Revisiting Renaissance Encyclopaedism

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Ann Blair, Dept of History, Harvard University

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The Renaissance has long been associated with 'encyclopedism' primarily for two different reasons which are not directly related to one another. On the hand the term was first coined in the late fifteenth century, though without many of connotations we associate with the term today, to designate an ideal of learning which spanned and highlighted the relations between many disciplines. On the other hand many Renaissance writings, from compilations in various fields to novels and poetry, are considered encyclopedic today because of their large bulk and/or their ideal of exhaustive and multidisciplinary scope. Only occasionally did early modern authors apply the term 'encyclopedia' to what we consider their encyclopedic compiling activities, but by the late seventeenth century a handful of works had begun to forge the connection between the term and a kind of reference book. The success of Ephraim Chambers' *Cyclopedia* (1710) and Diderot and d'Alembert's *Encyclopédie* (1751) established the 'encyclopedia' as a title of a genre which was imitated faddishly throughout the eighteenth century and which has been going strong ever since. My main interest in this essay is to ponder the intellectual foundations of the encyclopedic ambitions of large-scale compilers in the Renaissance—what was new about Renaissance encyclopedism and what motivated these innovations—while attending to the gradual convergence between the term 'encyclopedia' and our concept of encyclopedism.

The 'encyclopedia' and encyclopedism in the Renaissance

The term 'encyclopedia' was coined in the late fifteenth century by humanists convinced that they were reviving an ancient Greek term, 'enkuklopaideia', designating the circle of learning.[1] Angelo Poliziano and Guillaume Budé were among the first to use the term in Greek and in Latin, to emphasize the value of a humanist education that embraced all the disciplines in their interconnections. Equivalent terms first appeared in French and English in the early 1530s.[2] Careful philological work in the twentieth century has concluded that the term never existed as such in antiquity but resulted from a corruption of the Greek 'enkuklios paideia' which meant general culture or common education. Debunking the etymology takes nothing away from its historical force. 'Encyclopedia' was used regularly in the Renaissance to designate the links between the disciplines, with an emphasis on their connection to one another and of each of them to one central discipline (usually rhetoric and/or ethics), following the metaphor of the circle.[3] As recently as 1985 the *Britannica* included, in addition to *Micropaedia* and *Macropaedia*, a volume called the *Propaedia* which proclaimed the descendance of the encyclopedic genre from an ancient term for the circle of learning and offered a circular depiction of the interconnections between the disciplines today (which was a favorite theme of the editor Mortimer Adler).[4]

But the modern notion of encyclopedism does not emphasize the theoretical classification of the disciplines --witness the oblivion into which the *Propaedia* fell (not even mentioned in the *EB* on-line), probably as soon as it was published. Instead encyclopedism in modern parlance emphasizes rather the accumulation of information across a broad array of topics and disciplines, for which the Renaissance is rightly famous. Interest in the theory of classification of the disciplines, while well represented in the

Renaissance, was not unique to it, given the medieval treatises also devoted to the question.[5] Instead what historians have generally emphasized as distinctive of Renaissance encyclopedism is the increased range and size of Renaissance treatments of all kinds of topics, from bibliographies to natural histories to cabinets of curiosities, from encyclopedic poetry and fiction (du Bartas or Cervantes) to encyclopedic treatises on particular topics like cosmography or agriculture.[6] This heaping impulse was also central to the explosion in the number and size of what I call 'reference works' (most centrally: dictionaries, florilegia, and commonplace books) which I have tried to track and explain elsewhere, and to the accumulation of manuscript notes which provided the raw material from which most large books were produced. Consider for example the growth of the dominant printed florilegium, the *Polyanthea* of Domenico Nani Mirabelli, which started at 430,000 words in 1503 (while the largest medieval florilegia weighed in around 1/10th of that) and grew to 2.5 million words by the early 17th century; or the career of the *Theatrum humanae vitae* of Theodore Zwinger, a systematically arranged commonplace books with elaborate alpahbetical and systematic finding devices, which started at 1.8 million words in 1565 and fostered a sequel, the *Magnum Theatrum humanae vitae*, which was the largest compilation of its time at 10 million words (7600 folio pages bound in 8 volumes), printed in 5 editions from 1631 to 1707. Personal collections of notes reached massive proportions too, the record being attributed to a German professor of Mathematics and Natural Philosophy, Joachim Jungius (1587-1657): the 45,000 pages of his notes which survive are estimated to represent only one third of the collection he had amassed at his death.[7]

Early modernists, including myself, have often pointed to three main sources to explain this new scale of accumulation in the Renaissance: the discovery of new worlds, the

recovery of ancient texts, and the proliferation of printed books.[8] For example Brian Ogilvie has traced the explosion in the number of known plant species, from the 500 discussed in antiquity by Dioscorides and which represented the height of botanical learning in 1550 to the 6000 plant species listed by Caspar Bauhin in his *Pinax theatri botanici* (1623).[9] Similarly, I can track the growth in the number of excerpts from ancient and modern authors cited in early modern *florilegia*, as the sayings of poets, philosophers, and orators were added onto the traditional authorities of Bible and church fathers. Finally, printing made the sources from which to accumulate more readily available, including travel reports and humanist editions but also the compilations of exerpts and summaries of all kinds which facilitated further cycles of compilation.

Certainly printing facilitated encyclopedism by making it less expensive to produce books, including large ones, and by increasing the number of books available to excerpt from, and Renaissance discoveries of ancient texts and distant places also offered new material to sort and store. But the decisive novelty behind Renaissance encyclopedism, I argue, was not the new discoveries of texts or species, but rather the new level of care devoted to recording, saving and managing information about familiar places and authors as well as new ones. Ogilvie points out for example that new world plant specimens were not what drove the botanical explosion--instead it was the Renaissance naturalists' desire to describe plants with careful attention to detail that made them newly aware of vast numbers of unidentified plants mostly in old places--in Europe's own backyards (including Eastern and Northern Europe) and long-known exotic locations like the Levant.[10] In my work focused on textual compilations I have come to a similar observation: it was not the newly recovered ancient texts (Lucretius or Sextus Empiricus) which boosted the size of ever-

larger compilations, but rather long-familiar ancient authors central to humanist education (Ovid, Horace, Cicero) and a variety of recent authors and compilations generated by reflexion on the classics (e.g. Petrarch or the emblems of Alciati and Camerarius).[11]

Neither printing nor new materials to study explain why the learned were willing to invest so much effort and money in amassing large collections of textual information in their manuscript notes and printed books. Underlying the learned reaction to all this input was the most important causal factor of all: a cultural impulse that sought to gather and manage as much information as possible. This info-lust was manifest not only in the explosion of textual compilations in manuscript and in print, but also in the contemporary attention to collecting objects of many kinds, from *naturalia* to coins and works of art.[12] The abundant note-takers and compilers who produced encyclopedic works articulated a new enthusiasm for attending to every book and every discipline in the search for potentially useful information. The reasons behind this attitude were no doubt complex, but I will focus on how the compilers articulated their motivations. Renaissance compilers often mentioned that they hoped to safeguard all the material they collected against a repetition of the traumatic loss of ancient learning of which they were keenly aware. Many also saw their work as a contribution to the public good which benefitted from catering to as many different themes and interests as possible.

