The index of a sixteenth-century architecture book

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The index to the first Italian edition of the architectural works of Vitruvius, printed in 1521, contains several notable features. The running heads alternate between the words Tabula and Index. Within the index there are rubrics for the first two letters of each alphabetic section (e.g. AL, AM). The locators point to the initial words of a section, as well as the leaf number. These section incipits are positioned after the main index headings; that is, as subheadings, preceded by paragraph markers. The index includes entries in the Greek alphabet, interfiled with Roman-alphabet entries as if they were transliterated. The index also functions as a glossary. Photographs illustrate these points.

Background and significance of the work

In the summer of 2002 I presented a paper on the history of Hebrew indexes (Weinberg, 2002) at a conference in Amsterdam. While in the Netherlands, I visited various libraries to examine their manuscript and rare book holdings in order to further my research on the history of indexes.

At the Library of the Rijksmuseum I examined an index to a large-format book of architecture printed in 1521 – Vitruvius’s De architectura (the title page is reproduced in Fig. 1). The index (Figs 2 and 3) has several unusual formatting features that merit description in this journal. Before we examine these, however, let us first consider the significance of the work, which contains ten books on architecture.

Who was Vitruvius? An article in the 11th edition of The Encyclopaedia Britannica (Middleton, 1911: 150) states: ‘Nothing is known concerning him except what can be gathered from his own writings’. Middleton suggests that Vitruvius lived in the 3rd century, but a brief entry in the latest edition of The Columbia Encyclopedia (2000: 3006) gives an earlier date: ‘late 1st cent. B.C. and early 1st cent. A.D.’. This entry also explains the significance of the work: ‘Because it is the only antique treatise on architecture to have survived, De architectura has been an invaluable source of information for scholars.’

Middleton (p. 150) reports that the work was lost for a long time and rediscovered in the 15th century: ‘the oldest existing MS. dates from the 10th century’. Vitruvius’s works were published soon after the invention of printing: the OCLC (Online Computer Library Center) database includes a record for a microfilm reproduction of a Latin edition printed in Rome in 1482 (Accession No. 22265021), with an index in the front. That edition seems to have been reprinted several times in the same decade. Latin editions were also issued in the 1490s in Florence and Venice, but the OCLC records do not mention indexes to them.

Latin editions continued to be published after the vernacular Italian edition that is the subject of this paper. The index to this edition is also in Italian (Jerchower, 2003), and so could not have been copied from its Latin predecessors. The second Italian edition, which appeared in Venice in 1524, is not just a reprint of the 1521 edition, but newly edited. The catalog record (OCLC Accession No. 3646417) notes that the index is at the front and that it is of substantial length: ‘leaves[2]–[21]’ (i.e. approximately 40 pp).

It has already been established that works considered significant are indexed. In the Middle Ages, theology was a very important discipline, and books in that field were indexed; in the Renaissance, works relating to the fine arts merited the attention of scholars and indexers. Vitruvius’s works are classified by the Library of Congress in the fine arts (class NA); the 1523 Italian edition that is cataloged on OCLC (Accession No. 9511186) has a Dewey Decimal Classification number for that discipline as well (720).

Series titles and classification numbers on other bibliographic records show that Vitruvius’s works are considered relevant to additional domains. A micro-opaque reproduction of the 1486 Latin edition, produced in 1822, is in the series ‘Landmarks of science’ (OCLC Accession No. 8811055). Another incunabulum (book printed before 1500) carries the bookplate ‘E. DeGolyer Collection in the History of Science and Technology’ (OCLC Accession No. 46407377). It is less jarring to think of architecture as a science than theology – some readers may recall the quotation from Taylor (1996: 31) that ‘theology was . . . the queen of sciences’ (cited in Weinberg, 1999a: 115) – but one is struck by the fact that a book may be viewed as belonging simultaneously to the humanities and the sciences.

The edition of Vitruvius’s works that is described in this article (OCLC Accession No. 10736847) is classified in yet another discipline: classical philology. Its classification number, 871, means ‘Latin poetry’ in recent editions of the classification scheme (Dewey, 1971: 1509; Dewey, 1996: 775). Perhaps 871 was assigned the meaning ‘early Latin literature’ by the library that classified the book, as Dewey’s ‘Period table for Latin’ gives the meaning ‘Roman period to ca. 500’ to the numeral 1, which could have been added to
87, the base number for Latin literature. (The Greek component of the book is described below (p. 144).)

