

The Library of Ulisse Aldrovandi (†1605): Acquiring and Organizing Books in Sixteenth-Century Bologna

by

CAROLINE DUROSELLE-MELISH
AND DAVID A. LINES

DURING HIS LIFETIME, Ulisse Aldrovandi (1522–1605), professor of natural philosophy and natural history at the University of Bologna and among the foremost collectors of his day, was sought out by students and scholars from all over Europe (in addition to princes, cardinals and others in power) who wished to know more about his library and museum and, if possible, visit it.¹ A large correspondence (not yet published in its entirety) and a little-known register of his visitors testify to the enthusiasm with which his activity was viewed, not only in Italy but in many other locations throughout Europe.² Aldrovandi's collections became so famous that for many foreigners they became an obligatory stop on their tour of Italy, not only while the scholar was still living, but also after his

In the notes the following abbreviations are employed: BUB = Biblioteca Universitaria di Bologna; ASB = Archivio di Stato di Bologna. Unless otherwise noted, manuscript references are to holdings of the BUB. The two co-authors have intervened extensively on each other's sections; nonetheless, Caroline Duroselle-Melish was mainly responsible for sections 1, 3 and 4; David Lines for the introduction, conclusion and section 2. We would like to thank the journal's anonymous readers and Hannah Marcus for reading the article and providing valuable comments.

¹ For an outline of Aldrovandi's teaching activities, see David A. Lines, 'Natural Philosophy in Renaissance Italy: The University of Bologna and the Beginnings of Specialization', *Early Science and Medicine*, 6 (2001), 267–323, esp. 314, no. 170; idem, 'Teaching Physics in Louvain and Bologna: Frans Titelmans and Ulisse Aldrovandi', in *Scholarly Knowledge: Textbooks in Early Modern Europe*, ed. by Emidio Campi, Simone De Angelis, Anja-Silvia Goeing, and Anthony T. Grafton (Geneva: Droz, 2008), pp. 183–203. For Aldrovandi's involvement in contemporary debates about teaching and learning see at least Emilio Costa, *Ulisse Aldrovandi e lo Studio bolognese nella seconda metà del secolo XVI: Discorso* (Bologna: Stabilimento poligrafico emiliano, 1907) and David A. Lines, 'Reorganizing the Curriculum: Teaching and Learning in the University of Bologna, c. 1560–c. 1590', *History of Universities*, 26, no. 2 (2012), 1–59.

² Aldrovandi corresponded with former students and men of letters, as well as nobles and princes, from all over Europe; a flavour of some of the letters is given in *Ulisse Aldrovandi e la Toscana: Carteggio e testimonianze documentarie*, ed. by Alessandro Tosi (Florence: Olschki, 1989). The register of visitors is MS Aldrov. 41 (*Liber in quo viri nobilitate, honore et virtute insignes, viso musaeo quod excellentissimus Ulysses Aldrovandus illustrissimo senatui Bononiensi dono dedit, propria nomina ad perpetuam rei memoriam scribunt*); see also MS Aldrov. 110 and the autograph lists compiled by Aldrovandi (for instance in MS Aldrov. 136, vol. 17, fols. 14r–18r for 1590).

death. They were attracted to his museum of natural history, with exhibits of numerous specimens of fossils, animals, and plants, many of which he endeavoured to make known to a broader public through lavishly illustrated books.³ But they were also very interested in Aldrovandi's rich library, which housed thousands of printed books as well as a collection of manuscripts. An entry in the visitors' book by Maffeo Barberini, the papal legate in Bologna (1611–1614) who later became Pope Urban VIII, shows the attraction that the collection continued to exercise even after the naturalist's death. In 1613 the cardinal spent the entire afternoon rooting around in the library, an activity that he obviously greatly enjoyed, to judge from the comments he left in the visitors' book.⁴

Until now, most of the scholarly attention has gone to the natural museum, part of which is still on display in Palazzo Poggi, the main administration building of the University of Bologna in Via Zamboni 33.⁵ Aldrovandi's library, however, has had a very different history and has been relatively little studied.⁶ Particularly in the anglophone world it is practically unknown, despite the unusual wealth of sources available. This study offers an analysis of Aldrovandi's practices of acquiring and organizing his books on the basis of the following six classes of documents:

- Aldrovandi's comments about how a library should be ordered;⁷
- Aldrovandi's will and description of his own books;⁸

³ A flavour of Aldrovandi's activity in this area is offered by *Natura picta: Ulisse Aldrovandi*, ed. by Alessandro Alessandrini and Alessandro Ceregato (Bologna: Compositori, 2007), and Angela Fischel, *Natur im Bild: Zeichnung und Naturerkenntnis bei Conrad Gessner und Ulisse Aldrovandi* (Berlin: Gebr. Mann, 2009).

⁴ 'Ego M. Cardinal M<affeus> Barberinus Bononiae legatus XIII Kal. Septembri anno MDCXIII inuisi hanc Doctoris Aldobrandi Bibliothecam et maxima cum voluptate a prandio usque ad noctem advenientem in ea versatus sum' (MS Aldrov. 41, fol. 4r).

⁵ A fairly comprehensive bibliography is available in Irene Ventura Folli, 'Per una bibliografia su Ulisse Aldrovandi', in *Animali e creature mostruose di Ulisse Aldrovandi*, ed. Biancastella Antonino (Milan: F. Motta, 2004), pp. 250–54.

⁶ The best (though still very preliminary) treatment is Maria Cristina Bacchi, 'Ulisse Aldrovandi e i suoi libri', *L'Archiginnasio. Bollettino della Biblioteca Comunale di Bologna*, 100 (2005), 255–366. Previous studies include: Lodovico Frati, 'Ulisse Aldrovandi bibliografo', *Rivista delle Biblioteche e degli Archivi*, 9 (1898), 67–69; Aldo Adversi, 'Ulisse Aldrovandi bibliofilo, bibliografo e bibliologo del Cinquecento', *Annali della Scuola Speciale per archivisti e bibliotecari dell'Università di Roma*, 8 (1968), 85–181; Alfredo Serrai, 'Ulisse Aldrovandi', *Il bibliotecario*, 36–37 (1993), 1–24, repr. in idem, 'Appendice' in *Storia della bibliografia*, VII: *Storia e critica della catalogazione bibliografica*, ed. by Gabriella Miggiano (Rome: Bulzoni, 1997), pp. 793–819; Irene Ventura Folli, 'La natura "scritta": La "libreria" di Ulisse Aldrovandi (1522–1605)', in *Bibliothecae selectae da Cusano a Leopardi*, ed. by Eugenio Canone (Florence: Leo S. Olschki, 1993), pp. 495–506.