Pliny's principle: 'no book so bad…'

One expression that appears with variations as a refrain among the encyclopedically inclined in the sixteenth and early seventeenth centuries seems to me worth analyzing more closely as an entry into the intellectual motivations for encyclopedism. In one of his letters

Pliny the Younger reported of his uncle, the author of the *Natural history* (one of the few ancient 'encyclopedias') that Pliny the Elder 'used to say that there is no book so bad that some good cannot be got from it'.[13] The same passage also reports how Pliny read and was read to at all times, while eating, bathing or travelling, as if he indeed meant to leave no book unread. Pliny took abundant notes too, whether directly himself or by dictating to a slave or servant, and bequeathed to his nephew 166 rolls of papyrus written on both sides in a small hand, after declining to sell his notes when someone offered him the hefty sum of 400,000 sesterces for them.[14] The texts of both Plinys were available during the Middle Ages, but became the object of careful philological analysis by humanists who sorted out the difference between the two authors and were concerned to identify accurately the various species described in the *Natural history*. Pliny was the model encyclopedist for many a Renaissance imitator and his license to read and learn from every possible source was invoked by various authors engaged in large-scale collecting, from Conrad Gesner to Marin Mersenne.

Conrad Gesner's *Bibliotheca Universalis* (1545) was designed as an exhaustive bibliography of all known works (in manuscript and in print, extant and not) in Latin, Greek and Hebrew, totaling some 10,000 works. Gesner (who also composed massive natural histories of animals and plants, though the latter was printed only in the eighteenth century) offered a number of justifications for his project. Gesner bemoaned the loss of ancient learning, which Renaissance humanists felt especially keenly, and called on scholars to continue to hunt for lost works, aided by his bibliography, and on printers to print them and princes to fund libraries, so that no such loss should be suffered again. Gesner also justified his exhaustive scope which included barbarian books as well as Christian ones by explicitly

citing Pliny's 'no book so bad'. Gesner noted that books could change their utility over time, with books apparently worthless at one time proving useful later on, and that even barbarian books could occasionally be found to contain 'useful and good things'. At the same time Gesner also acknowledged that he would like to see some of those barbarian books destroyed. Nonetheless Gesner included them all: 'We only wanted to list them, and we have left to others free selection and judgment'.[15] Of course Gesner offered no access to the books themselves, only mention of their once having existed. And Gesner's information was used not only to help locate books in order to read them, but also to help suppress books, notably when the Jesuit Antonio Possevino relied on Gesner's bibliography in drawing up lists of forbidden books.[16] As Possevino's *Bibliotheca selecta* attests, not all early modern bibliographers shared Gesner's ideal of an exhaustive list of all books.[17]

The ideal of exhaustivity was more difficult and problematic to carry out when pursued with real books rather than just bibliographical references. But in his *Advis pour dresser une bibliothèque* (1627), one of the first advice books on the topic, Gabriel Naudé generally advocated Gesner's principle of exhaustive collecting. Naudé maintained that 'a library that is erected for the public benefit ought to be Universal'. A librarian with the public good in mind should not follow his personal preferences in buying books. Alluding to Pliny, Naudé observed that there is 'no book so bad or decried that it will never be asked for. Mere baubles may become future rarities'. Naudé remarked (as Gesner had) on the changing valuation of books in different times. He also explicitly recommended collecting heretical books and books 'which teach nothing but vain and unprofitable things' (such as cabbala and artificial memory), which he reviled more thoroughly than heretical ones. Owning bad books served useful purposes: 'at the least [to] satisfie those who desire to see them, to

refute them, one should collect [them] albeit they ought to be accounted amongst the rest of the Books in the Library but as Serpents and Vipers are amongst other living creatures; like Cockle in a Field of good wheat; like Thorns amongst the Roses: and all this in imitation of the world, where these unprofitable and dangerous things accomplish the Master-piece, and the Fabrick of that goodly composition'.[18] Like Gesner, Naudé harbored an ideal of universal coverage, leaving to users the task of making selective judgments suited to their needs, but he also introduced a new kind of justification in the form of the standard natural theological argument--that apparently bad or useless things (whether species or books) served a purpose according to the plan of a benevolent God.

In the same milieu in which Naudé moved in early seventeenth-century Paris (among those whom René Pintard called 'learned libertines') the minim Marin Mersenne also invoked natural theological arguments in a variant on Pliny's principle.[19] To justify his study of such a lowly subject as the organ (in one of the first treatises on musical instruments), Mersenne observed: 'there is nothing so base and vile in nature or the arts that it is not worthy of consideration'.[20] The occasion was anodine--a standard apologetics for a new topic--but Mersenne's allusion to Pliny's principle, like Naudé's, extended natural theological arguments about the divinely created natural world to the world of human invention. By lumping together 'nature and the arts' Mersenne ignored the potential for significant differences between nature which was divinely ordained and the arts developed by humans. While it might be clear that there is nothing useless in the divine plan it is rather less clear that this would be true of human inventions, but Mersenne took for granted the grounds for the analogy.

In a third variant (after ‘no book so bad’ and ‘no art so vile’) Pliny's principle merged with a common natural theological one in Theodor Zwinger's justification for the vast bulk of his *Theatrum Humanae vitae* in which he sorted under headings tens of thousands of examples of human behavior reported in anecdotes and apophthegms from antiquity to his own time. Zwinger argued that the work would facilitate the teaching of ethical behavior by example rather than precept, but one historian has argued from its inclusion of entertaining, salacious or gory passages that it ‘takes us as far downmarket as a work in Latin could go’.[21] In the expanded third edition of 1586, which reached 4,500 pages and some 6.3 million words, Zwinger foresaw the risk of criticism from contemporaries and sought to justify the inclusion of examples of bad behavior alongside the good, pointing out that both were instructive—the bad as examples of what to flee and detest and the good as examples of what to imitate and admire. As a practitioner and professor of medicine at Basel Zwinger invoked the model of the botanical garden to illustrate this point. ‘Because there is no herb so vile that it does not contain some remarkable utility’, similarly ‘many ugly and obscene things are gathered, not in order that we may set them forth for imitation, but so that by their very shameful and ugly qualities we may frighten off those who are not wholly evil.’[22]

Zwinger also alluded to plants to forestall the criticism that his vast collection harbored too many items that were useless:

