing their own book collections. The 1620 Bodleian Library catalogue, for example, offered readers (who were required to purchase it upon admission to the library) a "general catalogue of books in the Bodleian Library ... in order that not only for public libraries throughout Europe but also for private collections and for other [places] it may be of use for the purpose of assembling a catalogue of books."<sup>30</sup> As Kimberly Skelton observes, "Anyone who lived anywhere in Europe, and who assembled any type of collection, whether a public library or a private study, would find the Bodleian catalogue a useful model – gleaning what volumes to buy and how to catalogue them."<sup>31</sup> The 1674 edition of the Bodleian catalogue, for example, "was interleaved and annotated to serve as a manuscript catalog for the Bibliothèque Mazarine in Paris."<sup>32</sup> Catalogues were also tools for soliciting donations. Between 1597 and 1603, the librarian of Leiden University published a series of special catalogues of books donated to the library during that period; these catalogues were appended to "begging letters," which he sent out to various institutions in the hope of soliciting further donations.<sup>33</sup> In a similar vein, when Harvard College published its first library catalogue in 1723, it was specifically intended "as a solicitation device to be circulated 'to friends abroad.'"<sup>34</sup>

27 Helmut Zedelmaier, "*Facilitas Inveniendi*: The Alphabetical Index as a Knowledge Management Tool," *The Indexer* 25, no. 4 (October 2007): 235. The first volume also included two alphabetical author lists and an index. Leibniz's classified catalogue was an adaptation of the classified arrangement of books in the *Pandectae*.

28 Chartier, "Libraries without Walls," 42.

29 *Ibid.*, 48.

30 Skelton, "The Malleable Early Modern Reader," 191.

31 *Ibid.*

32 Blair, *Too Much to Know*, 166.

33 Elfriede Hulshoff Pol, "The Library," in *Leiden University in the Seventeenth Century: An Exchange of Learning*, ed. Th. H. Lunsingh Scheurleer and G.H.M. Posthumus Meyjes (Leiden, NE: Leiden University and Brill, 1975), 413.

34 Hanson and Daily, "Catalogs and Cataloging," 828.

Over the course of the 17th and 18th centuries, catalogues of learned and other libraries were published in abundance; their arrangement, structure, and content continued to vary considerably from one to the next, and questions about how best to arrange entries continued. By the end of the 17th century, however, the alphabetical author catalogue had largely displaced the classified catalogue for libraries in England, if not on the Continent. The arrangement of entries in the printed catalogue of the Bodleian Library over the course of that century is indicative of that displacement. In 1599, Thomas James, the librarian of the Bodleian Library, was visiting Cambridge, collecting materials for his catalogue of manuscripts at Cambridge and Oxford. As McKitterick describes, Sir Thomas Bodley, the library's founder,

pursued him with letters. 'You must by no means omitte, to take good notice of their orders, by placing and disposing their librarie bookes: whether they doe it, by the Alphabet, or according to the faculties.' Whatever James reported from Cambridge, where the libraries were by no means uniformly organised, the decision was taken at Oxford that the books should be ordered according to faculties: of theology, law, medicine and the arts. The first printed catalogue, of 1605, showed the system in operation.<sup>35</sup>

An alphabetical index of authors and lists of commentators were appended to the main catalogue. By 1620, when the next catalogue of the Bodleian Library was published, however, it was arranged alphabetically. The 1620 catalogue has been described as an embryonic form of the modern dictionary catalogue: the individual entries were organized alphabetically by author, and each entry identified the author and title of the work, its place, date, and size, along with its location in the library.<sup>36</sup> The tradition of alphabetical arrangement was continued in the 1674 Bodleian catalogue, which became known across Europe, and according to McKitterick, "for the next several generations, independently published subject-indexes were the natural complements to author-catalogues."<sup>37</sup> Lorraine Daston observes that "only the French catalogs remained resolutely classified by subject until the end of the eighteenth century and these were usually supplemented by an alphabetical author index."<sup>38</sup>

The shift from classified to alphabetical author library catalogues is suggestive of a broader shift away from a thematic organization of knowledge toward an alphabetical one. From the early 17th century onward, alphabetical order was also beginning to emerge as "the primary rather than a subordinate system of classification" in the organization of encyclopaedias. As Peter

35 McKitterick, "Libraries and the Organisation of Knowledge," 596–97.

36 Hanson and Daily, "Catalogs and Cataloging," 825–26.

37 McKitterick, "Libraries and the Organisation of Knowledge," 615.

38 Daston, "Classifications of Knowledge in the Age of Louis XIV," 218.



Burke explains, “It appears to have been adopted, originally at least, out of a sense of defeat by the forces of intellectual entropy at a time when new knowledge was coming into the system too fast to be digested or methodized.”<sup>39</sup> Most of the major encyclopedias published over the course of the 18th century, including Ephraim Chambers’ *Cyclopaedia* (1728), Diderot and D’Alembert’s *Encyclopédie* (1751–65), and the *Encyclopaedia Britannica* (1768–71), adopted alphabetical order as their primary organizing principle. Nevertheless, Richard Yeo points out that

the idea that encyclopedias embodied the unity of the “circle of knowledge” remained, coexisting uneasily with the practice of placing topics in alphabetical order. Accordingly, from the eighteenth century, the prefaces of encyclopedias were devoted to explanations of the ways in which the particular publication did in fact exemplify logical or systematic relationships between the various parts of knowledge that lay scattered throughout its pages.<sup>40</sup>

The *Encyclopaedia Britannica* was an exception to this tendency. In the preface to the third edition (1797), the editors “expressed doubts about the integrity of general schemes of classification, such as those associated with the encyclopedias of Chambers and Diderot” and, invoking the words of the Scottish philosopher Thomas Reid, condemned “such efforts to ‘contract the whole furniture of the human mind into the compass of a nutshell.’”<sup>41</sup>

Classified library catalogues suffered from the same problem as encyclopedias: the absence of a generally accepted classification scheme. In the 16th century, the university faculties constituted a logical organizing principle for library catalogues because they embodied a common and finite frame of reference (or, at least, a common frame of scholarly reference). By the 18th century, that common frame of reference had largely disappeared. Each remapping of the tree of knowledge brought with it a reconfiguration of the existing disciplinary branches and a consequent need to reorganize books in accordance with that reconfiguration. Moreover, fitting books comfortably within any given knowledge classification scheme was complicated by their sheer materiality. “Books, as physical objects,” McKitterick points out, “are not as susceptible to organisation as is much of the knowledge and opinion that they contain.”<sup>42</sup> Library classification schemes also tended to be tailored to the particularities of the book collections themselves and the idiosyncrasies of cataloguers; as collections grew, those particularities and idiosyncrasies were

39 Burke, *Social History of Knowledge*, 110.

40 Richard Yeo, “Reading Encyclopedias: Science and the Organization of Knowledge in British Dictionaries of Arts and Sciences, 1730–1850,” *Isis* 82 (March 1991): 24.