⁷ See his two notes: 'L'ordine che si può servar nella libreria' ('The order which can be followed in a library') and 'Ordine de libri come si devano collocar nelle librerie secondo l'ordine delle scienze' ('The order in which books should be placed in libraries according to the order of learning') in MS Aldrov. 97, respectively on fols. 690r–691r and 440r–443r. Neither work should be confused with Aldrovandi's *Bibliologia*, contained in MS Aldrov. 83 and consisting of an unfinished work on the history of writing (for an outline see Adversi, 'Ulisse Aldrovandi bibliofilo'). The 'Ordine che si può servar' has been edited and published several times: Frati, *Ulisse Aldrovandi bibliografo*, pp. 68–69; Serrai, 'Ulisse Aldrovandi', pp. 818–19; Ventura Folli, 'La natura "scritta"', pp. 502–6 (which also includes the 'Ordine de libri').

⁸ 'Testamento d'Ulisse Aldrovandi', published in Fantuzzi, *Memorie*, pp. 67–85.

- The surviving catalogues and inventories of Aldrovandi's books;⁹
- Aldrovandi's own books, many of which can still be found in Bolognese libraries;
- Aldrovandi's correspondence, particularly with scholars, printers, bibliophiles and former students across Europe;¹⁰
- Aldrovandi's notes in MS Aldrov. 136.¹¹

Taken together, this documentation offers an unusual glimpse into the collection of one of Bologna's most active cultural figures.¹² Aldrovandi's practices with reference to his books can usefully be compared with those of his contemporaries—such as Gian Vincenzo Pinelli (1535–1601) and Konrad Gesner (1516–1565)—whose approach to collecting is far better known.¹³

1. Aldrovandi's Library: Physical arrangement

Aldrovandi's notes from 1599 and a brief anonymous inventory from 1610—five years after his death—document the design of his studio in the last decade of his life.¹⁴ One entered it through a vestibule leading to an antechamber that overlooked a garden; on the right was a room referred to as the 'dark room' (*camera obscura*), while on the left was the museum room, which led to two library rooms, called the 'first library' (*la prima libraria*) and the 'second library' (*la seconda libraria*) facing a courtyard (Figure 1).

While the museum room, housing Aldrovandi's natural specimens and objects, was the largest room in the studio, the two areas dedicated to his

⁹ These are listed and described in section two below.

¹⁰ Especially relevant for the correspondence with bibliophiles is Giovan Battista Toni, *Spigolature aldrovandiane*, XVIII: *Lettere di Giovanni Vincenzo Pinelli bibliofilo del secolo 16* (Rome: Attilio Nardecchia, 1920).

¹¹ In thirty-two volumes, this manuscript functioned as a miscellaneous notebook for Aldrovandi, containing day-to-day reminders, observations and the like.

¹² For bibliography on Aldrovandi see note 5 above and the studies mentioned throughout this article, including those by Paula Findlen and the classic work by Giuseppe Olmi, *Ulisse Aldrovandi: Scienza e natura nel secondo Cinquecento* (Trento: Unicoop, 1976). Useful (but now rather outdated) information in Giovanni Fantuzzi, *Notizie degli scrittori bolognesi*, 9 vols (Bologna: Stamperia di San Tommaso d'Aquino, 1781–1794; repr. Bologna: A. Forni, 1965), 1, 165–90, and Giuseppe Montalenti, 'Aldrovandi, Ulisse', *Dizionario biografico degli italiani*, 11 (1960), 118–24.

¹³ See Urs B. Leu, *Konrad Gessner's Private Library* (Leiden: Brill, 2008); Marcella Grendler, 'A Greek Collection in Padua: The Library of Gian Vincenzo Pinelli (1535–1601)', *Renaissance Quarterly*, 33 (1980), 386–416; and Angela Nuovo, 'Gian Vincenzo Pinelli's Collection of Catalogues of Private Libraries in Sixteenth-Century Europe', *Gutenberg-Jahrbuch*, 82 (2007), 129–44. Additional references to studies on these two libraries are provided in the text.

¹⁴ 'Il circuito delle stanze per il mio studio è piedi 214 / i luoghi vacui sono piedi 47 / la stanza grande 167 / e piedi 82 / il museo è piedi no. 48 / la prima libraria è piedi 36 / la seconda è piedi no. 44 / la camera oscura è piedi 44 / [total =] 254 / i luoghi vacui sono piedi 47 / cioè 12 per il letto 17 / per le finestre, 12 piedi / gli usci, 6 per la fuga / In modo che trasportando lo studio altrove, bisognerebbe porlo in quattro stanze di piedi quattordici l'una per quadro, cioè piedi cinquantasei per stanza di circuito' (MS Aldrov. 136, vol. 28, fol. 282r). A Bolognese foot equals thirty-eight centimetres: see Angelo Martini, *Manuale di metrologia ossia misure, pesi e monete in uso attualmente e anticamente presso tutti i popoli* (Turin, 1883; facsimile ed., Rome, 1976), p. 92. See also 'Inventario et descrizione somaria dello Studio et Museo del già eccell.mo sig.re Ulisse Aldrovandi, per esso lasciato all'III.mo Reggimento, descritto nel modo che hora si trova in casa dell'Autore', in Cristiana Scappini and Maria Pia Torricelli, *Lo Studio Aldrovandi in Palazzo Pubblico*, 1617–1742, ed. by Sandra Tugnoli Pattaro (Bologna: CLUEB, 1993), pp. 93–94.