> The Italians like Italian [examples], the Germans German ones, the Scythians Scythian ones. Since we attended to the advantages of everyone, we had to collect examples of every kind. Examples which you may reject as exotic will please another most. Similarly, do not pick from a public field plants which will benefit

another, even if they are not pleasing to you: unless perhaps you think that all the others were grown just for you.[23]

Early botanical gardens generally featured regulations declaring it 'wicked to pluck branches, flowers or seeds or uproot bulbs or roots'.[24] Such rules were no doubt devised to stop visitors from stealing valuable plants for their own collections or gardens, but Zwinger's point was that every example in his *Theatrum* would prove useful to someone, even if it seemed useless or excessively exotic to others. Zwinger thus presented his *Theatrum* as a public space in which readers with many backgrounds could all find something of use and which they should approach with respect for the diverse interests of others. With these analogies to gardens and fields Zwinger again glossed over the difference between God's creation and Zwinger's collections of examples of human behavior which, he claimed with remarkable hubris, he hoped would rival the display of behaviors presented before God at the Last Judgment.[25]

'No book so bad' and variants were not unique to the Renaissance. In the twelfth century Hugh of St Victor made similar statements in his *Didascalicon* offering advice on preparing for biblical study: 'learn everything, later you will see that nothing is superfluous' and 'hold no science to be vile, for all knowledge is good'.[26] In practice, that recommendation resulted in advice on studying the liberal arts to aid in reading the Bible, not in an unusually massive or wide-ranging compilation. But among the medieval encyclopedias there was one so massive that it was not surpassed in size until the late sixteenth century: the *Speculum maius* of Vincent of Beauvais (1255) totaling about 4.5 million words. Vincent was asked by his superiors in the Dominican order to write an 'opus universale' for the lectors who read to their fellows but often had no access to libraries.[27]

The *Speculum maius* went through at least five different states, by successive enlargements (including a fourth part composed after Vincent's death) and no doubt involved the work of a team of Dominicans who remained anonymous (like those who compiled one of the first biblical concordances around the same time).[28] Vincent announced the utility of his work for a whole range of pious activities:

> But I am certain and trust in God, that this work is of no small use not only to me, but to every studious reader, not only to know God himself and his creatures visible and invisible, and through this knowledge to love God and to excite his heart to devotion by the sayings and examples of the charity of many doctors, but also to preach, to read, to dispute, to resolve and generally to explain clearly almost any kind of art.[29]

Vincent's *Speculum* clearly included much more than the average *lector* or preacher needed and was designed as a multi-purpose resource, 'not only for the members of his order and those desirous of explicating the Holy Scriptures, or Doctors, but also for others who perhaps out of some curiosity to know and laboring on things unknown to them, would be pleased by the knowledge of such things'.[30] But Vincent was mindful of the potential accusation of idle curiosity, which he acknowledged incurring, and insisted that 'all the things which are contained in this work… are good in themselves and useful to the studious'.[31]

Although Vincent's ambition was to offer encyclopedic mastery of unprecedented scope, few medieval readers of the *Speculum maius* experienced its full extent. Research into the medieval reception of Vincent's *Speculum* has turned up only two extant copies of the whole work, from a handful that were made in the Middle Ages. The *Speculum*

circulated mostly in partial copies, three hundred of which are extant, most of which focused on one of the four parts, the *Speculum historiale*. But even the *Speculum historiale* survives in only thirty-seven complete copies. Given its massive size, the *Speculum* was prohibitively expensive to copy except partially in a manuscript culture. Printing was the key to its circulation as a single massive work, either as complete parts during the incunabular period, or a set of all four parts published in 1591 and 1624.[32] But the material compiled by Vincent of Beauvais was also available in more portable and affordable encyclopedic compilations. In particular the *Libri de proprietatibus* by Bartholomaeus Anglicus (which had served as one of Vincent's sources) was widely copied in the Middle Ages, and printed nine times down to 1491 and in English as late as 1582.[33]

What then (if anything) was new about Renaissance encyclopedism? The innovations of the Renaissance involved a new scale of encyclopedic activity rather than the development of a completely new practice: many more and much larger encyclopedic compilations were printed in the Renaissance, with larger diffusions, than circulated in manuscript in the Middle Ages. The compilers also justified their work increasingly less defensively and with more exuberant pride than their medieval equivalents—compare Vincent of Beauvais' anxiety about seeming too curious with Theodor Zwinger, of Last Judgment fame, who also addressed his work to the 'one and triune Lord' and commissioned a portrait of himself featuring the fall of Bellorophon, as if to allude to his own hubris.[34]

We can get some unusual insight into the motivation for encyclopedic accumulating from the biography by Pierre Gassendi of Nicolas Fabri de Peiresc (1580-1637), a learned nobleman from Aix who carried on a massive correspondence in the

Republic of Letters and left a vast collection of manuscripts though he published nothing. In describing his working habits Gassendi offered an explanation of why Peiresc was 'most diligent' in recording 'any notable thing came into his mind, or was suggested by some other or observed in reading': because he could 'never endure that the least invention or observation of any man should be lost, being alwayes in hopes that either himself, or some other, would be advantaged thereby'. Therefore 'he wrote things down in his memorials because he then judged they were out of danger of being forgotten'.[35] In this case the fear of loss and the conviction that every observation or thought was worth retaining both motivated Peiresc's obsessive stockpiling of information, gathered from his reading and experience, from his collections of medals and antiquities, and from the oral and written reports of others in letters and conversation.

The fear of loss, heightened by the keen awareness of the loss of ancient learning, was no doubt one factor motivating encyclopedic stockpiling, even into the eighteenth century. Diderot advertised his *Encyclopédie* as sufficient to restore learning if a great loss of other learning should occur. Pliny's principle of 'no book so bad', which was often equated with the natural theological principle that apparently bad or useless species in nature served a higher purpose, was also used as an argument to motivate or at least justify encyclopedism. Other causal factors likely included commerical printing, with its imperative to sell as many copies of a book as possible: a bigger book with more diverse content could be expected to appeal to more readers and sell better; hence the regular boasts on title pages that each compilation was 'bigger and better' than earlier ones (even when the claims were false).[36]

I would venture that new motivations for reading also allowed for a broader range of acceptable reading material. Lucretius for example was valued as a model of Latin poetry and style and a source of unusual vocabulary in the sixteenth century, though his philosophical message was universally reviled.[37] While medieval florilegia invariably selected passages for moral edification, Renaissance commonplace books could select passages for their rhetorical or historical value (as in Zwinger who claimed that readers would derive good principles from bad examples). I certainly would not claim that reading books in parts was unique to the Renaissance which produced bigger and better florilegia in direct continuity with medieval models in the genre, but whereas medieval florilegia rarely strayed from a narrow canon of Christian and philosophical authorities, Renaissance florilegia included many less authoritative sources--poets, emblems, fables and recent authors-- as they expanded in almost every edition.[38] One printer of a much-enlarged edition of Nani's *Polyanthea* of 1585 emphasized that he selected only the good bits from his sources (subtext: even if they were not so authoritative), for 'as Pliny rightly said, there is no book which is not useful in some part'. In transmitting the useful parts from books ancient and modern for the greater good of society and posterity, his florilegium offered 'a pleasant and easy synopsis of all the sciences and disciplines, which will take you safely whether someone is looking for philosophy or medicine or theology or law'.[39] The principle of selective reading combined with multiple criteria of utility for diverse readers further helped to authorize a more varied and broader collection of books.