41 *Ibid.*, 30.

42 McKitterick, “Libraries and the Organisation of Knowledge,” 603.

compounded. By the middle of the 18th century, alphabetical arrangement by author offered a more stable frame of reference than the classification of knowledge, and it was now viewed as the “easiest, the least intricate, the most natural and often used” system on which to base the arrangement of entries in a library catalogue.

### The Museum Catalogue

The emergence of the museum catalogue in Renaissance and early modern Europe is closely associated with the flourishing of object collections. Royal and religious collections of rare and precious objects had existed in the medieval period. However, these collections were not *museums* but rather *thesauri* or *treasures*, i.e., “repositories of economic and spiritual capital.”<sup>43</sup> During the Renaissance, Sharon MacDonald explains, “a new passion for collecting developed among a learned elite, and this extended the sites of collections away from the specifically royal (the regal treasure) or religious (for example, the collection of saints’ relics), and saw the formation of dedicated spaces for collection and display – specialized cabinets and rooms.”<sup>44</sup> Depending on the collector’s range of interests and knowledge, the contents of these dedicated spaces might include scientific instruments, flora and fauna specimens, maps, manuscripts, artworks, ancient coins, jewellery, and regalia; the spaces might consist of a single decorated cupboard with multiple compartments and drawers, a single room, an entire wing of a royal palace, or a separate, adjacent building.<sup>45</sup> A variety of words were used to characterize such spaces – *cabinets of curiosity*, *studioli*, *Wunderkammern* – but by the late 16th century, *musaeum* had become “the most broadly accepted and broadly applied term for characterizing the physical manifestations of this kind of [collecting] activity.”<sup>46</sup> Many of the museum collections that took shape during this period – including those of the John Tradescants,<sup>47</sup> Konrad Gesner,<sup>48</sup> the Medici

43 Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998), 74.

44 Sharon Macdonald, “Collecting Practices,” in *A Companion to Museum Studies*, ed. Sharon Macdonald (Oxford: Blackwell, 2006), 83–84.

45 Margaret Lindauer, “Cabinets of Curiosities,” in Bates and Nile Maak, *Encyclopedia of Library and Information Sciences*, 721.

46 Jeffrey Abt, “The Origins of the Public Museum,” in *A Companion to Museum Studies*, ed. Sharon Macdonald (Oxford: Blackwell, 2006), 120.

47 John Tradescant the Elder (ca. 1570–1638) and his son John Tradescant the Younger (1608–62) were English gardeners who collected plant specimens as well as precious stones, weapons, coins, carvings, paintings, and medallions from all over the world.

48 Konrad Gesner (1522–1605) was a naturalist as well as a bibliographer. His natural history collection was eventually transferred to the Natural History Museum at Basel.

family,<sup>49</sup> Ulysse Aldrovandi,<sup>50</sup> and Sir Hans Sloane<sup>51</sup> – would eventually form the nucleus of collections of public and national museums across Europe.

Some of the forces impelling the growth of object collections during the Renaissance and early modern period were similar to those that had prompted the increase in printed books, i.e., the revival of ancient learning, the discovery of new worlds, and the “empirical explosion of materials” that resulted from such endeavours.<sup>52</sup> Collecting practices constituted “a form of inquiry,”<sup>53</sup> and discernible in such practices, MacDonald suggests, “are the notions that objects are meaningful and that collecting and organizing them can be a means of making sense and gaining knowledge of the world. Removing objects from their pre-existing worlds of use and arranging them in a designated space allowed meaning and order to be discerned in the unruly and teeming world of things.”<sup>54</sup>

Museum catalogues functioned as the interpretive apparatus of museum collections, and their emergence in the late 16th century tells us much about the impulse to textualize and contextualize object collections. While early museum catalogues were “little more than descriptive inventories of collections, they rapidly evolved into detailed listings of museum contents with illustrations and histories of objects.”<sup>55</sup> As Paula Findlen explains:

More than an unadorned list, the catalogue provided a self-conscious presentation of a collection. Catalogues were repositories of multiple intersecting stories that textualized and contextualized each object. Descriptions generally served two basic functions. First, they recounted the circumstances by which an object entered a museum, often heroic tales of great deeds ... distant conquests, and signal visits of important patrons. Second, they situated an object historically, philologically, and comparatively.

49 The Medici collection of art and antiquities was started by Cosimo de' Medici in the 15th century; it was bequeathed to the State of Tuscany in 1743.

50 Ulysse Aldrovandi (1522–1605), a physician from Bologna, collected specimens of animals and plants. The Aldrovandi collections are now housed in the University of Bologna.

51 Sir Hans Sloane (1660–1753) was a British physician and naturalist; he bequeathed his collection of natural history specimens, coins, medals, prints, manuscripts, and books to the British Museum.

52 Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley, CA: University of California Press, 1994), 3.

53 Margaret Hedstrom and John Leslie King, *On the LAM: Library, Archive, and Museum Collections in the Creation and Maintenance of Knowledge Communities* (Paris: OECD, 2004), 9, accessed 15 September 2016, [https://www.researchgate.net/profile/Margaret\\_Hedstrom/publication/255637749\\_On%20the\\_LAM\\_Library\\_Archive\\_and\\_Museum\\_Collections\\_in\\_the\\_Creation\\_and\\_Maintena%20nce\\_of\\_Knowledge\\_Communities\\_1/links/0a85e53b45c3612770000000.pdf](https://www.researchgate.net/profile/Margaret_Hedstrom/publication/255637749_On%20the_LAM_Library_Archive_and_Museum_Collections_in_the_Creation_and_Maintena%20nce_of_Knowledge_Communities_1/links/0a85e53b45c3612770000000.pdf).

54 MacDonald, “Collecting Practices,” 85.

55 John E. Simmons, “History of Museums,” in Bates and Nile Maak, *Encyclopedia of Library and Information Sciences*, 2099.