In sum, Vitruvius’s books on architecture were considered important in the Renaissance, and continue to receive the attention of scholars in a variety of disciplines today. The online catalog of the Library of Congress (2002) reveals that these architectural works have been translated into many languages, in some cases with commentary. The edition held by the Rijksmuseum, the first Italian version of Vitruvius’s works, is listed in the online catalog of the Library of Congress (with LC Control Number 48038432).5

The Rijksmuseum is just one of 33 libraries contributing to OCLC that hold copies of the book; an additional 15 libraries own microfilm editions.6 OCLC, the world’s largest machine-readable union catalog,7 has several master records for the 1521 edition. The records for individual library holdings are not clustered together because of cataloging inconsistencies.8 (Indexers will recognize the related phenomenon of scatter when headings are inconsistent.) Further details on cataloging are considered below.

Evidence for the importance of the 1521 edition of De architectura is the fact that it was reprinted (in Germany) — with an introduction and index — in 1969. The publishers of that edition were probably unaware that it had already been reprinted in the preceding year (Vitruvius Pollio, 1968).9

A book printed in 1521 is not an incunabulum, but as Wellisch (1994: 3) has observed: ‘The limitation of the incunabula period to the first fifty years or so of printing with an arbitrary cutoff date at 1500 is . . . unfortunate. . . .’ Therefore, the features of this early index merit examination.

Size and foliation of De architectura

The online catalog of the Rijksmuseum (2002) does not give the actual dimensions of the 1521 edition but describes its size as ‘fol’ (i.e. folio). This is a polysemous term. Harrod’s librarians’ glossary (2000: 304) has six definitions; here folio refers to a tall book. Literally, the term means that each sheet of paper was folded once, forming two leaves of the book (Harrod’s definition 1). A second meaning that is germane to this article is the number written or printed on a leaf of a book (Harrod’s definition 5).

The various catalog records found on OCLC for this edition of Vitruvius’s works give its height as 39–44 cm (approx. 16–17”). The difference in the measurements may be explained by the fact that the edges of paper were often cut when a book was bound, or rebound. (Early printed books were sold unbound; many libraries rebind rare books.)

The catalog records for this book are also divided on the question of its pagination or foliation: the former would provide far more precise locators. All of the records agree that 183 Roman numerals were printed (clxxxiii), but some follow this number with ‘p.’, the abbreviation for pages, while others have the abbreviation ‘l.’, for leaves, which implies twice as many pages. The Library of Congress is in the latter group, and it seems likely that this is correct. Since the LC Control Number (48038432) indicates that the record was created in 1948, it would not be appropriate to cite a current cataloging code for the rule on noting foliation; the Library of Congress was presumably following its Rules for descriptive cataloging (1949: 21–2). Earlier cataloging codes had a greater emphasis on precision of physical description than do modern ones, although noting foliation is still required.

The errata list of the book (Fig. 4) confirms that the numbers are printed on leaves, not pages. In the errata list, each folio is followed by the word ante or post. These generally mean, respectively, ‘before’ and ‘after’, but in this context they refer to recto and verso, the right- and left-hand sides of a leaf (Jerchower, 2003).
Running heads and terms for the index

Avrin (1991: 221) writes that running heads 'were in existence by the thirteenth century', while Rouse and Rouse (1991: 198) list ‘running headlines’ among ‘twelfth-century aids to study’. Since running heads are found in manuscript indexes, their inclusion in an early printed book is not notable. What is notable about the running heads to the index to De architectura, however, is that they alternate between Tabula de Vocabuli and Index Vocabulorum (see Figs 2 and 3). This corroborates the variation in the terminology for early indexes described by Wellisch (1994: 4–5); such variation in library catalogs renders research on the history of indexes difficult (Weinberg, 1999a: 112). Wellisch and I have both written about the use of the terms index and tabula to refer to the same or different structures in dispersed works, but the use of both terms for the same structure in the running heads of a single work has not previously been reported.