The association of 'encyclopedia' with encyclopedism

Until 1630 only a handful of works featured 'encyclopedia' in their title and none were clearly encyclopedic. Some of these works are best understood as philosophical treatises on the relationships between the disciplines and referred to the first meaning of the new term in the sixteenth century. Joachim Ringelberg's *Lucubrationes vel potius absolutissima kyklopaideia* (1538) and Paul Scalich's *Encyclopediae sive orbis disciplinarum ... epistemon* (1559), for example, were short treatises meant to be read through (no indexes or even division into chapters) and to move the reader toward a particular philosophical stance (in Scalich's case, for example, a neoplatonic vision of the sciences as mysteries infused by God in men).[40] On the other hand, some works which used '(en)cyclopedia' as a subtitle were pedagogical and invited consultation. Among them, a 1583 edition of the *Margarita philosophica* first published in 1503 by the Carthusian monk Gregor Reisch (d. 1525) was subtitled 'most perfect cyclopaedia of all the disciplines'. Printed in a 600-page quarto, the *Margarita* ('Pearl') presented a compendium of each of the liberal arts and of natural and moral philosophy, with a subsection on the mechanical arts, in a total of twelve books.[41] The *Margarita* was equipped from the outset with an alphabetical index, table of contents and a clear layout of divisions and subdivisions, so that it could be both consulted punctually and browsed easily. Similarly, when the *Speculum maius* of Vincent of Beauvais was printed for the fourth and final time in 1624, by the Benedictines in Douai as a single massive folio in small type, it was sold under a rejuvenated title gathering many of the new metaphors associated with reference books: the *Library of the world, the four-fold mirror (natural, doctrinal, moral, historical), in which the history of all nature, the encyclopedia of all the sciences, the treasury of moral philosophy, the vast theater of the times and of human actions are exhibited*.[42] The key terms 'historia', 'encyclopedia',

'thesaurus' and 'theatrum' were highlighted in red on the two-tone title page. Although it was only one of a number of metaphors, the encyclopedia was associated here with a large-scale reference book.

Johann Heinrich Alsted's *Encyclopedia septem tomis distincta* of 1630 was the first reference work to use 'encyclopedia' as its title, without any qualifying or accompanying terms or metaphors. This four-volume work was a an expensive folio, reprinted just once in 1649, but it was widely known if not owned (like Gesner's *Bibliotheca*) and was likely a catalyst for the increased use of 'encyclopedia' in book titles. What Alsted offered as the model for the encyclopedia a century and a quarter after Reisch's *Margarita* was a similar kind of organized compendium of all the disciplines, but on a much larger scale, with more detailed information for each discipline (including for example, under 'lexica', glossaries of major roots and terms in Hebrew, Chaldaic, Syriac, Arabic, Greek and Latin) and a vast number of new disciplines covered, many of them unique to Alsted's work. Alsted opted for an organization of the sciences based on loosely Aristotelian distinctions between theoretical and practical philosophy. But Alsted ranged well beyond the usual disciplines, subdividing the mathematical disciplines for example not only into the traditional trivium of arithmetic, geometry and music, but with equally ranked sections on cosmography, uranometry (devoted to the study of the size of the celestial sphere), geography and optics. Alsted coined many new terms in -logy to lend the authority of a name derived from Greek either to parts of traditional disciplines (thus stoecheiologia or mictologia as the study of elements and mixed bodies respectively) or to fields that Alsted defined in new ways. Alsted included a large tome for the mechanical arts, likely inspired by the model of Zwinger's *Theatrum*, and a final tome covered in a medley or 'farrago' of thirty-seven fields of Alsted's devising

representing a broad range of philosophical positions and methods, from 'Mosaic physics' to Lullian mnemonics.[43] Without articulating it in those terms, Alsted clearly practiced the variant on Pliny of 'no art or science so bad'.

Alsted's *Encyclopedia* was true to the first meaning of 'encyclopedia' by displaying the hierarchy and subdivisions of the disciplines in long branching diagrams clustered at the beginning of the work, and in shorter charts peppered occasionally throughout. At the same time, Alsted's *Encyclopedia* was a large reference work, containing information in many areas and equipped with a clear layout and a single detailed index in which entries on a topic were grouped together and subdivided as in modern indexes (and it was an early example of this format). The *Encyclopedia* consisted of a compendium of textbook information on every discipline. Although Alsted did not often credit his sources and the borrowings are hard to detect, expert analysis has shown that Alsted composed the *Encyclopedia* by relying heavily on some some seventy-seven textbooks, many of them published by other Calvinist German academics like himself. These major sources were 'broken down into thousands of tiny fragments and distributed throughout' the work while in a few specialized sections Alsted lifted or paraphrased extensively from a single source.[44]

In explaining the origins of his work Alsted explained that he taught for twelve years an 'Encyclopedia of the philosophical course' which he published in 1608 as a short survey of philosophy under that title. But 'because great men requested it' he included in this 'complete Encyclopedia' the higher faculties, the mechanical arts and the farrago of disciplines, to embrace 'in this volume the variety of all knowledge'. No mention of Pliny, but rather of his constant goals 'to serve the good of others and amplify the glory of the one

God'.[45] Alsted also concluded the treatment of most disciplines with a peroration lauding their contribution to the understanding and worship of God.

Alsted emphasized not the novelty of his project as much as the many models on which it drew, citing eighteen 'great men who preceded him' in the project of 'delineating in one syntagma the great expanse of the philosophical kingdom'. Alsted's list of those he viewed as his predecessors illustrates the wide range of contemporary notions of what constituted an encyclopedic project.[46] The models Alsted cited include some classics of the historiography on early modern encyclopedias, such as Ringelberg's *Encyclopedia* and Reisch's *Margarita philosophica*, but other works which do not figure even on the most expansive listing.[47] Alsted cited a number of works generated in the Calvinist German universities in which Alsted spent his career, in particular: treatises each devoted to a single discipline, but which collectively formed an encyclopedic project ('Clemens Timpler and Bartholomaeus Keckermann in their various systemata'), a Ramist textbook for children stripped to the barest collection of definitions in all fields (Thomas Freigius' *Paedagogus*) and a work on the 'idea of encyclopedia' by his uncle Matthias Martini.[48] But Alsted's list also ranged among other persuasions and genres, from the Jesuit *Bibliotheca selecta* by Antonio Possevino, to Robert Fludd's estoeric *Macrocosmus et microcosmus* and from treatises on the question of the classification of knowledge to large compilations like Zwinger's *Theatrum* to entirely tabular presentations of the disciplines, like Jacob Lorhard's *Theatrum philosophicum*.[49]