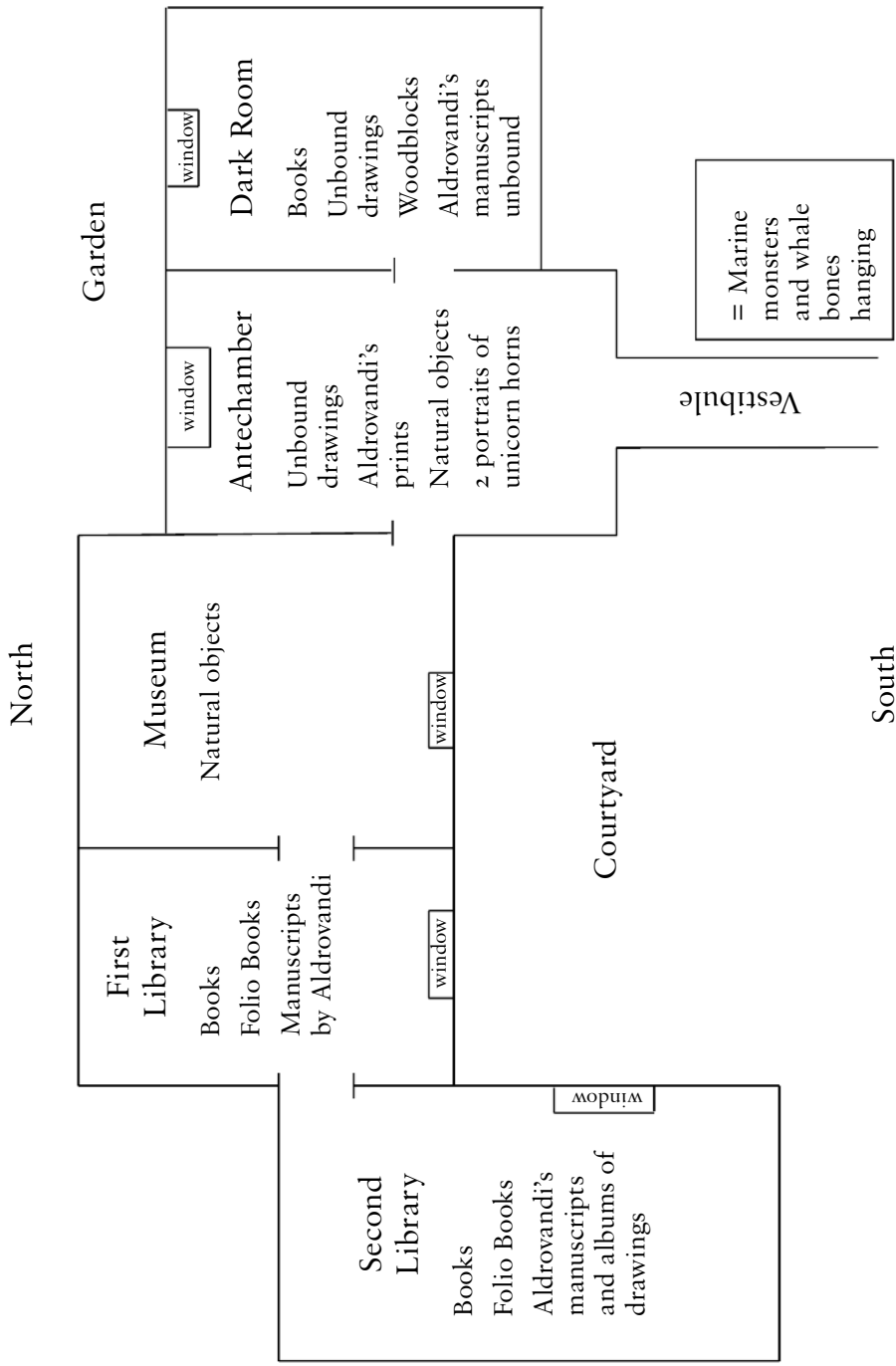


FIG. 1 Plan of Aldrovandi's studio after an inventory written in 1610.

book collection occupied almost twice as much space. The proximity of the ‘first library’ to the museum and its designation as ‘first’ suggest that this was the original area Aldrovandi dedicated to his books. A small room, it must have been filled quickly, thus requiring the use of another, larger space: the ‘second library’.

Aldrovandi generally received his visitors in the museum room and reserved the library rooms for work with his amanuenses. The fact that one could reach the two library rooms only through the museum underscores their function as private spaces removed from public view. This design derived from the early Renaissance idea of a *studio* as a private working area.¹⁵ In the second library room, which was the farther away from the museum’s entrance, Aldrovandi stored his volumes of manuscript notes and his collection of bound drawings, which were among his most precious possessions, in separate cabinets. Clearly it was a room where only very few guests would have been invited.

Later, the bibliophile and librarian of Cardinal Mazarin’s collection, Gabriel Naudé (1600–1653), recommended a layout similar to Aldrovandi’s in his treatise on how to build a library and summarized the customs of scholarly book collectors of his time.¹⁶ Naudé noted that a library was a place of retreat from the world where one could think and write. It was, therefore, supposed to be located in an area removed from noise and worries, away from visitors and the rest of the household. Ideally it would face a garden or a large courtyard to please and rest the eye.¹⁷ Naudé, however, also realistically observed that book collectors rarely had the opportunity to design their own libraries and had to make do with the arrangement of their already-built homes.

In Aldrovandi’s *studio*, the use of the ‘dark room’ (probably named after the dark purple colour of several cabinets in the room) surely was a result of his having to work within the restrictions of the building’s shape and layout.¹⁸ Aldrovandi’s notes and inventories suggest that his studio was extremely crowded, with every space used for items in his collection. Not only were there objects on shelves, in cabinets, and hanging from the ceiling, but also sacks of manuscript pages were stacked on top of cabinets. From the early 1580s, the naturalist shelved in the ‘dark room’ books and items

¹⁵ Paula Findlen, ‘Masculine Prerogatives: Gender, Space, and Knowledge in the Early Modern Museum’, in *The Architecture of Science*, ed. by Peter Galison and Emily Thompson (London: MIT Press, 1999), pp. 29–57.

¹⁶ Gabriel Naudé, *Avis pour dresser une bibliothèque*, introduction and notes by Bernard Teyssandier (Paris: Klincksieck, 2008). The first edition of this treatise was published in 1627 in Paris, but this modern edition transcribes and reproduces the 1644 edition.

¹⁷ Naudé, *Avis pour dresser une bibliothèque* (2008), p. 255 (p. 121 in 1644 edition).

¹⁸ ‘Annotazioni relative alle tavole di piante e d’animali incise e da incidersi . . . Monstra humana no. . . 77 / in armario prope lectum/ Quadrupedia monstifica et non monstifica in eodem armario prope lectum no. 62/ . . . Serpentiū, draconium et lapidum in armario librorum in thalasso obscuro . . .’ (MS Aldrov. 136, vol. 28, fol. 28or).

that no longer could fit anywhere else: drawings, woodblocks, and natural objects. A large space, it was separated from the museum and the library rooms by an antechamber leading to the public entrance of the *studio*.¹⁹ Likewise, the antechamber was an overflow space and accommodated a wide range of objects.²⁰

Aldrovandi's books were housed in cabinets (*caselle* or *scaffè*) with shelves (*finestre* in Italian or *filae* in Latin) that were numbered not entirely consecutively from 1 to 303 in the two library rooms.²¹ In the 'dark room' the books were shelved in multipurpose closets (*armarii*), labelled with the letters A, B, C, or D to correspond to the four different book formats found in his library. Some of these closets also contained drawings and the woodblocks intended to produce illustrations in the various volumes of the naturalist's works.²²

As scholars have noted, Aldrovandi struggled with the arrangement of his book collection.²³ Private collectors in the sixteenth century had difficulties modelling their collections on earlier ones as theirs were different in size and format (they included primarily printed books). Collectors learned new ways to manage their collections along the way and so did Aldrovandi. The multiplicity of his catalogues indicates, however, the difficulties he had in finding a workable system. While Aldrovandi envisaged the order of his museum as one that could be understood visually by visitors, the order of his library was actually hard to grasp and impossible to use without a catalogue.²⁴

Aldrovandi's struggle to maintain an arrangement for his own books made him increasingly less assured when proposing an ordering system to other collectors.²⁵ Early on he suggested following a classification system divided into thirty subjects, sixteen of which had been included in Konrad

¹⁹ A survey of library catalogue MS Aldrov. 147 shows that the books shelved in the 'dark room' were mostly published after 1580. See also Bacchi, 'Ulisse Aldrovandi e i suoi libri', p. 277.