Collectors always wished to know the etymology of a name and the circumstances of its production; in this fashion, an artifact was located within a literary as well as a scientific canon.<sup>56</sup>

The emergence of museum catalogues also tells us much about the impulse to publicize museum collections in the early modern period. Collecting was not only a method of inquiry but also “a means of fashioning and performing the self via material things.”<sup>57</sup> Marjorie Swann situates early modern collections “on the emergent border between the private and the public, at once the property of a specific individual or group (and often located within household architectural spaces associated with privacy), yet also requiring a nonproprietary audience to validate the noteworthy status of the collection and its owner.”<sup>58</sup> Published catalogues allowed collectors “to reach an audience beyond the individuals who personally toured their museums ... [and] conveyed a new level of status for the collector. Written by the [collector] himself, it displayed his erudition. Written by another scholar, it conveyed the status of a collector who had earned the right to commission a description of his work.”<sup>59</sup> In the latter case, the cataloguer also acquired status and power. Swann recounts how Elias Ashmole “transformed his role as cataloguer of the [Tradescant] collection into ownership of the objects he had textualized.”<sup>60</sup>

In the 16th century, the museum functioned metaphorically as a kind of *theatrum mundi* – a microcosm of the world – and the catalogue as a microcosm of the physical museum.<sup>61</sup> The catalogue’s perceived capacity to function in this way was attributed, in part, to its ability to approximate the experience of viewing the objects in a museum. In 1565, a Belgian physician, Samuel Quiccheberg, published *Inscriptiones vel Tituli Theatri Amplissimi*, considered to be one of the first reflections on museology. In it, he drew up “a philosophically based plan for arranging and displaying objects,” and in so

56 Findlen, *Possessing Nature*, 36.

57 MacDonald, “Collecting Practices,” 85; see also Marjorie Swann, *Curiosities and Texts: The Culture of Collecting in Early Modern England* (Philadelphia: University of Pennsylvania Press, 2001).

58 Swann, *Curiosities and Texts*, 9.

59 Findlen, *Possessing Nature*, 37.

60 Swann, *Curiosities and Texts*, 12, 43–49. In 1650, John Tradescant the Younger engaged the services of Elias Ashmole (1617–92) to catalogue the Tradescant collection; it was published in 1656 under the title *Musaeum Tradescantianum: or, A Collection of Rarities. Preserved at South-Lambeth neer London by John Tradescant*. Following the death of the younger Tradescant, Ashmole gained control over the collection and donated it to Oxford University, where it became the Ashmolean collection. See Simmons, “History of Museums,” 2100–2101; and Swann, *Curiosities and Texts*, 43–49.

61 Paula Findlen, “The Museum: Its Classical Etymology and Renaissance Genealogy,” in *Museum Studies: An Anthology of Contexts*, ed. Bettina Messias Carbonnell (Oxford: Blackwell, 2006), 30.

doing “created the idea of a systematic catalogue.”<sup>62</sup> For Quiccheberg, the ideal museum was “a theater of the broadest scope containing authentic materials and precise reproductions of the whole of the universe.”<sup>63</sup> Accordingly, the arrangement of exhibits in rooms should imitate an “encyclopedic order of reality”; as visitors moved through the rooms, they would become aware of that idealized classificatory order and thus acquire “knowledge and experience ‘fast, easily, and with certainty’ (*cito, facile, acuto*) which otherwise would be gained only slowly, painfully, and as guess-work.”<sup>64</sup> Quiccheberg’s pronouncement on the desired end underlying the physical ordering of objects in a museum echoes that of Naudé on the desired end of physically ordering books in a library, i.e., to enable visitors to “apprehend” the universe of knowledge “in the twinkling of an eye”; the acts of cognition involved in achieving that end, however, are somewhat different. In a museum, apprehension is triggered through observation; in a library, through “natural memory.”

Werner Hüllen suggests that a similar “pedagogic program” can be found a little over a century later in Adam Olearius’s catalogue of the *Gottorff’sche Kunstkammer* (1666):

Olearius constructs a comprehensive didactic system which gives museum catalogues their proper position: the world is a schoolbook in which you discover the greatness of God; sciences and travel are the means with which to discover the world (i.e., with which to ‘read the book’); museums step in for scientific work and the concomitant dangerous travels; catalogues with descriptions and etchings of the exhibit are descriptive and illustrative aids with which to enrich our visits to museums, but which may also replace them altogether. This means that for each part of the system, it is the signs which for men can replace direct experience of reality and which, nevertheless, can make them become fully aware of it. Museums, by the semiotic effect which the arrangement of their collections produces, provide people with insights which otherwise are only the outcome of direct experience. In the same way, catalogues as signs provide people with insights which otherwise are only the outcome of visits to museums.<sup>65</sup>

Museum collections of this period, Hüllen argues, “share[d] the general methodological principle which underlies the beginnings of science at the time: namely, ordering by observation.”<sup>66</sup> The new scientific observation, i.e., the precise description of the perceptible attributes of an object, entailed “arranging ... objects side by side, comparing them, and breaking them down

62 Werner Hüllen, “Reality, the Museum, and the Catalogue: A Semiotic Interpretation of Early German Texts of Museology,” *Semiotica* 80, no. 3–4 (January 1990): 267.

63 Samuel Quiccheberg, *Inscriptiones vel Tituli Theatri Amplissimi* (1565), quoted in Patrick Mauriès, *Cabinets of Curiosities* (London: Thames & Hudson, 2002), 23.

64 Hüllen, “Reality, the Museum, and the Catalogue,” 268.

65 *Ibid.*, 269.

66 *Ibid.*, 270–71.

into classes” and resulted in a systematic description of objects. Knowledge as spatial arrangement became the didactic principle by which visitors to a museum collection “could be made aware of taxonomic systems which could otherwise only be explained by discourse.”<sup>67</sup>

This principle was mirrored in the museum catalogue, where the sequence of entries repeated the spatial arrangement of exhibits in showcases and rooms. As Hüllen observes:

In many cases, the one-dimensionality of printed text, contrasted with the three-dimensionality of a museum room, is supplemented by additional explanations or copperplates. Moreover, in the catalogues of the time, a systematic variation of letters – their shape, size, and ornaments – indicated further classification. Thus, the careful reader could at least imagine the taxonomic order when reading the text. Furthermore, the object, which in the museum the spectator could see, touch, and sometimes even smell, was replaced in a catalogue in a style of objective, matter-of-fact description.<sup>68</sup>