One of the works cited by Alsted, *De idea et theatro imitatricium et imitabilium* (1617) by Joannes Colle (1558-1631), professor of medicine at Padua, was couched as a *liber aulicus* (book for the court) and promised an introduction to Aristotelian philosophy

for the benefit of princes and courtiers. Colle's work too opened with a long list of predecessors--twenty-three names, including some medieval, some Greek and many early modern authors. [50] Colle did not use the term 'encyclopedia' and listed works not mentioned by Alsted which focused on the mastery of Aristotle.[51] Colle's list overlapped with Alsted's in five works which illustrate the full range of the notion of 'encyclopedia' at the time: the tabular Lorhard, the massive Zwinger, the skeletal definitions of Freigius, Reisch's epitome of the disciplines and Pierre Grégoire's Lullian synthesis.

Despite these multiple acceptations of 'encyclopedism' Alsted acknowledged both the classificatory and the accumulative aspects of 'encyclopedia', but the impact of his *Encyclopedia* increasingly moved the term 'encyclopedia' away from questions of classification and toward encyclopedic accumulation. During the following decades, the title 'encyclopedia' appeared in more works that offered coverage, both on specialized topics and with a broad pedagogical spread.[52] The specialized encyclopedias especially signaled that 'encyclopedia' designated bulk of knowledge rather than the interconnectedness of all disciplines. Alsted's *Encyclopedia* also triggered the coining of the term 'encyclopedist', by which John Evelyn referred to Alsted in 1651. In 1681 Christian Liberius, author of an advice book about books, seeking to deny any accusation of having relied on compendia himself, referred to a number of the authors of reference books (including Zwinger, Rhodiginus, Alsted and Beyerlinck) as 'encyclopedists'.[53] Starting in the late eighteenth century, 'encyclopedist' designated more specifically the authors of the collaborative work known as Diderot's *Encyclopédie*. [54]

The quest for the early modern encyclopedia is plagued by the lack of a clear equivalent to our modern category before the eighteenth century, but also by the many

distinct strands which even contemporaries identified as part of an encyclopedic project. Authors of encyclopedic works were torn between addressing theoretical issues about the proper hierarchy of the disciplines and the practical difficulties of making available large quantities of information. Alsted inaugurated the 'encyclopedia' as the title of a large reference work, but the systematically arranged compilation of textbook material which he offered as an encyclopedia remained without direct imitators. Instead, the proven commercial success of the alphabetical dictionary in the seventeenth century and the convenience of alphabetical order both for users interested in consultation and for compilers with few philosophical pretensions help to explain the rise of the dictionary of arts and sciences which gave the (en)cyclopedia its form and subtitle in the dominant eighteenth-century exemplars of the genre, Ephraim Chambers' *Cyclopaedia or an Universal Dictionary of Ars and Sciences* (1728) and Diderot and d'Alembert's *Encyclopédie ou Dictionnaire raisonné des arts et sciences* (1751-75) which was first conceived as a French translation of Chambers but soon mushroomed into a very different and much larger work.

The tensions in the early modern term 'encyclopedia', which could designate both a classification of the disciplines or a bulk of useful information, did not disappear as the modern genre of the encyclopedia solidified. Chambers boasted that his *Cyclopaedia* could be read through, starting with long, well-organized articles and moving on through cross-references to build knowledge of a whole discipline.[55] In his preliminary discourse to the *Encyclopédie* d'Alembert apologized for the choice of alphabetical order and offered a tree of knowledge to compensate for the dismemberment of disciplines under alphabetical entries, while Diderot emphasized the utility of cross-references from which the reader could build many connections from one point of departure.[56] And the tension between

classification and accumulation is still present in the 15th edition of the *Britannica* which reserved separate parts for classification, short articles and long ones. But with Chambers and Diderot and the many works that imitated them in the eighteenth century the title 'encyclopedia' promised above all a copia of information available for consultation. Classification of knowledge has occasionally surfaced as a topic in philosophy (with Auguste Comte for example), mostly without much impact on encyclopedias. For example Coleridge's plan for an innovative systematic arrangement for his *Encyclopedia metropolitana* never came to fruition.

The encyclopedic impulse central to the modern meaning of 'encyclopedia' can be identified in many different contexts, with Pliny and Vincent of Beauvais as prime examples from pre-modern Europe, but also in rich encyclopedic traditions outside Europe (the Chinese and Islamic traditions have received the most attention so far[57]). In Renaissance Europe encyclopedic accumulation took on new proportions, in the scale of accumulation, the number of large compilations and the range of their diffusion through print. I have tried to identify some of the causal factors for this development, not only in the impact of textual, empirical and technological discoveries, but especially in a new concern with to stockpile information from as many sources and disciplines as possible on the principle that, as in nature, in human inventions (books and the various arts and sciences) even the apparently useless can be valuable, if not for oneself then for others, either now or in the future. The keen awareness of the loss of ancient learning, a sense of contributing to a collective accumulation of knowledge to be transmitted to the future and a general optimism about the value of knowledge, justified by comparison with natural theology were the motivation

commonly articulated by Renaissance encyclopedists for the sleepless nights spent studying and the hard labor they invested in compiling notes and books on an unprecedented scale.

NOTES

I am grateful for valuable feedback to Elizabeth Keen, Anthony Grafton, William West and the editors of this volume.

[1] For the most recent treatment of the history of the term, see West (2002), 15-18dida. For discussion of key passages in Poliziano and Budé, see Simone (1976), 242-43, 260.

[2] See Rabelais, *Pantagruel* (1532), ch. 13, where Thaumaste says of Panurge that he had opened for him 'le vray puys et abysme de encyclopedie'. *OED* records the first occurrence in English (to designate the 'circle of doctrine') in Thomas Elyot, *The Boke named the Gouvernour* (1531), I.xiii.

[3] See Céard (1991).

[4] *Encyclopedia Britannica* (1985).

[5] On Renaissance classifications, see Blair (2007); for an entry into medieval classifications, see Weisheipl (1965) and (1977), Dahan (1990), Steneck (1975) and Lutz (1956).

[6] See for example: Guillaume du Bartas, *La sepmaine, ou creation du monde* (1581); Miguel de Cervantes, *Don Quixote* (1605); Sebastian Münster, *Cosmographia universalis* (1544); Olivier de Serres, *Théâtre de l'agriculture* (1600).

[7] See Blair (2010), 117-32 (on reference genres), 180-81 and 197 (on word counts), 71-74 (on collections of notes); on Jungius, see Meinel (1995), 166, 168.