²⁰ The antechamber was described as '... una saletta che ha le finestre a settentrione verso il giardino ... dove sono sette armarii di legno pieni di tavole dissegnate, et alcune di esse intagliate per fare imprimere ...'; see Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 94 and MS Aldrov. 136, vol. 28, fols. 280r–282r.

²¹ Scappini and Torricelli, *Lo Studio Aldrovandi*, pp. 93–94. The cabinets where Aldrovandi stored his own notes and writings had shelves with numbers duplicating the sequence of numbers of other cabinets in the same room.

²² MS Aldrov. 136, vol. 28, fols. 280r–282r and Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 93.

²³ Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 266–72.

²⁴ 'Museum scopus/Cum scopus noster in hoc museo triplex sit, nempe ob oculos ponere inanimata cuncta, quae in superficie terrae atque in ventre eius gemita sunt' (MS Aldrov. 136, vol. 17, fol. 99v). Specimens, numbered and grouped in cases by their similar traits, could be more easily identified that piled up books, see 'Catalogus Armoriorum duorum Musaei', MS Aldrov. 136, vol. 32, fols. 242r–251v. See also Maria Cristina Tagliaferri and Stefano Tommasini, 'Microcosmos naturae', in *Hortus pictus dalla raccolta di Ulisse Aldrovandi*, ed. by Enzo Crea (Rome: Edizioni dell'elefante, 1993), pp. 46–47.

²⁵ Aldrovandi's first classification system thus stated that one 'should follow it' ('ordine de libri come si devano collocar nelle librerie secondo l'ordine delle scienze'). Later, he more modestly proposed a classification that one 'could' use for ordering one's collection ('ordine che si può servar nella libreria'). See MS Aldrov. 97, fols. 440r and 690r.

Gesner's classification of knowledge listed in his *Pandectæ*.²⁶ To these, Aldrovandi added disciplines of the mechanical arts (*de arte pictoria, de arte culinaria, de arte metallica, de arte fusoria*) for which the printed literature had increased since Gesner's time. He also included specialized fields close to his own research interests (*historia plantarum, historia fossilium, historia animalium*).²⁷ Later, he proposed a much simpler order containing only six categories: theology, philosophy, medicine, mathematics, poetry, and history, which closely paralleled the classification used in dealers' catalogues.²⁸ According to this system, books shelved under each subject ought to have their own cabinets or closets (if their quantity allows this).

In the end, though, despite all his proposed systems of classification, Aldrovandi organized his books by format alone.²⁹ This order, Aldrovandi claimed, would accommodate up to 6000 volumes, but it could not be entirely respected either: a survey of catalogue MS Aldrov. 147 shows that while *finestra* numbers usually corresponded to specific formats in the first library room, books of different formats were mixed together on the majority of the shelves in the second library room.³⁰ Shelves seem to have been filled to maximum capacity, each with multiple rows of books.³¹ The use of different closets for each format in the 'dark room' thus corresponds to an attempt by Aldrovandi to regain control over the physical order of his books.

The constant expansion of Aldrovandi's collection is no doubt the main reason for his shelving problems, but changes to the trends in book formats in the second part of the sixteenth century also complicated matters: Aldrovandi had to accommodate an increasingly large number of small-format books, especially common in the scientific fields, which were highly represented in his collection. This also meant that, like other scholarly sixteenth-century book collectors, the naturalist mostly acquired editions of

²⁶ A transcription of Aldrovandi's classification can be found in Ventura Folli, 'La natura "scritta"', pp. 502–5. Aldrovandi was not the only book collector to use Gesner's classification. The collector Pinelli, for example, arranged his books in twenty-one closets, each identified by a letter, closely following Gesner's order; see Angela Nuovo, 'La struttura bibliografica della biblioteca di Gian Vincenzo Pinelli (1535–1601)', in *Le biblioteche private come paradigma bibliografico. Atti del convegno internazionale: Roma, Tempio di Adriano, 10–12 ottobre 2007*, ed. by Fiammetta Sabba (Rome: Bulzoni, 2008), pp. 43–54.

²⁷ Tellingly, these fields corresponded to the designation of Aldrovandi's university teaching appointment after 1561; see Umberto Dallari, *I rotuli dei lettori legisti e artisti dello Studio di Bologna dal 1384 al 1799*, 4 vols (Bologna, 1888–1924), II, 153.

²⁸ 'Primeramente porre gli libri secondo l'ordine delle scientie, come saria tutti i libri di Teologia in una scaffa o in un armario. Secondo in un'altra classe li libri di Filosofia. Terzo di medicina. Quarto di matematica. Quinto Poeti. Sesto Historici'; see Ventura Folli, 'La natura "scritta"', p. 505.

²⁹ 'Questi ordini c'ho detto sono difficili a mettergli all'esecutione. L'altro [ordine], che servo nella mia biblioteca, è questo: di collocar tutti i libri indifferentemente in varie scaffa, distinte in numeri, che denotano le finestre [...]'; in Ventura Folli, 'La natura "scritta"', p. 505.

³⁰ For a description of MS Aldrov. 147, see section two of this article.

³¹ 'Tutte piene di libri triplicati, et quadruplicati in ciascuna casella secondo la capacità loro'; see Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 94.

works published in his lifetime.³² As he indicated, octavo format books were the most common in his library (1361 volumes). After these came the quartos (1061 volumes), then the folios (992 volumes) and finally the sextodecimos (184 volumes).³³ Aldrovandi was faced with at least four different book formats, making it difficult both to plan the number of shelves to allot to each of them (each shelf, depending on its size, could hold ten to fifteen volumes or more) and to devise a method for retrieving them in an efficient way. In his essay on how to organize a library, he noted that the arrangement by format and author simplified the retrieval of small-format books.³⁴

The absence of a consistent scheme in the physical arrangement of Aldrovandi's book collection made it easy to misshelve books and difficult to find one's way around them.³⁵ Hence, the observer who drafted a description of the library rooms in 1610 warned that his description inevitably contained errors and recommended the consultation of Aldrovandi's catalogues for a better understanding of the collection.³⁶

Aldrovandi's forty-volume subject catalogue, the *Pandechion epistemicon* (MS Aldrov. 205), was also supposed to help with the retrieval of information in his library. He wrote: 'A search in my index lasts a few minutes and produces results such as the ones for which one would require fifteen days in a library'.³⁷ The multiplication of catalogues, however, did not necessarily simplify access, as it was necessary to know how to use them.³⁸

2. *The Fate of Aldrovandi's Book Collection and his Library Catalogues*

From Aldrovandi's death in 1605 until around 1617, Aldrovandi's books and natural museum continued to be housed in his home.³⁹ In his 1603 testament, however, Aldrovandi had willed his collections to the city's Senate, on condition that they be housed in purpose-built rooms; the keys were to be

³² See for example Daniel Régnier-Roux, 'Una biblioteca in cifre: studio quantitativo e statistico della biblioteca di Demetrio Canevari', in *Saperi e meraviglie: tradizione e nuove scienze nella libreria del medico genovese Demetrio Canevari*, ed. by Laura Malfatto and Emanuela Ferro (Genoa: Sagep, 2004), pp. 27–40.