The sophisticated use of text and layout as devices for mirroring and extending the physical museum speaks to the increasing significance of catalogues as critical texts for transmitting knowledge about museum collections. Moreover, by enabling collections to circulate widely “in a kind of virtual form,” published catalogues – particularly those of natural history collections – helped to lay the groundwork for scientific and scholarly collaboration. As Margaret Hedstrom and John King explain, “Scholars in disparate places could compare their local collections with the catalogs of other collections, identifying discrepancies and questions that could be resolved through further correspondence, discussion, and examination. In this way, the effort to identify, classify, and compare all of nature first took shape and moved forward.”<sup>69</sup>

The classification systems into which collected objects were placed both physically and discursively varied over time and from one collector to another. Broadly speaking, Renaissance collections tended to fall into one of two categories: *naturalia* (specimens from nature) and *artificialia* (human-made objects). In *Inscriptiones vel Tituli Theatri Amplissimi*, Quiccheberg proposed a division of objects into five categories:

1. Objects that glorified the collector, including family portraits, genealogies, and maps of cities and territories over which he ruled;
2. Decorative arts, paintings, sculptures of various material, and objects from antiquity;
3. Organic materials representing the animal, vegetable, and mineral kingdoms;

67 Ibid., 271–72.

68 Ibid., 272–73.

69 Hedstrom and King, *On the LAM*, 10.

4. Scientific and technological instruments from around the world;
5. The uses of panel painting.<sup>70</sup>

In 1565, the same year *Inscriptiones vel Tituli Theatri Amplissimi* was published, Johannes Kentmann, a German naturalist and physician, catalogued his collection of 1,600 mineral specimens. He organized his catalogue into 26 categories based on *De Re Metallica*, a classification of rocks and minerals that had been published just nine years previously.<sup>71</sup> Ashmole's catalogue of the Tradescant collection, published nearly a century later, in 1656, organized its diverse assemblage of animal and plant specimens, minerals, paintings, utensils, garments, ornaments, coins, and medals into some 15 categories.<sup>72</sup>

During the 17th and 18th centuries, museum collections were ordered increasingly along taxonomic lines.<sup>73</sup> The flourishing of taxonomies of various kinds is indicative of a broader shift in the systems of knowledge underpinning museum collections, which took place over the course of the 16th, 17th, and 18th centuries. In the 16th century, while the specific organizing principles varied, object collections were governed largely by the belief that objects carried "intrinsic meanings that had been laid down during the Creation" and that arranging those objects "according to notions of meaningful proximity, juxtaposition, or alignment ... might indicate underlying symbolic resemblance."<sup>74</sup> During the 17th century, MacDonald observes,

new ideas about how to organize and order objects into meaningful collections began to supersede some of those that had informed earlier practices. In particular, the idea that there were multiple forms of resemblances, connected by complex and cryptic linkages, came to be replaced largely by the idea that evident physical similarities between things could themselves point directly to the natural scheme.<sup>75</sup>

What MacDonald is pointing to here is the emergence during the 17th century of "a new way of connecting things both to the eye and to discourse"<sup>76</sup> and the

70 Lindauer, "Cabinets of Curiosities," 723.

71 John E. Simmons, *Museums: A History* (Lanham, MD: Rowman & Littlefield, 2016), 66. See also Daston and Park, *Wonders and the Order of Nature*, 155–59.

72 For a detailed description of the Tradescant catalogue, see Simmons, *Museums: A History*, 103–11.

73 *Taxonomy* is understood here as "a classification of something; a particular system of classification." *Oxford English Dictionary Online*, s.v. "taxonomy" (2). For a detailed discussion of the emergence of the taxonomic tradition in museums during the 17th and 18th centuries, see, for example, Ken Arnold, *Cabinets for the Curious: Looking Back at Early English Museums* (Aldershot, UK: Ashgate, 2006), esp. 187–260; and Stephen T. Asma, *Stuffed Animals and Pickled Heads: The Culture and Evolution of Natural History Museums* (Oxford: Oxford University Press, 2001), esp. 77–153.

74 MacDonald, "Collecting Practices," 84.

75 *Ibid.*, 84.

76 Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Vintage, 1994), 131.

consequent separation of two orders of knowledge: one rooted in wonder and spectacle, the other in tabulation and measurement. Eileen Hooper-Greenhill draws on Foucault's conceptualization of this separation in the realm of natural history – which he characterizes as a shift from “the age of the theatre” to “the age of the catalogue” – to explore its broader effects on museum collection and display practices:

Things which had been displayed together to demonstrate the variety and richness of the world would now be displayed apart, linked not to something dissimilar through hidden resemblances, but to something that had the same morphological features, that looked the same, and could be classed in the same family or species.<sup>77</sup>

While this process of separation was most apparent in natural history collections, it was also detectable in other types of object collections. For example, in the 16th century, Hooper-Greenhill points out, pictures “formed part of a mixed group of objects, linked through hidden resemblances.” At the end of the 17th century, however, they were separated from other types of objects and viewed “as part of a series,... fitting into a decorative scheme ... [and] were grouped with others of the same broad type.”<sup>78</sup>

As the selection and arrangement of “series of similar things” became a prime concern, “specialised collections developed, and along with them, specialised institutions.”<sup>79</sup> The divergence of museums into specialized institutions, “based on the characteristics of their collections and the systems of order used to categorize the objects in their collection,” began in the early 18th century.<sup>80</sup> By the middle of that century, the ordering and reordering of object collections in accordance with principles of systematic observation and comparison “had become established at the very heart of museums, providing them with both a visual template and a philosophical core.”<sup>81</sup>

As the epistemological framework underpinning the selection and arrangement of museum collections changed, so too did the orientation of museum catalogues. In the “age of the theatre,” museum catalogues functioned as “repositories of multiple intersecting stories” in which the physical and magical properties of objects, their medicinal and occult uses, their histories and mythologies all formed part of the narrative that explained the objects' meaning. Museum catalogues in “the age of the catalogue” were evolving into repositories of observable and knowable facts in which the meaning of a given object was stripped down to a series of statements that articulated its

77 Eileen Hooper-Greenhill, *Museums and the Shaping of Knowledge* (London: Routledge, 1992), 140.

78 *Ibid.*, 140–41. For a variation on this theme, see Findlen, *Possessing Nature*, 37–38.