[8] See Blair (2003) and Grafton (1992).

9. Ogilvie (1997).

10. Ogilvie (2006), 230 and Cooper (2007).

[11] Blair (2010), 178-85 on the growth of the *Polyanthea*.

[12] On the culture of collecting, see Findlen (1994) and Schnapper (1988-94).

[13] 'Dicere etiam solebat nullum esse librum tam malum ut non aliqua parte prodesset.' Pliny the Younger (1969), I, 176-77 (III.v, to Baebius Macer).

[14] 'Referebat ipse potuisse se, cum procuraret in Hispania, vendere hos commentarios Larcio Licino quadringentis militibus nummum; et tunc aliquanto pauciores erant.' Pliny the Younger (1969), I, 179 (III.v.17). Licinus was the Praetorian Legate in Spain, c. 73. 400,000 sesterces or 100,000 denarii was the property valuation required of the lower section of the

equestrian class, a very small and wealthy nobility in Pliny's time; see MacMullen (1974), 293-94. I am grateful to John Bodel for helpful advice on this point.

[15] 'Nullus a me scriptor contemptus est, non tam quod omnes catalogo aut memoria dignos existimarem, quam ut instituto meo satisfacerem, quo mihi imperaveram sine delectu simpliciter omnia quae incidissent commemorare. ... ... Plurimi hodie authores omnibus notissimi sunt, qui prodculdubio post centum annos paucissimis cogniti in tenebris latebunt. … Nos recitare tantum voluimus, delectum iudiciumque liberum reliquimus alijs. Certe non raro quanquam barbari styli scriptores res cognitu dignas acri ingenio chartis mandarunt. Virgilius ex stercore Ennij legebat aurum et Plinius dictitabat, nullum esse tam malum librum, qui non aliqua ex parte prosit. Duplex sane barbarorum genus existit: sunt qui dicendo tantum barbari, res interim bonas et utiles doceant, quos modis omnibus conservari par est: alij ut verbis ita sensis quoque barbari et inutiles sunt, quos equidem quoquo modo abolitos velim.' Gesner (1966), sig. *3v. On Gesner's sense of loss see Müller (2003), 80.

[16] Balsamo (2001).

[17] On the contrast between Gesner and Possevino, see Zedelmaier (1992).

[18] Naudé (1661), 51-2, 55 (on heretical books).

[19] Pintard (2000).

[20] Mersenne, 'Traité des instrumens à chordes,' book I, epître (HU3) as cited in Gauvin (2008), 33.

[21] Moss (1996), 197.

[22.] '[Q]uod nulla est tam vilis herba, quae non praestantem aliquem in se contineat usum. Turpia et obscena multa congeruntur, non ut imitanda proponamus, sed ut ipsa turpitudine et infelicitate absterreamus non penitus malos.' Zwinger (1586), sig **4v.

23. 'Italo Italica, Germano Germanica, Scythae placent Scythica. Dum igitur omnium commodis consulimus, omnigena quoque colligenda fuere Exempla. Quae tu forte ut exotica aversaberis, alteri vel maxime arridebunt. Proinde e publico agro fruges aliis profuturas, tibi licet parum iucundas, extirpare noli: nisi forte tibi soli natos putas caeteros.' Zwinger (1586), sig. **3v.

24. See the regulations of the public garden in Leiden (ca. 1600), as quoted in Ogilvie (2006), 79-80.

[25] 'Thus, having brought together in one place all the actions and passions of all men who have lived from the beginning of the world to its end, we may be allowed to wish rather than to hope that this Theatrum, finally perfected, would resemble in some way that censorious display before the most just Judge.' 'Ita quod tamen optare potius quam sperare licet, omnibus omnium hominum, qui a primo mundi ortu ad excidium usque

vixerunt, actionibus et passionibus in unum collatis, perfectum demum et censoriae illius coram iustissimo Judice panegyris aliqua ex parte aemulum foret Theatrum.' Zwinger (1586), sig. **3v.

[26] Hugh of St Victor (1961), 137 (VI.3) and 96 (III.13).

27. On Vincent's institutional context, see Lusignan (1997).

28. On the evolution of the text, see Paulmier-Foucart (2002), 245-46, 253; on the biblical concordances, see Rouse and Rouse (1974).

29. 'Certus sum enim, et confido in domino, hoc ipsum opus non solum mihi, sed omni studiose legenti non parum utilitatis afferre, non solum ad Deum per se, et creaturas visibiles et invisibiles cognoscendum, ac per hoc diligendum, et cor suum in devotione charitatis multorum doctorum ignitis sententijs et exemplis excitandum, verum ad praedicandum, ad legendum, ad disputandum, ad solvendum, necnon et generaliter ad unumquemque fere modum, et genus artis cuiuslibet clare explicandum.' Vincent de Beauvais (1624), prologue, ch. 4, col. 3.

30. '[D]um non solum nostris, id est fratribus ordinis nostri, hoc ipsum opus desiderantibus atque poscentibus, ceterisque sanctarum Scripturarum expositoribus, sive Doctoribus, verum etiam quibusdam alijs, qui forsitan curiositate quadam sciendi incognita laborantes, talium notitia delectantur, satisfacere volui.' Vincent of Beauvais (1624), prologue, ch. 18, col. 15.

31. 'I admit that to a great extent, in my judgment, I exceeded the method of the intention of my profession, especially in investigating and describing those things which are not named in the divine books. Therefore by acting curiously, I incurred the vice of curiosity. Indeed doctors promise what is appropriate to doctors, artisans deal with artisanal things. Thus I too, a small representative of a sublime profession, whose whole study and work must tend toward the salvation of souls, should have done so too in this work, especially on those matters which concern my profession. ... Nonetheless concerning all the things which are contained in this work, I confess they displease me. Not because they are not good in themselves and useful to the studious, but which, as I said, it was not proper for my profession to insist so diligently on investigating and describing them.' '[F]ateor ex magna parte, meo iudicio, professionis intentionis meae modum excessi, in illis praecipue investigandis ac describendis, quorum nomina in divinis libri non reperi. Itaque dum curiosi morem gere volui, vitium curiositatis incurri, Etenim quod Medicorum est, promittunt Medici, tractant fabrilia fabri. Sic et ego tam sublimis profesisonis homunculus, cuius, scilicet totum studium, et labor debet esse circa lucrum animarum intendere, etiam in hoc opere debui, praecipue de his quae ad professionem meam spectant [spestant sic] insistere. ... Super omnia tamen quae continentur in hoc opere, mihi confiteor displicere. non quod ill quidem in se bona non sint, taliumque studiosis utilia, sed quia professionem meam (ut dixi) non decuit huiuscemodi rebus investigandis ac describendis tam diligenter insistere.' Vincent of Beauvais (1624), prologue, ch. 18, col. 15.