³³ 'Testamento d'Ulisse Aldrovandi', p. 80. A survey of 633 titles listed in catalogue MS Aldrov. 147 indicates that 242 titles were in octavo format, 211 in quarto, 137 in folio, forty in sextodecimo, and three in duodecimo. The small number of duodecimo books is due to the Aldrovandi's confusion of this format with the smaller format of sextodecimo. One would need to undertake a similar survey of Paleotti's and Pinelli's book collections. While it would be difficult to do so for Paleotti's library due to the lack of bibliographical information in his catalogue, such a study may be possible for Pinelli's collection thanks to Anna Maria Raugei's forthcoming edition of his library catalogue.

³⁴ Ventura Folli, 'La natura "scritta"', p. 505.

³⁵ Hence Aldrovandi kept notes on the books missing from shelves; see, for example, 'libri che mancano nelle loro finestre', MS Aldrov. 136, vol. 32, fol. 280r–v.

³⁶ Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 94.

³⁷ Serrai, 'Ulisse Aldrovandi', p. 5.

³⁸ Consider the case of the collector Gian Vincenzo Pinelli, who had seven catalogues describing his collection of over 8,000 books; he dedicated an entire catalogue to the description of all his bibliographical tools and another one to the order of his books. See Nuovo, 'La struttura bibliografica', p. 63.

³⁹ The following paragraph is based on Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 258–62.

entrusted to three different figures, who together made up what came to be known as the *Commissarii dello Studio Aldrovandi* (i.e., the overseers of Aldrovandi's *studio*): the city's Standard-Bearer of Justice (the supreme civil officer, known as the *Gonfaloniere di Giustizia*), a member of the Aldrovandi family, and a member of the Paleotti family (with whom Ulisse had strong ties: Gabriele Paleotti (1524–1597), the archbishop of Bologna, had been a close friend).⁴⁰ The Senate accepted Aldrovandi's legacy, and in 1617 or so the collections were transferred to six new rooms in the public *palazzo*.⁴¹ There they continued to grow, mainly through gifts and legacies from other Bolognese scholars. In 1657, Ferdinando Cospi's collection of rare items was added in a neighbouring (but separate) space.⁴² In May 1742 all of these collections were transferred to the Istituto delle Scienze di Bologna, which had opened its doors in 1714 thanks to the enterprise of Luigi Ferdinando Marsili (1658–1730). In 1755 the books went onto the shelves: Aldrovandi's manuscripts were kept together, while his printed books were ordered by subject (a process that often entailed breaking up miscellaneous volumes and joining their components to those of other books) and dispersed throughout the Istituto's holdings. In 1797 the Istituto's collections were visited by the Napoleonic commissioners, who removed several valuable items and had them sent to France.⁴³ Those that returned after the Restoration did not go to the Istituto, but formed the original nuclei for the present university museums of geology, botany, and zoology, as well as the city's Museo Civico. In 1907 some of the items of natural interest were brought together in a large room in Palazzo Poggi in order to give some idea of Aldrovandi's original collection. (They may still be viewed there.) The books, in the meantime, remained mostly in the Istituto's library (now the Biblioteca Universitaria di Bologna). Some duplicates and other books were sold and have ended up in local and foreign

⁴⁰ '... desidererei perciò, che li fosse dato un loco sicuro con custodia e ritirato nelle Scuole, ovvero in altro luogo atto in Palazzo, ovvero nel Giardino pubblico, fabbricandovi stanze atte, e ciò con chiavi diverse, che siano conservate una appresso l'Illustrissimo Sig. Confaloniero pro tempore, un'altra appresso il Sig. Conte Pompeo Aldrovandi e soi descendententi, et in loro difetto, appresso uno delli più prossimi della famiglia, et un'altra appresso il Sig. Galeazzo Paleotti e suoi descendententi, et in loro difetto, appresso uno delli più prossimi della famiglia de' Signori Paleotti' ('Testamento d'Ulisse Aldrovandi', pp. 77–78).

⁴¹ On the transfer of the library to the Palazzo Pubblico and its disposition there, see David A. Lines, 'La biblioteca di Ulisse Aldrovandi in Palazzo Pubblico: Un inventario seicentesco', in *Biblioteche filosofiche private: Strumenti e prospettive di ricerca*, ed. by Renzo Raggianti and Alessandro Savorelli (Pisa: Edizioni della Normale, in press), pp. 132–52.

⁴² See Paula Findlen, *Possessing Nature: Museums, Collecting, and Scientific Culture in Early Modern Italy* (Berkeley: University of California Press, 1994), pp. 26–27 and n. 31; also Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 67, n. 48.

⁴³ A list of the works selected is given in *Catalogo de' capi d'opera di pittura, scultura, antichità, libri, storia naturale, ed altre curiosità trasportati dall'Italia in Francia* (Venice: Antonio Curti, 1799), p. XXIV; for the process and its aftermath, see Rita De Tata, "'Per Istituti aedes migraverit': la collocazione dei manoscritti della Biblioteca Universitaria di Bologna dalle origini ai nostri giorni", *L'Archigimnasio. Bollettino della Biblioteca Comunale di Bologna*, 88 (1993), 323–418 (here, 374).

libraries.⁴⁴ Yet others made their way onto the antiquarian book market, where they still occasionally surface.

The best first-hand information about Aldrovandi's library is available from the four catalogues put together during his lifetime and partly written in his own hand. The first two catalogues (MS Aldrov. 29 and MS Aldrov. 107) reach up to 1582 and were largely formed by gluing onto large sheets small strips of paper with the (sometimes autograph) description of a particular book.⁴⁵ Organized alphabetically by author's name, these catalogues offer the most complete information for specific works: in addition to the title, they usually include the place of publication, the printer, the year of publication, the price paid for them, and where the works could be found according to Aldrovandi's system of book-placement described below. The format of the books, however, is never specified. As was common at the time, manuscripts and printed books are not placed into separate lists, so it is not always easy to distinguish the two.