79 Hooper-Greenhill, *Museums and the Shaping of Knowledge*, 140.

80 Simmons, “History of Museums,” 2101.

81 Arnold, *Cabinets for the Curious*, 235.



identifying characteristics – physical features, material format, place of origin, and so forth – and situated it within a given taxonomic scheme. Sixteenth-century catalogues had offered “some plan of an ideal world”; 18th-century catalogues offered, instead, “demonstrations of expert knowledge on a tiny field.”<sup>82</sup>

### The Archival “Catalogue”

In the early modern period, a variety of terms were used to characterize archival descriptive tools, among them *catalogue*, *register*, *calendar*, *inventory*, and *index*, and the distinctions between and among these terms were considerably fuzzier than they are today. For the purposes of this section, *catalogue* should be understood as an umbrella term for those tools that correspond to the 17th-century definition given at the beginning of this article; when discussing specific descriptive tools, I use the terms employed by the source authors.

In the early modern period, archives emerged “as formal sites of political authority” and “proof of the very legitimacy of [a given] administration.”<sup>83</sup> The large-scale concentration of archives in early modern Europe has been linked to the growth of bureaucracy, understood in the Weberian sense of “the exercise of control on the basis of knowledge,”<sup>84</sup> the consolidation of governmental powers at various administrative levels (e.g., city-states, principalities, nations); and, in conjunction with that consolidation, imperial expansion, religious confessionalization,<sup>85</sup> and war.<sup>86</sup> Ann Blair points to “the rapid accumulation of documents, a heightened awareness of the risk of their loss, and political ambitions to consolidate power through the collection, control, and use of documents” as driving forces in the organization and reorganization of archives during this period.<sup>87</sup>

82 Hüllen, “Reality, the Museum, and the Catalogue,” 273.

83 Mareike Menne, “Confession, Confusion, and Rule in a Box? Archival Accumulation in Northwestern Germany in the Age of Confessionalization,” *Archival Science* 10, no. 3 (September 2010): 304, 303.

84 Burke, *Social History of Knowledge*, 118–19.

85 In its narrowest sense, *confessionalization* refers to “the ideological and political consolidation of the three ‘confessions,’ or Christian denominations that formulated confessional statements: the Lutheran, Catholic, and Reformed Churches in Germany – as intertwined with the development of the territorial state.” In its broadest sense, confessionalization “describes the ways an alliance of church and state mediated through confessional statements and church ordinances facilitated and accelerated the political centralization underway after the fifteenth century – including the elimination of local privileges, the growth of state apparatuses and bureaucracies, the acceptance of Roman legal traditions, and the origins of absolutist territorial states.” Susan R. Boettcher, “Confessionalization: Reformation, Religion, Absolutism, and Modernity,” *History Compass* 2, no. 1 (January 2004): 1.

86 Blair, “Introduction,” 195.

87 *Ibid.*

Official repositories for preserving archives had existed in numerous European jurisdictions from the Middle Ages.<sup>88</sup> By the middle of the 16th century, however, many of these repositories had fallen into disuse, and mountains of records were piled up and scattered across a wide range of official and unofficial repositories, and were in varying states of dispersal and disarray. Compounding that problem was the rapid acceleration of documentary production that went hand in hand with the rise of the information state, which meant that new mountains of records were piling up in the offices of current administrations; and significant numbers of government records were in the hands of administrators and counsellors who viewed them as their private property. The formation and reformation of official archives in a number of European jurisdictions over the course of the 16th century was directed toward remedying, at least to some degree, the deleterious effects of that dispersal and disarray. In 1540, Charles V designated the castle of Simancas as the royal archive;<sup>89</sup> between 1567 and 1568, his son Philip II solidified the concentration of the administrative and legal records of the Spanish state when he “ordered his archivist Diego de Ayala to augment the limited number of records at Simancas with ‘the papers of all counsels, audiences, chancelleries, treasures, secretaries, royal chapels, etc.’”<sup>90</sup> In 1568, Pius V initiated the process leading to the formation of the Vatican Archives, which was accomplished in 1610 under his successor, Paul.<sup>91</sup> In 1569, Cosimo de’ Medici assembled in a single archive all the notarial registers of his dominions.<sup>92</sup> Great Britain’s State Paper Office, which began informally in the 1580s, was formally constituted in 1614 when James I appointed Thomas Wilson and Ambrose Randolph to be “Keepers and Registers of our Papers and Records concerning matter of State and Counsell latelie

88 In many of these jurisdictions, preservation efforts were directed only toward ensuring the survival and protection of the so-called “archives treasure”: those records “possessing the formal quality of ‘solemnity’, i.e., consisting of deeds forming the basis of rights and obligations, of political and economic situations, and of property relations.” The records documenting day-to-day administration were left to accumulate, deteriorate, disappear, or be dispersed. Arnaldo d’Addario, “The Development of Archival Science and Its Present Trends,” in *Archival Science on the Threshold of the Year 2000: Proceedings of the International Conference Macerata, 3–8 September 1990*, ed. Oddo Bucci (Ancona, Italy: University of Macerata, 1992), 172.

89 Antonio Castillo Gómez, “The New Culture of Archives in Early Modern Spain,” *European History Quarterly* 46, no. 3 (July 2016): 551.

90 Nicholas Popper, “Archives and the Boundaries of Early Modern Science,” *Isis* 107 (March 2016): 88.

91 d’Addario, “The Development of Archival Science,” 168.

92 *Ibid.*: Popper, “Archives and Boundaries,” 88.

reduced into a sett forme of library.”<sup>93</sup> This trend continued throughout the 17th and early 18th centuries.<sup>94</sup>

The efforts of secular and ecclesiastical governments to identify, transcribe, and collect dispersed records and organize them in central repositories, and to bring existing collections and accumulations of records under better control, were symptomatic of a growing recognition that politics constituted a species of knowledge<sup>95</sup> and that archives could serve as sites for the production as well as the preservation of such knowledge. From the early 16th century on, the importance of archives and the best methods for organizing them were the subject of a number of treatises written mainly by German and French writers who were “concerned to discuss the legal basis of political action, to seek the historical origins of institutions, and to provide elements furthering the design of absolute monarchies.”<sup>96</sup> The growing concern for the safekeeping and efficient organization of archives was not based solely on their value as sources of legal-political knowledge, but also on their value as sources of historical knowledge. The reasons cited by the antiquary and jurist Jean Du Tillet for accepting King Frances II’s commission in 1562 to reorganize the French royal archives suggest that these two values were often intertwined. His reasons were “both legalistic, to attain a ‘knowledge of precedent,’ and historical, ‘to represent the past as in a mirror ... in order to make use of a thousand years of experience.’”<sup>97</sup>

Nicholas Popper views the formation and reformation of archives by governments as “the official dimension of a broader, less formal movement among statesmen and administrators,” aimed at “capturing empirical evidence of political events.”<sup>98</sup> He finds in their collecting practices analogies

93 Michael Riordan, “‘The King’s Library of Manuscripts’: The State Paper Office as Archive and Library,” *Information & Culture* 48, no. 2 (Spring 2013): 181; see also Elizabeth Hallam, “Nine Centuries of Keeping the Public Records,” in *The Records of a Nation: The Public Record Office 1838–1988; The British Record Society 1888–1988*, ed. G.H. Martin and Peter Spufford (Woodbridge, UK: Boydell Press, 1990), 36–37.