32.On the reception of Vincent of Beauvais, see Voorbij (1996) and (2000) and Guzman (1997). The *Speculum naturale* was printed at least in 1473, 1476, 1478, 1481 and 1494; the *Speculum morale* in 1476, 1477, 1485 and 1493; the *Speculum historiale* in 1473, 1474, 1483, 1494 and in French in 1495 and 1532; the *Speculum doctrinale* in 1477 and 1486. The *Speculum quadruplex* was printed (Venice: D. Nicolinus, 1591) and (Douai: Balthazar Beller, 1624).

33. Early editions include Basel, 1470; Lyon, 1480; Strasbourg, 1480, 1485, and 1491; Cologne, 1483; Nuremberg, 1483 and 1492; Heidelberg, 1488; Strasbourg, 1505; followed by six more editions down to 1609. Bartholomaeus Anglicus (2007), 16. Translations include Spanish, tr. Vicente de Burgos, Toulouse, 1494; French, tr. Jean Corbichon, Lyon, 1491, Paris, 1510, 1522 and 1556; Dutch, Haarlem, 1485; English, tr. John Trevisa, Westminster, 1495, and London, 1535 and ed. Stephen Batman, London, 1582.

[34] The portrait is reproduced in Blair (2010), 201 and in color in *Das Amerbach Kabinett--die Gemälde* (1991), #45.

35.Gassendi (1657), book 6, 191-92, 200.

[36] For examples see Blair (2010), 53, 178-85; on boasts concerning indexes see Blair (2000). This dynamic toward heaping ever more examples and complexity has also been identified among classical manuals in astrology and physiognomics; see Barton (1994), 91-92, 204-5.

[37] See Palmer (2009).

[38] On medieval florilegia, see Munk Olsen (1979) and (1980), esp. 153-54.

39. 'Inter omnes, qui de rebus praeclaris scripserunt, vir nobilissime, illos vel maxime probandos puto, qui ex veterum recentiumque monumentis optima quaeque acri iudicio coligendo (nullus enim liber est, ut recte Plinius, qui non aliqua parte prosit) et humanae societati summo studio prodesse et nominis laudumque suarum praeconium in omnem aeternitatem extendere nituntur. … Est enim omnium scientiarum ac disciplinarum iucunda admodum facilisque **σύνοψις**, sive quis Philosophiae ac Medicinae arcanis animum applicet, sive Theologiae ac iurisprudentiae quasi labyrinthis adijciat, tutum ad eam receptum habebit.' *Polyanthea* (1585), sig. ()2r-v.

40.Scalich (1559); for discussion see Serrai (1991), 87.

41.Reisch (1583); see Ferguson (1929).

42.*Bibliotheca mundi Vincentii Burgundi, ex ordine praedicatorum venerabilis episcopi Bellovacensis, speculum quadruplex, naturale, doctrinale, morale, historiale. In quo totius naturae Historia, omnium scientiarum Encyclopedia, moralis philosophiae Thesaurus, temporum et actionum humanarum Theatrum amplissimum exhibetur*. Opera et studio

theologorum Benedictinorum collegij Vedastini in alma Academia Duacensis (Douai: Baltazar Bellerus, 1624). Underlined words printed in red.

[43] On Alsted's intellectual program and context see Hotson (2000).

44. Hotson (2007), 212-13, and more generally chs. 5-6.

[45] 'Quod precatus sum a Deo immortali, Lectore benevole, cum professio philosophiae mihi demandaretur, ut pro ineffabili sua gratia mihi concederet ea docere, quae ad liberalium ingeniorum culturam et ad philosophiae decus pertinerent: id toto illo duodecim annorum decursu (tamdiu enim est, ex quo cursu philosophicum, inde ab anno 1608, usque ad annum 1620, quo Encyclopaedia Cursus philosophici primo lucem aspexit, publice ac privatim semel atque iterum absolvi, quibusdam disciplinis vicies, et amplius explicatis) id, inquam, toto professionis meae tempore ante oculos habui. Sic enim semper institui rationes meas, ut aliorum commodis inservire, ac unius Dei gloriam amplificare possem. … Deinde, quia viri magni petierunt, ut in secunda hac editione totam Encyclopaediam certa methodo comprehenderem, id est, tres superiores facultates, artes mechanicas, et farragines facultatum (ea enim omnia pertinent ad Encyclopaediam) adjungerem Encyclopaediae philosophiae; visum fuit faciendum, ut illorum petitioni annuerem, et ex Encyclopaedia imperfecta, facerem Encyclopaediam perfectam, seu ex bona (ita enim illi ajebant) meliorem; adeoque omnium **γνῶσων** varietatem hoc volumine comprehenderem.' Alsted (1989), I, sigs. iijv, iiijv.

46. 'Sic enim semper institui rationes meas, ut aliorum commodis inservire, ac unius Dei gloriam amplificare possem. Hinc mihi natae sunt variae lucubrationes: e quibus multae diversis temporibus lucem aspexerunt. Tandem subiit animum meum haec cogitatio, magnum fore operae pretium si latifundium regni philosophici uno syntagmate delinearem: quod ante me fecisse videbam viros omni exceptione majores, Fortium videl. Ringelbergium in Encyclopaedia, Hieronymum Cardanum in libris de Subtilitate, itemque de varietate rerum, Theodorum Zwingerum in Theatro vitae humanae, Petrum Ramum in Professione regia, Authorem margaritae philosophicae et Catenae scientiarum, Thomam Freigium in Paedagogo, Antonium Possevinum in Bibliotheca selecta, Gregorium Tholozanum in Syntaxi artis mirabilis, Cornelium Gemmam in Cyclognomicis, Jacobum Lorhardum in Heptade philosophica, Wowerium in Polymathia, Matthiam Martinium in Encyclopaedia, Bartholomaeum Keckermannum et Clementem Timplerum in variis Systematis, Robertum Flud in Macrocosmo et Microcosmo, Johannem Colle de Idea et theatro imitatricium et imitabilium ad omnes intellectus, facultates, scientias et artes. Horum authorum heroico labore, ac utilitate rei longe maxima adductus, sumsi animum, cumque animo calamum et duce Scriptura sacra, comite ratione recta et experientia certa, teste denique conscientia, elucubravi hoc, quod vides, opus.' Alsted (1989), I, sigs. iiiv-iiijr.

47. In his survey of Renaissance encyclopedias Alfredo Serrai mentions some authors only because Alsted does without trying to place them in his discussion. See Serrai's treatment of Freigius, Keckermann, Timpler, Fludd (Serrai [1991], 122ff); Colle (Serrai [1988], 151 note 11); and Martini (Serrai [1991], 122). On Grégoire, see Serrai (1991),

92-96; on Cardano, Serrai (1988), 327-38; on Wower, Serrai (1988), 148, note 9; on Cornelius Gemma, Serrai (1991), 91-92.