A third manuscript, MS Aldrov. 148, this time reaching to 1583, provides a catalogue by title and subject.⁴⁶ It was put together in 1582–83 but had clearly been prepared during a long period before that.⁴⁷ It seems to have mainly served the purpose of finding books on particular topics; Maria Cristina Bacchi rightly connects this catalogue to the spirit of Aldrovandi's *Pandechion epistemicon* (also known as *Selva universale di tutte le scienze*), a work in which the Bolognese naturalist glued extracts from the various works he had read under relevant headings.⁴⁸

The last catalogue dating from Aldrovandi's lifetime is MS Aldrov. 147.⁴⁹ This is a fresh copy of the author-catalogues mentioned above, integrated by

⁴⁴ The following are a few examples of books formerly owned by Aldrovandi and now found in libraries outside Bologna: Yale, Beinecke Library, Gfa31 +if542, containing: Alexander of Aphrodisias, *In priora resolutoria Aristotelis Stagiritæ explanatio. Ioanne Bernardo Feliciano interprete* . . . (Venice: Hieronymus Scotus, 1542), bound with Porphyrius, Latin tr. of Giovanni Bernardo Feliciano, *In Aristotelis Prædicamenta . . . explanatio* (Venice, 1546) and Robert Grosseteste, *Commentaria . . . in libros Posteriorum Aristotelis* (Venice: Petrus de Quarengiis de Pergamo, 1504); Strasbourg-Arts, Y 16 003, containing Pomponio Gaurico, *De sculptura* (Nuremberg: Johannes Petrius, 1542); Pisa, Biblioteca della Scuola Normale Superiore di Pisa, XVI L257 L EG, containing Giulio Landi, *Le attioni morali* (Venice: Giunti, 1584); and Oxford, Bodleian Library, Byw.K7.16, containing Philippus Beroaldus, *De felicitate* (Bologna: Franciscus de Benedictis, 1495; *Bod-inc* B-223).

⁴⁵ MS Aldrov. 29 is entitled *Index variorum authorum quos habeo et habiturus sum, hic alphabetico ordine describuntur et describentur Indices anno 1558, et successive hic omnes apponentur ut ad manum haberi possint* (307 folios) and covers the period 1558 to 14 August 1580; MS Aldrov. 107 is entitled *Ulyssis Aldrovandi. Bibliothæ suæ appendix* (196 folios, several of which blank) and lists the books acquired in 1580–82. On these two catalogues see Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 272–74.

⁴⁶ Ulyssis Aldrovandi, *Bibliothecarum thesaurus secundum titulos librorum variasque materias ordine alphabetico in duodecim tomos distinctus* . . . (twelve in folio volumes).

⁴⁷ Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 270–72.

⁴⁸ On this work, in MS Aldrov. 205, see most recently Fabian Krämer, 'Ein papiernes Archiv für alles jemals Geschriebene: Ulisse Aldrovandis *Pandechion Epistemicon* und die Naturgeschichte der Renaissance', *NTM (International Journal of History & Ethics of Natural Sciences, Technology & Medicine)*, 21 (2013), 11–36, published online (DOI 10.1007/s00048-013-0087-z).

⁴⁹ Ulyssis Aldrovandi *philosophi et medici Bononiensis Bibliotheca secundum nomina authorum qui penes se habentur, in alphabeticum ordinem non exiguo labore ac studio digesta* (621 folios).

a catalogue of works acquired in subsequent years, up to (and in a few cases even after) Aldrovandi's death.⁵⁰ In many ways, therefore, this can be viewed as the most complete of Aldrovandi's library catalogues. Again the entries are organized by author. As in the first two catalogues, each entry specifies a work's title, place of publication, publisher, year of publication and shelf-mark. Instead of the cost of a particular work, most entries provide details about its format (folio, quarto, etc.). These are often helpful in identifying a particular volume or edition.

Three inventories compiled after Aldrovandi's death are also of interest. The first, datable to around 1657, describes Aldrovandi's library while it was still in the Palazzo Pubblico.⁵¹ It is part of an inventory of Aldrovandi's entire collection, whose museum component has been studied and dated to between 1633 and 1657.⁵² This document lists 3453 books (plus the manuscripts authored by Aldrovandi) in a very abbreviated format, making precise identifications difficult, but giving a good idea of how Aldrovandi's books were displayed in their new home. Also, two eighteenth-century inventories have survived. The first one was prepared ahead of the transferral of Aldrovandi's library to the Istituto delle Scienze in 1742.⁵³ It is a very summary list, but it shows that by that point Aldrovandi's books had been recorded by subject.⁵⁴ The second was put together in 1749 by the Istituto's librarian Lodovico Montefani Caprara (who served in this capacity from 1739 to 1785)⁵⁵ and is useful for understanding both the topical categories that were used in his time, and for the details it offers as to the formats of the books associated with the Studio Aldrovandi.

In addition to the catalogues and inventories, it is worth considering the import of Aldrovandi's last will and testament of 1603. There Aldrovandi gave careful instructions about how his legacy was to be preserved, organized, and displayed, suggesting for instance the use of four separate rooms: the first to contain works written by Aldrovandi (whether published already or not), the second to contain his printed books, the third to display his natural objects, and the fourth to contain woodblocks, arranged in nine

⁵⁰ Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 274–81.

⁵¹ ASB, Assunteria di Studio, b. 100, fasc. 6 entitled *Inventario de i Libri esistenti nello studio dell'Excellentissimo Signore Dottore Ulisse Aldrovandi* (48 folios). On this inventory see Lines, 'La biblioteca di Ulisse Aldrovandi in Palazzo Pubblico'.

⁵² Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 69.

⁵³ Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 263, 350. See MS 595.Y.1, *Catalogo dei libri della libreria Aldrovandi*; an extract is published in Scappini and Torricelli, *Lo Studio Aldrovandi*, pp. 131–34.

⁵⁴ Lines, 'La biblioteca di Ulisse Aldrovandi in Palazzo Pubblico', p. 143.

⁵⁵ Bacchi, 'Ulisse Aldrovandi e i suoi libri', p. 350 refers to 39 fascicles without signature housed next to the Aldrovandi manuscripts. See also Laura Miani and Maria Cristina Bacchi, 'I fondi manoscritti e le raccolte di incunaboli e cinquecentine della Biblioteca Universitaria come fonti per la storia della cultura rinascimentale', *Schede umanistiche*, 3 (1989), 5–45; on p. 11 there is discussion of three other manuscripts containing Montefani's topical catalogues: MSS 4108, 4109, and 4110.

closets, as well as two *armari* (closets) containing minerals.⁵⁶ Aldrovandi insisted in a special way that his own works be kept separate from the printed books he owned, so that access to them would be restricted to those working on publishing them. He also gave specific instructions about not alienating, selling, or exchanging any of his printed books, since his own notes and books made reference to pages in specific editions.⁵⁷ Finally, Aldrovandi insisted on the appointment of a doctor or librarian who would be in charge of his collection (indeed, be a custodian of the books and each smallest item), be able to show its contents to those desirous of seeing it, and supervise the printing of his works.⁵⁸ He instructed that the first librarian be his disciple and close collaborator, the Flemish Johannes Cornelius Uterverius (d. 1619).