Figure 2. First page of the index to Vitruvius’s De architectura. © Library, Rijksmuseum. The introductory note at the top of the first column explains the precise locators. This column also features two lengthy definitions, interfiled with the index entries.
Genette, writing about paratextual features of literature, does report on inconsistent running heads in that domain: 

... sometimes running heads... play... a tune that differs from that of the chapter's official intertitle. In the original edition of the Chartreuse... the running heads are distributed more or less capriciously; in the original edition of the Rouge, the running heads are unsuccessful, or fairly liberated. (Genette, 1997: 316)

Genette’s book was originally published in French and, like so many books in that language, lacks subject terms in the index (Weinberg, 2000: 3). Although indexes are considered a major paratextual feature, Genette discusses them only in a footnote:

... the classical custom was... to put a table of chapters at the beginning of a work and, at the end, an actual table of contents, a sort of detailed index. [Sort of, but not quite!] (Genette, 1997: 317)

The title page of De architectura uses the word tabula in the description of the index (see Fig. 1, line 12), while the introductory note to the index employs the term tabula

Figure 3. A page from the index to Vitruvius’s De architectura whose running head differs from the one in Fig. 2. © Library, Rijksmuseum. In all three columns, Greek entries are interfiled, as if transliterated, with Roman-alphabet entries.
The locators of the index to Vitruvius’s works may introduce equidistant from each other (Lipetz and Song, 1970: 140), (see Fig. 2). Unlike guide cards in a catalog, which are often rubrics that mark the second letter of the alphabet as well (see Fig. 2). The rubrics in the index to Vitruvius’s works may introduce even a single entry, as, for example, A. ante. F. The second page from the index that is illustrated here (Fig. 3) has another notable feature: it indicates when two letters are interfiled. The heading P. ante. I. P. ante. Y. shows that the letters i and y are treated as equivalent in filing, no doubt because they are pronounced alike. Imagine how helpful these headings were to index users during the Renaissance who were not sure of the sequence of the alphabet or of which letters were treated as equivalent by the indexer.

Close examination of the index reveals, however, that filing is not precise beyond the second letter. This can be seen in Fig. 2, column 3, where three headings starting with the letters ‘Archit’ follow ‘Archimedes’ and precede two entries beginning ‘Archimede’. In describing the first printed indexes, Wellisch (1986: 81) wrote: ‘Alphabetization is by first syllable; filing on the first two letters of index headings may thus reflect a phonetic structure rather than graphic symbols.

Locators

The locators of the index to De architectura are very precise, pointing not only to the leaf of the text on which a topic is treated but also to the initial words of the section. The section incipit follows the main heading of the index entry. Structurally, these phrases may thus be viewed as subheadings, but they are not. Consider, for example, the entry ‘Apolonia § Et Apolonia’. It is obvious that the ‘subheading’ is not modifying the main heading; the ‘subheading’ is merely replicating the initial words of the section in which Apolonia is discussed. Thus, what looks like a subheading is actually the second part of the locator.

The introductory note to the index explains that the entries point to the number of the folio and to the paragraph within it. This is not the first introductory note; Wellisch (1994: 5) reports that a third of incunabula indexes had prefaces or introductory notes. Of those he excerpted, quite a few explain the locators of the index, but none mentions the initial words of a section.

Just as Lipetz and Song (1970) contemplated the speed of searching through a card catalog with multiple guide cards (their theory was challenged by Harter (1971)), we may consider whether it is faster to locate a passage indicated by leaf number and the initial words of a section, or by page number – but without any indication of the topic’s location on a page.

Wellisch (1986: 77) describes another device for referring to paragraphs in early printed indexes: double letters. A similar notational structure was used in a manuscript produced in 1306, before the invention of printing (Weinberg, 2000: 7). In the earliest Latin Biblical concordances, the locators (chapter numbers) were positioned to the left of the subheadings (Biblical phrases) (Weinberg, 2000: 5). In the index to the first Italian edition of Vitruvius’s works, the first part of each locator is positioned on the right, and the second part to its left.

The errata list of De architectura (Fig. 4) has even more specific locators than the index. As noted above, each entry in the list indicates whether the error occurs on the recto or verso of a leaf. Some entries give line numbers; others point to sections. This is similar to the practice in indexes to contemporary large-format reference books: some have locators that point to a part of a page – quarters or ninths – through letters following the page number. The Micropædia of The New Encyclopaedia Britannica (1974) (which served as the index until a separate one was published), indicates, through the letters a–h, eightths of a page in the two-column Macropædia, which contains full-length articles. Rarely, however, do we encounter modern printed indexes to narrative texts that facilitate locating a relevant passage so quickly. As Wellisch (1986: 76) wrote about the first printed indexes: ‘Modern readers might sometimes wish that a locator to a large and closely printed page would give such further hints to the exact location of a word or name.’