48.See Johannes Thomas Freigius, *Paedagogus, hoc est libellus ostendens qua ratione prima artium initia pueris quam facillime tradi possint* (Basel: Henricpetri, 1582); Matthias Martini, *Idea methodica et brevis encyclopediae* (Herborn: Corvinus, 1606).

49.See Jacob Lorhard, *Theatrum philosophicum in quo artium ac disciplinarum philosophicarum plerarumque omnium ... praecepta in perpetuis schematismis ac typis tanquam in speculo, cognoscenda obijciuntur* (Basel: Conrad Waldkirch, 1613) and *Ogdoas scholastica continens diagraphen typicam artium...* (Sankt Gallen: Straub, 1606). Alsted was probably misremembering the latter title as the 'heptas philosophica' to which he refers. Both of these works consist in a collection of charts of knowledge, one for each of the disciplines, paginated separately. The 1606 edition totals ca. 380 pages; in the edition of 1613 Lorhard added charts for arithmetic, geometry and music for a total of 450 pages.

50. 'Eoque maiori conatu et animi candore, dum exacte depraehendisset, methodum omnium scientiarum Alberti Magni, Savonarolae, Iavelli, Hermolai Barbari, Hieronymi Bresciani, Theodori Merochitae, Georgij Pacmerij, Simphoriani Camperij, Pantaleonis Panvini, Iacobi Lorardi Diagraphem, Volaterranum, Dominicum Delfinum, Theatrum vitae humanae, Iacobum Fabrum, [Gregorii] Tolosani Sintaxim, Margaritam Philosophicam, Catenam scientiarum, Iulium Camillum, Ioannem Thomam Frigium (sic), Nicolaum Derbelli, Antonij Zara Anatomem, Theophilum Augustinianum, Fratrem Eustachium e Sancto Paulo et innumeros alios in ordinandis, aut methodo exponendis facultatibus, scientijs et artibus non parum a veritate discedere. Horum enim alij nimia prolixitate, alij nimia brevitate, aut exiguam, aut nullam utilitatem afferre videntur. imo ingenia ad miores difficultates traducunt, tanqum amethodici, inordinati, aut vanis ambagibus, et longis quaestionibus circumvoluti.' Colle (1618), sig. 3v. On Pierre Grégoire, *Syntaxes artis mirabilis* (Lyon: Gryphius,1575), see Serrai (1991), 92-96.

51. Since Colle does not offer any titles, I supply the specifics that he likely had in mind. Eustachius a Sancto Paulo, *Summa philosophiae quadripartita, de rebus dialecticis, moralibus, physicis et metaphysicis*, 2 vols (Paris: Carolus Chastellain, 1609). The shorter epitomes include Pantaleon Panvinius, *Syntaxis resolutoria pro unoqueque ab Aristot. considerato in Philosophia tam Naturali, quam Divina* (Trevisa: Aurelius Reghettinus, 1606); Hieronymus Savonarola, *Universae philosophiae epitome* (Wittenberg: Simon Gronenberg, 1596); Chrysostomus Iavellus, *Totius Rationalis, Naturalis, Divinae ac Moralis Philosophiae compendium* (Lyon: haeredes Iacobi Iunctae, 1568); Theodore Metaochita, *In Aristotelis physicorum, sive naturalium auscultationum libros octo* (Basel: per Nicolaum Bryling, 1559), translated from Greek; Georgius Pachymerius, *In Universam fere Aristotelis Philosophiam epitome* (Basel: Froben and Episcopius, 1560), translated from Greek; Ermolaus Barbarus, *Compendium scientiae naturalis, ex Aristotele* (Paris: Ioannes Roigny, 1547); Jacques Lefèvre d'Etaples, *Totius philosophiae naturalis paraphrases hoc sunt in opere contentae, quas Franciscus Vatablus non mediocri diligentia recognovit* (Lyon: Iacob Giuncti, 1536); Domenico Delfino [a Venetian nobleman], *Sommario di tutte le scienze* (Venice: F. Sansovino, 1568); Symphorien Champier, *De triplici disciplina*

(1508); Volaterranus (Raffaello Maffei), *Commentariorum urbanorum* (1506 and 8 editions to 1603). Antonius Zara, Aquilensis, episcopus Petinensis, *Anatomia ingeniorum et scientiarum sectionibus quattuor comprehensa* (Venice: Ambrosii Dei et Fratrum, 1615). From Colle's list I have been unable to identify: Hieronymus Brescianus, Nicolaus Derbellus, Theophilus Augustinianus and the 'catena scientiarum', which appears in both Alsted's and Colle's lists juxtaposed with Reisch's *Margarita*. The concept of the chain of sciences (catena scientiarum) was generally associated with Lullism, though it was not the title of a specific work; see Rossi (2006), 103 and *passim*. The closest title is the 'Catena aurea', a collection of patristic commentaries on the gospel devised by Thomas Aquinas, although this does not seem likely to be what Alsted had in mind.

52. Specialized works include Johann Philipp, *Encyclopedia juris* (1640); Jacob Ravensperg, *Encyclopaedia mathematica* (1642); Johannes Dolaeus, *Encyclopedia chirurgica* (1689) and *Encyclopedia medica* (1691). More general works include: *Encyclopédie des beaux-esprits* (Paris: Lamy, 1657 and 1659); Johannes Comenius, *Schola-ludus sive encyclopaedia viva* (1657); Johannes Gezellius, *Encyclopaedia synoptica ... in usum iuventutis* (1672). But among the major reference works before the *Encyclopédie*, only Chambers used the term in the title; see Kafker (1981).

53. 'Accedit ad te lector, tractulus brevis de bibliophilia, haud in eum a me concinnatur finem, ut per numerosum exemplorum Choragium, quos vis fere librorum scriptores, lectores, aestimatoresque ob oculos tibi ponerem; factum id enim abunde satis ab aliis ex Zwingero, Rhodigino, Alstedio, Beyerlingio, aliisque tum Diaristis tum encyclopaedistis, quos perlegere nedum magnam eorum partem exscribere, neque tempus hactenus tulit neque animus.' Liberius (1681), sig. A2r. Caelius Rhodiginus, or Ludovico Ricchieri, was the author of a miscellaneously arranged reference book accessible by index which collected his learned observations on Latin language and culture; his *Lectiones antiquae* were printed in ten editions from 1516 to 1666.

54.*OED* citation: Evelyn, *Memoires* (1857), I, 278: 'Curtius had been scholar to Alstedius the encyclopedist.' *OED* dates 'encyclopedist' in the later sense to 1796 (Hutton). In current usage see Kafker (1988).

55.Yeo (2000) and (2001).

56.D'Alembert (1995); Diderot (1966), 5:642.

[57] For recent treatments of Islamic encyclopedism, see Endress (2006) and articles in Binkley (1997); on China, Bretelle-Establet and Chemla (2007). Some discussion and further references also in Blair (2010), 22-33.