94 For some examples, see d’Addario, “The Development of Archival Science,” 168–69.

95 Popper, “Archives and Boundaries,” 90.

96 d’Addario, “The Development of Archival Science,” 170.

97 Donald R. Kelley, *Foundations of Modern Historical Scholarship: Language, Law and History in the French Renaissance* (New York: Columbia University Press, 1970), 227–28.

98 Popper, “Archives and Boundaries,” 88. The collecting practices of the English parliamentary and antiquary Robert Cotton and French politician Jean-Baptiste Colbert exemplify this more informal movement. Cotton’s library “became a virtual public record office, in support of the increasingly energetic interest of the English political nation and parliamentarians in precedent, and based to a significant extent on the alienation of manuscripts and papers from the royal collections.” Ian Willison, “The Development of the British National Library to 1837 in Its European Context: An Essay in Retrospect,” *Library History* 12 (January 1996): 33. Similarly, the private library amassed by Louis XIV’s powerful minister Jean-Baptiste Colbert between 1661 and 1683 contained the most comprehensive collection of both public and private documents pertaining to France and has been described by Jacob Soll as “an

with the collecting practices of natural historians during the same period:

First, early modern archives aspired to function as undistorted lenses onto politics, to capture empirical signs of all aspects of power and decision making; the collections were taken to embody past political actions, much as the *Wunderkammern* served as simulacra of nature. Second, they tended to be used toward two ends. They were important as repositories of precedent, preserving evidence of a prescriptive past to be translated into the present. Additionally, scholars and counselors compared and correlated materials in archives in an effort to discern the causes of events, under the hope that a grasp of such patterns would help in anticipating future occurrences. Underlying both points was the understanding that archives translated the past into a self-contained laboratory of political evidence.<sup>99</sup>

As archival collecting practices intensified, the need to manage, as well as collect, this empirical evidence became more compelling.<sup>100</sup>

Archival catalogues of various kinds played a critical role in managing evidence and turning “written information into useful knowledge.”<sup>101</sup> In 1545, Gabriello Simeoni, a humanist scholar and employee of the Florentine chancellery, prepared an inventory of the archive of the *riformagioni* and dedicated it to Cosimo de’ Medici, who was then Duke of Florence. Simeoni identified the various archival series inherited from the Florentine Republic and organized them in accordance with “a precise juridical documentary hierarchy” in order to show “not only how the cities of the past were governed but also how the present ones were to be ruled.”<sup>102</sup> In his dedication, Simeoni stressed how important it was for a ruler to possess knowledge of legislation and precedents and an understanding of the organization of the state and its history, explaining that his inventory was intended to facilitate this purpose. An inventory prepared in 1624 of the archives of the chancery and fiscal chambers of the county of Lippe in 17th-century northwestern Germany “eventually gained the function of providing evidence for conflicts over confessionally divided possessions in the region since 1624 was the year designated by the Peace of Westphalia as the official *status quo ante* for confessional questions.”<sup>103</sup>

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encyclopedia of the state.” Jacob Soll, *The Information Master: Jean-Baptiste Colbert’s Secret State Intelligence System* (Ann Arbor, MI: University of Michigan Press, 2009), 2.

99 Ibid., 89.

100 Ibid., 91.

101 Filippo de Vivo, Andrea Guidi, and Alessandro Silvestri, “Archival Transformations in Early Modern European History,” *European History Quarterly* 46, no. 3 (July 2016): 424.

102 Francesca Klein, “The Archive of the Florentine Republic, or Archive of the ‘Riformagioni,’” in *The Florence State Archive: Thirteen Centuries of Historical Records*, ed. Rosalia Manno Tolu and Anna Bellinazzi (Florence: Nardin Editore, 2002), 41.

103 Menne, “Confession, Confusion, and Rule in a Box,” 306. See n85 above for a definition of *confessionalization*.

Certain types of catalogues, such as calendars, which contained abstracts of historical sources, were sometimes treated as though they were themselves the empirical evidence of past events and decisions rather than simply providing evidence of the existence of such evidence.

The archival catalogues produced during this period did not publicize archival collections in the way printed library and museum catalogues publicized library and museum collections. They were, for the most part, in manuscript form and intended solely for consultation by authorized representatives of the archives' owner (i.e., officials and administrators) and a select community of authorized external users (e.g., legal and historical scholars).<sup>104</sup> Nevertheless, a common purpose of these catalogues was to make the holdings of archives known, if only to a limited number of users. The ways in which they made those holdings known changed over time and from one jurisdiction to the next. Case studies of early modern archives attest to the wide variation in the scope and coverage of catalogues, as well as the diversity of organizing principles underpinning them.<sup>105</sup> Surviving catalogues of the Lippe archives, for example,

display extremely heterogeneous principles of organization. Various lists, which could be organized thematically as well as chronologically (according to the order in which the documents were received), described charters, letters, and documents, as well as their movement in and around the administration through extraction, loan, or delivery to other instances. Indeed, the very emphasis that such lists put on the traffic in documents reveals their purpose, which was to maintain knowledge about the actual documents available.<sup>106</sup>

In discussing the inventories prepared for the archives at Simancas, Antonio Gómez points out that while they varied according to different circumstances and needs, they were typically “compiled in a codex format, which contained a summary of the contents of the documents in the archive, alongside an indication of its physical placement within the collection.”<sup>107</sup> Inventories of this kind

104 In the early modern period, the “public” status of archives was connected to the juridical concept of *ius archivi*, i.e., the right of public authorities to keep archives, not to any social mandate to make them available to the public. For a discussion of the concept of *ius archivi* in this period, see Randolph Head, “Documents, Archives, and Proof around 1700,” *Historical Journal* 56, no. 4 (December 2013): 909–30; see also d’Addario, “The Development of Archival Science,” 170–73.