Aldrovandi's testament also gives more specific information about his books and their numbers. He divides them into manuscripts written by himself (c. 302, including around 200 in folio, around fourteen in quarto, around eighty in oblong or *vacchetta* format, and eight unbound volumes) and printed books, which (as noted above) number 3598 in total (992 in folio, 1,061 in quarto, 1,361 in octavo, 184 in sextodecimo).⁵⁹

Several general points can be made about Aldrovandi's library collection, particularly as we can observe it between 1582 and later years on the basis of his final catalogue, his will, and the volumes still housed in the Biblioteca Universitaria. One is that Aldrovandi's taste in books was extremely varied. An omnivorous reader, who like several of his contemporaries was attempting to bring 'knowledge overload' under control, Aldrovandi acquired books of all kinds, from theological and devotional works to poetry and romances, from histories to his philosophical tools of the trade, from travel accounts to descriptions of naturalia.⁶⁰ Ancient, medieval and renaissance works rub shoulders, as do the three main languages (Greek, Latin and Italian), and

⁵⁶ See Lines, 'La biblioteca di Ulisse Aldrovandi in Palazzo Pubblico', for the extent to which Aldrovandi's wishes were observed.

⁵⁷ 'Avvertendo, che tutti li scritti miei siano posti in stanza separati dalli libri stampati, o in armari, acciò che non siano tolti e maneggiati da ciascuno, se non da deputati solo per eseguire la mente mia nelle composizioni et ordinazioni, acciò si stampino. Avvertendo ancora, che li miei libri stampati non s'abbino alienare, ne meno da commutare in altra o migliore, o peggiore stampa per li ricorsi delli luoghi che sono nelli miei' ('Testamento d'Ulisse Aldrovandi', p. 78).

⁵⁸ 'Item per maggiore conservazione del suddetto Museo, e per più grande utilità degli studiosi desidero che sia eletto un Dottore, ovvero uno intelligentissimo di quei studi naturali Bibliotecario da Signori Confaloniero, Aldrovando e Paleotto, pro tempore, ch'abbia cura e custodia de' libri e d'ogni minima cosa, et il medemo con soddisfazione de' soprastanti signori possa mostrarlo a desiderosi di vederlo ...' ('Testamento d'Ulisse Aldrovandi', p. 79).

⁵⁹ '... acciò si abbia il numero de' miei libri manoscritti, che devono essere in foglio n. 200 in circa. Item in quarto, che devono essere n. 14 in circa. Item in forma lunga, che si chiama vacchetta, che sono n. 80. Item slegati n. otto. Li stampati in foglio comune e maggiore n. 992 in circa. Item in quarto n. 1061 in circa. Item in ottavo devono essere n. 1361 in circa. Item in sedici devono essere n. 184 in circa con le loro iscrizioni e num. alle sue finestre con il nome mio nella prima carta' ('Testamento d'Ulisse Aldrovandi', p. 80).

⁶⁰ For 'knowledge overload' see Ann Blair, *Too Much to Know: Managing Scholarly Information before the Modern Age* (New Haven: Yale University Press, 2010).

writings from all over the continent. The encyclopedic scope of Aldrovandi's interests makes him a hard individual to classify: he was a university professor charged with teaching philosophy, and as such he had to have a secure command of Aristotle's works and the commentary tradition (from ancient to contemporary times); yet he was also interested in observation and collecting, was capable of reading Aristotelian and other texts in the original Greek and had deep friendships with humanists working at Bologna's university (including for instance Carlo Sigonio (1524–1584)), and a large network of correspondents of all stripes.

Aldrovandi's curiosity and interests reached far beyond the Italian peninsula, which by his time had lost its cultural primacy in Europe. Given that new and interesting work (on Aristotle and other authors) was being carried out, for instance, in France, Germany and the Low Countries, his catalogues record a substantial number of translations, commentaries and other works by scholars residing there. His desire to acquire their writings was one of the main reasons behind his keen interest, as we shall see, in the Frankfurt Book Fair. At times his admiration for particular authors ran counter to the admonitions of the Index of Prohibited Books, but there is clear evidence that Aldrovandi was usually able to work around its instructions, partly by claiming that he needed to consult the works of certain 'dangerous' authors because of his own writing projects, and partly by using his contacts with the local clergy—and particularly with the (arch)bishop Gabriele Paleotti—to obtain the necessary permissions, as he did in the case of Theodor Zwinger's *Theatrum vitæ humanæ*.⁶¹ A telling document is a license granted by Rome to Uterverius on 7 April 1611 to continue (for three years) to have access to around twenty-five books (six of them prohibited; nineteen suspect) of Aldrovandi's library.⁶² According to this license, Aldrovandi had already obtained authorization in 1566 to read several prohibited works.⁶³ The Bolognese Senate asked the Congregation of the Index, on Uterverius' behalf, that he be able to consult both those books and another list of works including Konrad Gesner's *De serpentibus* and *De lapidibus*, Theodor Zwinger's *Theatrum vitæ humanæ*, Girolamo Cardano's *De subtilitate*, Jean Bodin's *Methodus*, and other authors such as Gulielmus Postellus, Pomponius Mela, Joseph Scaliger, and Joachim Camerarius. This request was granted with several conditions—among them, that the books be stored

⁶¹ Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 333–49. See also Hannah Marcus, 'Banned Books: Medicine, Readers, and Censors in Early Modern Italy, 1559–1664' (PhD diss., Stanford University, in progress).

⁶² A three-page copy of this document lies among the loose pages of ASB, Ass. di Studio, b. 100, no. 6; cf. Scappini and Torricelli, *Lo Studio Aldrovandi*, p. 54 and Lines, 'La biblioteca di Ulisse Aldrovandi in Palazzo Pubblico', p. 145.