Greek entries

In Fig. 3, one can see that Greek entries are interfiled, as if they were transliterated, with those in the Roman alphabet (e.g. the Greek spelling of ‘Philetoria’ follows that heading in column 2). First, we should consider why there are Greek entries in the book and in the index. Middleton (1911: 150) reports that the theoretical and historical parts of Vitruvius’s works were compiled from earlier Greek authors, and he no doubt quoted their technical terms. An example is ‘Plinthides’, which means ‘square base’ or ‘wetstone’ (Jerchower, 2003). The fact that the Greek entries are not transliterated indicates that the 16th-century user of this book was expected to know the Greek alphabet, an expectation that seems inconsistent with the use of headings to indicate the second letter of Roman-alphabet index entries: the reader was expected to know Greek, while not being sure of the sequence of the Roman alphabet. It is interesting to note that some of the Greek headings have ‘subheadings’ in the Latin alphabet, confirming the analysis of the index’s entry structure that was presented above. Expectations about knowledge of non-Roman scripts provides a nice segue to the following section, which describes the definitions in the index.
Glossary entries in the index

Although the index has the heading ‘Table of vocabulary’, it is not limited to topical terms; many proper names, such as Archimedes, are included as well. It is thus an early exemplar of a combined name and subject index, and it is evident from Fig. 2 that definitions are also incorporated into the index (see e.g. the sixth entry under A). Early Hebrew dictionaries functioned as indexes to the Bible (see Weinberg, 1999a: 114), but in De architectura we have the opposite phenomenon – an index that incorporates a glossary.

The online catalog of the Library of Congress (2002) lists a French dictionary of technical terms in Vitruvius’s De architectura (Callebat and Fleury, 1995). An examination of the title alone – Dictionnaire des termes techniques du De architectura – shows that the book is a glossary of technical terms found in Vitruvius’s text. The title page contains an inscription that reads: ‘Facsimile edition of the 1521 edition. Published by the Library of Congress.’ The index is arranged alphabetically, with each entry followed by a definition. For example, the entry under ‘A’ includes the following: ‘Aedes, aedificii, aedificium, aedificare, aedificium constructum, aedificium constructum, aedificium constructum, aedificium constructum.’

Figure 4. Errata list and colophon of Vitruvius’s De architectura. © Library Rijksmuseum. The heading of the former employs the word tabula, which is also applied to the index. The colophon gives the date of printing in Roman numerals: M.D. XXI = 1521.
architectura de Vitruve – suggests that this reference work may have been based on the glossary-index included in the 1521 edition, but the work’s length (347 columns, plus 75 pages) makes this seem unlikely. The subject headings assigned to the work reveal that it is not a dictionary but a concordance – an index of the words in Vitruvius’s architectural books, probably with indications of their context, as well as locators. The catalog record notes that the concordance includes French, Greek and Latin indexes. The book is part of a series entitled ‘Alpha–Omega. Reihe A. Lexika, Indizes, Konkordanzen zur Klassischen Philologie’. This relates to the classification of this work in Latin literature by a library using the Dewey system, as was noted above.

The book indexing literature discusses whether glossary entries should be indexed. I believe they are indexable (Weinberg, 1999b: 8). The integration of definitions into an index underscores the importance of covering the glossary. An extended discussion of such integration took place on the indexers’ listserv, Index-L (2001), citing a combined index and glossary from 1966; the participants were apparently unaware of the example from the year 1521. Another book published in 1966 (Wheelwright) also includes a glossary that functions in part as an index. The book’s index does not cover the ‘Glossary of Latinized Greek Words’ (a language relevant to Vitruvius), but some glossary entries refer to pages in the text, or to chapter and note numbers.

The NASA thesaurus (NASA, 1988) has a separate volume of definitions; other thesauri, such as the Art & architecture thesaurus (1994), include definitions within scope notes for descriptors. Terms from thesauri are generally used in serial indexes, but the definitions and scope notes are rarely integrated into the indexes.

Conclusions

Examining an index published nearly 500 years ago allows us to reflect on how far we have come in the presentation of indexes and in guiding users of them. We still have the terminology problem, especially in works that call a table of contents an index, using vernacular terms. At the aforementioned conference in Holland (Weinberg, 2002), I showed a slide of a modern Italian book that labels its table of contents Indice (Cuomo, 1988).