105 For a sampling of such studies, see the special issue “In and Out of the Archives,” *Archival Science* 10, no. 3 (September 2010): 191–343; see also the special issue “Archival Transformations in Early Modern European History,” *European History Quarterly* 46 (2016): 421–589.

106 Menne, “Confession, Confusion, and Rule in a Box,” 306.

107 Gómez, “New Culture of Archives in Early Modern Spain,” 555.

were a response “to the growing necessity of putting the [physical] archive in order and representing it graphically.”<sup>108</sup>

The physical order of the archive was a fairly common organizing structure for catalogues in the early modern period. It is evident, for example, in the 1610 *Compendium of the Records in the Treasury*, a catalogue of the documents in the four treasuries of the exchequer, prepared by the Elizabethan antiquary and archivist Arthur Agarde. Appointed Deputy Chamberlain of the Exchequer in 1570, Agarde’s duties included the compilation of catalogues, calendars, and inventories of the records stored in those treasuries. According to Maggie Yax, Agarde left the records “in the various chests, baskets, cupboards, bags, and drawers in which they were found” and meticulously described this arrangement to “ensure that records could be found and replaced correctly.”<sup>109</sup> She likens Agarde’s catalogue to a “detailed map” of the “labyrinthine rooms, halls, and cloisters” of the treasuries, one that often “reads like a list of clues for some kind of ancient treasure hunt.”<sup>110</sup>

As the description of surviving Lippe inventories suggests, catalogues also replicated “systematic” arrangements imposed on physical archives. In the catalogue prepared by Thomas Wilson in 1618 for the records of the State Paper Office, records of foreign diplomacy were organized geographically and then chronologically, while records relating to domestic affairs were organized by subject and then chronologically. As Nicholas Popper describes,

Wilson made clear that the construction of the text matched the organization that he and his staff had imposed on the archive. As he explained at the end of his catalog, ‘All these books and papers before mencioned have been sorted out of confusion & bound up by my selfe and my servants and placed in the forme aforesaid accordinge to their Countryes and tymes, whereof I have made bookes of particular Registers for every Countryes business, and placed them *per series temporum* [chronologically].’<sup>111</sup>

The catalogue’s replication of an enforced physical order based on the separation and categorization of records underscores the point that the mirroring of *catalogue* and *archive* was conceptual as well as physical, reflecting a particular vision of the world outside the archive. Mareike Menne observes that “in most early inventories what became visible was not the documents, but the

108 Ibid., 555.

109 Maggie Yax, “Arthur Agarde, Elizabethan Archivist: His Contributions to the Evolution of Archival Practice,” *American Archivist* 61 (Spring 1998): 65.

110 Ibid., 66. Agarde’s *Compendium* is included in Sir Francis Palgrave, *The Antient Kalendars and Inventories of the Treasury of His Majesty’s Exchequer, Together with Other Documents Illustrating the History of That Repository*, vol. 2 ([London: G. Eyre and A. Spottiswoode], 1836), 311–35.

111 Nicholas Popper, “From Abbey to Archive: Managing Texts and Records in Early Modern England,” *Archival Science* 10, no. 3 (September 2010): 261.

archive itself as a whole. Archives mirrored the system of administration and governance, even as they were bound by the system and constituted it in the sense of establishing appropriate neighbourhoods of documents.<sup>112</sup> Menne's observation suggests that just as museum catalogues reproduced idealized versions of the encyclopedic universe, archival catalogues reproduced idealized versions of the political universe.

In a case study of inventories prepared by the chancery archives in Lucerne between the late 15th and early 18th centuries, Randolph Head demonstrates how these inventories reveal the shifting contours of Lucerne's political universe over the course of that time period by tracing the gradual displacement of "ideal-topographical"<sup>113</sup> inventories by "taxonomic" inventories. The ideal-topographic inventory, which first appeared in the 16th century, "functioned as a *map* of [Lucerne's] archive," with the organization of the inventory corresponding precisely to the physical organization of the archival storage system. At the same time, the inventory, and the storage system, mapped to "conceptual spaces in the larger world" since "the categories that shaped both the inventory and the physical disposition of documents were either positions in the secular or spiritual hierarchies of which Lucerne was a part [the Pope, followed by the Holy Roman Emperor, followed by bishops and kings, smaller clerical principalities, duchies and so forth] ... or specific domains in which Lucerne had an interest [privileges from the Empire that legitimated the city's powers, followed by privileges over others, e.g., local monastic foundations]."<sup>114</sup>

The displacement of the ideal-topographic inventory by the taxonomic inventory began in 1698, when a "new, customized space" was built to house Lucerne's growing archive, which prompted a rearrangement of that archive. The historical documents (*Altes Archiv*), most of which "related to Lucerne's legal foundations as an autonomous polity and to the city's actions in the distant past,"<sup>115</sup> were physically separated from the documents related to the city's current administration (*Neues Archiv*); the former were deemed to be closed, while the latter would continue to grow. This rearrangement was accompanied by a shift in the "organizational logic" of the inventory "from a

112 Menne, "Confession, Confusion, and Rule in a Box," 306.

113 The term "ideal-topographical" was first introduced by Peter Rück in his study of inventories in the ducal archives of Savoy in the early modern period; in it, he defined the ideal-topographical system as "an idealized organization of an archive's holdings into an inventory ... [and] a physically visible ... placement of the holdings in the archive's space. Mental and material orders were to coincide. The topography of the archival containers was to mirror an ideal plan." Peter Rück, "Die Ordnung der herzoglich savoyischen Archive unter Amadeus VII (1398-1451)," *Archivalische Zeitschrift* 67 (1971): 101, quoted in Randolph C. Head, "Mirroring Governance: Archives, Inventories and Political Knowledge in Early Modern Switzerland and Europe," *Archival Science* 7, no. 4 (December 2007): 322.