As for format, it is not unusual for a contemporary book to lack running heads identifying the sections, although this useful paratextual feature is found in manuscripts. As Rouse and Rouse put it:

‘...whenever one has occasion to turn directly from use of a well-laid-out twelfth- or thirteenth-century manuscript to look for something in the exceptional modern printed text that does not have, for example, running headlines or clear paragraph divisions, one has an annoying sense of lost ground. (Rouse and Rouse, 1991: 200–1)’

Letters introducing the sections of the alphabet within indexes are common, but one rarely encounters headings for the second letter of index entries, even though many people are still not sure of the sequence of the alphabet. Rouse and Rouse (1991: 202) quote a 1927 statement by C. H. Haskins: ‘The Middle Ages did not care much for alphabetical order, at least beyond the initial letter, and they would have faced a telephone directory with the consternation of an American office boy.’ Computers have facilitated precise filing beyond the second letter of index headings, although this was implemented long before the development of sorting algorithms.

Some indexes to narrative texts have paragraph numbers as locators, but few point to the initial words of the relevant section on a page. Knowledge of foreign languages and scripts has declined in the West, and a contemporary indexer would have to transliterate non-Roman headings. The debate on the indexability of glossaries continues in the indexing literature and on listservs, but the inclusion of definitions within the index to the architectural works of Vitruvius – and the title Tabula de vocabuli – show that this Renaissance index was viewed as a key to technical terms; not only pointing to a passage in the text where a concept is discussed, but explaining the term as well.

Recommendations for further research

In this paper, I have analyzed the features of an early printed index that I happened to find in a museum library. It would be interesting to compare this index with that of the Latin incunabula editions. It would also be instructive to compare the 1521 index with that of the second Italian edition: was the index revised substantially to reflect the new editor’s changes? These suggestions represent a microcosmic view – simply comparing the indexes to the early Latin and Italian editions of Vitruvius’s works. A more macroscopic approach would be to compare the features of early Vitruvius indexes to those of other indexes printed in the same period. Were any of the features introduced in Vitruvius’s works, or were they copied from other early indexes?

Thus, from an article describing a single index, one can propose a research agenda that would take many years and whose findings could fill a book – hopefully thoroughly indexed, with precise locators, and excellent access to technical terms.

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Notes

1. In indexing a work of medieval Jewish philosophy (Saddiq, 2003) I encountered this phrase again (p. 29). The editor, Dr Jacob Haberman, who used the expression in his introduction, responded to my query about the source of the phrase by supplying a reference to the work of Wollson (1947: vol. 1, 156–7), who traces the idea back to Philo.

2. From my initial search of the Library of Congress (LC) Online Catalog, I inferred that the LC did not own the 1521 edition. After I noticed the LC Card Number in an OCLC catalog record, a more extensive search revealed the reason for the failure of the search. The brief listing for the 1521 edition has a blank box in the date field. For the microfilm edition, the date field has 1973, the year in which the microfilm was produced (LC Control Number 83235048).

3. OCLC Accession No. 10736847 in 19 libraries, plus No. 36590487 in 14 libraries.

4. OCLC Accession No. 23975209 in 13 libraries plus No. 14457388 in 2 libraries.

5. The Research Libraries Information Network (RLIN) is another large electronic union catalog, maintained by the Research Libraries Group (RLG). Because of RLG’s Art & Architecture Program (Glazier, 1992: 93), many important museums and art libraries are members. Since many RLIN records are also on OCLC, one cannot simply add together the numbers of holding libraries to get a sense of how many copies of Vitruvius’s De architectura are extant in public collections.

6. The concept of the OCLC master record is discussed by Bishoff and Patton (1992); clustering in RLIN is explained by Glazier (1992).

7. In the Bronx, of all places, the borough of New York City in which I reside!

References


Cuomo, Luisa (1988) Una traduzione giudeo-romanesca del libro di Giona. Tübingen: Max Niemeyer Verlag. [The LC heading for this author is: ‘Ferretti Cuomo, Luisa’; LC Control Number 88203368.]


Index-L. [electronic newsletter] (2001) [Discussion on combined glossaries and indexes]. www.indexpup.com/index-list/ [I am indebted to Susan Klement for forwarding excerpts from the discussion to me.]


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