114 Head, "Mirroring Governance," 322–23.

115 *Ibid.*, 324.

spatial to a taxonomic logic.”<sup>116</sup> In the “taxonomic” inventory, the mapping of documents to both physical and conceptual spaces was replaced by “a systematic division and subdivision of categories, which allowed each individual document (or even passages within a document) to be both indexed and cross-referenced independently of the document’s physical location.”<sup>117</sup> According to Head, this shift in organizational logic reflects “an equally momentous change in the way the inventory mirrored the city as a political actor.”<sup>118</sup> In the *Neues Archiv*, the categories did not correspond to political entities (the Pope, Holy Roman Emperor, and so forth), but rather

[to] the *actions* that the city might take in various contexts. The first categories related to *Commercium* and to urban administration, especially of trades; they were followed by sections for the city’s rural possessions, churches, and relations with the Swiss, then foreign diplomacy and military affairs. In short, the new archive mirrored an active state, one whose foundations were now a closed question, but whose activity in various spheres might require the deployment of carefully organized documents and correspondence.<sup>119</sup>

This new approach to inventorying also “relied on greater formal abstraction,” permitting “information” to be indexed according to logical categories and subdivisions regardless of a document’s physical location in the archive; geographical or organizational spaces were still present, but only “as subdivisions of the primary action-oriented categories.”<sup>120</sup> Formal abstraction was also implicit in the use of alphabetization. In the ideal-topographic inventory, Head points out, the sequence of domains had been organized “substantively,” e.g., by date of acquisition, size, or wealth, thereby “map[ping] the real world into the archive”; in the taxonomic inventory, the individual domains were organized alphabetically “for convenient access.”<sup>121</sup> All these shifts in the organizational logic of the Lucerne inventories, Head argues, are indicative of broader changes in the political culture of early modern Europe.<sup>122</sup>

Between the latter half of the 16th century and the first half of the 18th century, archives were transformed “from simple depositories of documents, zealously kept in chambers, cabinets and strongboxes, into organized

116 Ibid.

117 Ibid.

118 Ibid.

119 Ibid.

120 Ibid.

121 Ibid.

122 The shift toward taxonomy as an organizing principle of archival catalogues in the early 18th century has also been explored by Nicholas Popper in his examination of the catalogues prepared by successive Keepers of the State Paper Office in Great Britain. See Popper, “From Abbey to Archive,” 249–66. For a slightly different perspective on that shift, see Riordan, “The King’s Library of Manuscripts,” 181–92.



collections arranged by diplomatic, juridical, or even thematic categories.”<sup>123</sup> Antonio Gómez characterizes this transformation as a shift “from ‘storage memory’, accumulative and unsystematic, [to] ‘functional memory’, that is, selective, rationalized and oriented towards both the current and historical uses of the document.”<sup>124</sup> The emergence and growth of catalogues played an important role in that transformation; Menne suggests that archives did not really become archives in the modern sense until the arrival of descriptive tools such as inventories, catalogues, and calendars.<sup>125</sup> In other words, the act of organizing and cataloguing accumulations of records transformed them into “archives” by making them known and accessible. Moreover, as those accumulations grew, catalogues increasingly determined not only *how* records would be known but also *whether* they would be known at all. As Peter Rück observes, “The inventoried archive was never identical with the actually present archive.”<sup>126</sup> If catalogues did indeed reflect the world, they did so through a warped lens, “mirroring” only that part of the documentary universe deemed “worthy” of being catalogued.

## Conclusion

Between 1550 and 1750, the organizing principles of library, museum, and archival catalogues were shaped and reshaped in response to shifts in thinking about the organization of scholarly, scientific, and political knowledge. In the world of libraries, that reshaping manifested itself in the gradual displacement of classification by alphabetical arrangement as the primary basis for the catalogue’s organization. In the world of museums, it surfaced in the replacement of wonder and spectacle by systematic observation and comparison as the catalogue’s dominant narrative. And in the world of archives, it revealed itself in the triumph of abstract taxonomy over physical and conceptual mapping as the catalogue’s organizing principle.

Within the nascent knowledge cultures of libraries, museums, and archives, collecting was viewed as a form of inquiry, a way of making meaning discernible in the “unruly teeming world” of books, objects, and archives. Catalogues supported such inquiry by taming that unruly world – ordering sources of knowledge into categories that mapped onto and mirrored particular idealized versions of the world. Nicholas Popper detects in the collecting and ordering practices of museums and archives over the course of the early modern period

123 Gómez, “New Culture of Archives in Early Modern Spain,” 559.

124 Ibid.

125 Menne, “Confession, Confusion, and Rule in a Box,” 306.

126 Rück, “Die Ordnung der herzoglich savoyischen Archive,” 100, quoted in Head, “Mirroring Governance,” 320.

“a familiar arc from frenetic compilation to taxonomic classification.”<sup>127</sup> The practices of libraries followed a similar trajectory, but with a markedly different endpoint.

An ostensible purpose of catalogues in all three domains was to make the holdings of libraries, museums, and archives known to various communities of users. In each domain, making those holdings known meant positioning them within scholarly, scientific, and political knowledge frameworks; as those frameworks changed, so too did the organizational logic of catalogues. In the latter half of the 16th century, that logic relied on a notion of “meaningful proximity” that was both physical and conceptual and that manifested itself (in varying degrees) through the placement of books, objects, and archives within universalized systems of knowledge. By the middle of the 18th century, that notion of meaningful proximity had been all but abandoned in library catalogues – where authorship and alphabetical order had usurped the tree of knowledge as the primary ordering principle – and substantially reconfigured in museum and archival catalogues, as objects and archives were positioned within increasingly narrow and specialized systems of knowledge.

In the century that followed, significant collections of books, objects, and archives became part of the cultural patrimony of emerging nation-states, prompting fresh debates and discourses about the collecting and ordering of knowledge as newly nationalized libraries, museums, and archives began to position themselves as *public* knowledge institutions. Catalogues occupied a central role in these discussions. In Great Britain, for example, the general catalogue of the British Museum’s Department of Printed Books revived old debates concerning the relative merits of classified versus alphabetical arrangement, which were now recast in terms of the obligations of a national public library; the systematic catalogues prepared by its Department of Natural History provided the site for new debates revolving around the naming of species in natural history collections; and the catalogues compiled by the Public Record Office of Great Britain prompted heated discussions about the role of national archives in “the promotion of historical enterprise.”<sup>128</sup> These debates and discourses about the “proper” role of catalogues in the collecting and ordering of books, objects, and records were part and parcel of a broader effort to codify institutional thinking about what it meant to make the holdings of a national library, museum, and archive known and accessible, the nature of the public whose interests these institutions

127 Popper, “Archives and Boundaries,” 93. Popper is specifically comparing archival and natural history collections during this period.

128 Margaret Procter, “Life before Jenkinson: The Development of British Archival Theory and Thought at the Turn of the Twentieth Century,” *Archives* 33, no. 119 (October 2008): 143.

were intended to serve, and the roles and responsibilities of the institutions themselves in relation to that public. The specific ways in which catalogues participated in these discussions provide the focus for the second part of this article.

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