⁶³ The document (p. 1) cites the following: Conrad Gesner's *De quadrupedibus*, Curetius Cordus's *De Plantis*, Franciscus Cornarius's *Emblemata*, Leonard Fuchs's *De usitate huius temporis medicamentorum*, Monstinius's *De Horologiis*, and Odoni's *Onomasticon*.

in a locked and secure place.⁶⁴ However, since Uterverius himself had the keys, there was no real limitation on his access to the books in question, which were not gathered together, but continued to be distributed among the rest of Aldrovandi's books. In several specific cases (such as that of Zwinger's *Theatrum* referred to above) we can still find the relevant volumes among the books of the BUB, along with the license that accompanied them.⁶⁵ Occasionally, these books bear the marks of observance of the Index's requirements, such as erasing or covering authors' names, removing offending material or making it otherwise illegible.⁶⁶

Another point worth keeping in mind is that the size of Aldrovandi's library fluctuated over time. During his lifetime it did not grow linearly, since at various points he made notes to himself about volumes that he wished to sell or exchange.⁶⁷ The snapshot of Aldrovandi's collection offered by his will and testament of 10 November 1603 may therefore not necessarily correspond to what it was like at the time of his death two years later. Other changes are likely to have taken place during the period following the death of Uterverius in 1619 and the appointment of a new overseer in 1632.⁶⁸ The reduced number of books suggested by the 1657 inventory certainly hints at their exposure to theft, although one also wonders about damp. The fact that several Aldrovandi incunables are now preserved in Bologna's Biblioteca Comunale dell'Archiginnasio rather than the BUB may be in part due to the ravages experienced by the library during this period; and, since later librarians were keen to get rid of books held in multiple copies, other Aldrovandi books may have reached private hands through sales or exchanges as well.⁶⁹ It is interesting to think of Aldrovandi's library in relationship to Gabriele Paleotti's collection, which has a number of similarities to it (including in terms of size and appointment of a librarian) and which already in 1595 had become the Biblioteca Arcivescovile.⁷⁰ The terms of Paleotti's will expressly forbade the sale, lending, or removal of any of his books, under any pretext, but it is clear that, after the death of the first librarian in 1610, many books

⁶⁴ 'Conceditur ut Ill.mum Regimen Bononorum praenaratos libros detinere possit ac custodire dumodo in loco clauso ac clavibus firmato serventur, liceat tamen ad trienium Jo. Cornelio Uterverio ad trienium illos legere dumodo quorum extat expurgatorius Index Romae 1607 impressus vix illum prius corrigat in reliquis nomina hereticorum debeat, et quae interlegendum fidei aut Christianis moribus contraria offendit notit et in scriptis nostro uferat affecto nec mathematicis utatur quoad iudiciariam de actibus humanis a libero arbitrio dependentibus'.

⁶⁵ See also Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 347–48.

⁶⁶ Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 336–39.

⁶⁷ As suggested in Bacchi, 'Ulisse Aldrovandi e i suoi libri', 296 and MS Aldrov. 136, vol. 25, fol. 66r–v ('Libros quos duplices habeo et permutare volo').

⁶⁸ See Scappini and Torricelli, *Lo Studio Aldrovandi*, pp. 55–61; Lines, 'La biblioteca di Ulisse Aldrovandi in Palazzo Pubblico', pp. 144–45.

⁶⁹ See De Tata, "'Per Instituti aedes migraverit'", *passim*.

⁷⁰ See Luciana Fantuzzi, 'La biblioteca arcivescovile di Bologna' (tesi di laurea, Facoltà di Lettere, Università di Bologna, relatore Prof. Albano Sorbelli, a.a. 1939–40), esp. pp. 19–26.

went missing, even though its librarian lived right next door.⁷¹ Some of the same hunger for books must have affected visitors of Aldrovandi's library.

Other details about Aldrovandi's library are even less straightforward to study. We wonder, for instance, how many incunables he owned, which printers he favoured, how his books can be broken down thematically and how many volumes are still held by the BUB. These questions are hard to answer for a number of reasons. First, a detailed analysis of MS Aldrov. 147 (the definitive catalogue put together after 1582) has not yet been carried out. Part of the challenge lies in the catalogue's sheer size (estimated to include between 8000 and 10,000 entries), but another difficulty is that the catalogue is not an example of modern library science; it contains double entries (sometimes, but not always, signaled by cross-references), sometimes skips items,⁷² does not often distinguish between manuscripts and printed works⁷³ and, in the case of *Opera omnia* editions, lists both the general title and (under separate headings) the titles of the individual works.⁷⁴ In any case, entries typically refer, not to book volumes, but to specific titles, which may or may not have been bound individually (Aldrovandi had works bound together as he saw fit).⁷⁵

A second reason is historical and goes back to Montefani's reordering of the Studio Aldrovandi books in the eighteenth century. Montefani was faced with the daunting task of cataloguing (under huge time pressure and with very little assistance) various large collections that were coming to be part of the library of the Istituto delle Scienze. At the same time, he also wished to order the books according to subject, whereas formerly several collections (particularly that owned by Aldrovandi) had simply been ordered by format. Montefani therefore took the Studio Aldrovandi books (which by 1749 had grown to 6000, many of them not part of the original collection) and ordered them thematically.⁷⁶ Often this meant dismembering volumes and

⁷¹ Fantuzzi, 'La biblioteca arcivescovile di Bologna', pp. 27, 30–36.

⁷² On fol. 217v, for instance, MS Aldrov. 147 mentions a question discussed by Gabriel Albertus Pedemontanus in Padua, *Brevis questio utrum logica sit scientia*. This work is indeed transcribed (not in Aldrovandi's hand) in MS Aldrov. 44, fols. 299–310; however, the catalogue makes no mention of the same author's *Disquisitio de methodo*, which is transcribed on fols. 312r–349r of the same manuscript; cf. Lodovico Frati, *Catalogo dei manoscritti di Ulisse Aldrovandi* (Bologna: Zanichelli, 1907), p. 52. A similar consideration applies to Branda Porro: MS Aldrov. 147, fol. 93r refers to Porro's manuscript treatments of Aristotle's *De anima* and *Physics*, but does not mention his *Libri Quarti textus 22us et reliqui in quibus Aristoteles manifestat id quod ipse de coelo deque motu eius sentiat Magno Branda Porro dictatore* contained in MS Aldrov. 62, Pars II (fols 116–20); cf. Frati, *Catalogo dei manoscritti di Ulisse Aldrovandi*, p. 64.

⁷³ For instance, on MS Aldrov. 147, fol. 307v, Ioannes Antonius Lucatellus appears as the author of a *Tabula pro introductione ad V. Voces Porfirii edita ob utilitatem scholarium* . . . and an *Introductio ad libros Posteriorum Aristotelis*; both of these are in fact manuscript copies, contained respectively in MS Aldrov. 62, Pars III (10 folios, n.n.) and Pars IV (fols. 21–33 n.n.); cf. Frati, *Catalogo dei manoscritti di Ulisse Aldrovandi*, p. 64. The same is true of lectures on the *Physics* by Vincentius Madius: these are listed in MS Aldrov. 147, fol. 591r, and are contained in MS Aldrov. 62, Pars V (fols. 49–146 n.n.).

⁷⁴ For a detailed example on the basis of MS Aldrov. 147, see David A. Lines, 'A Library for Teaching and Study: Ulisse Aldrovandi's Aristotelian Texts' (forthcoming).

⁷⁵ MS Aldrov. 136, vol. 30, fols. 176–177.

⁷⁶ Bacchi, 'Ulisse Aldrovandi e i suoi libri', p. 350.

recombining their titles together with works on similar topics. On the frontispieces of the resulting volumes Montefani wrote in pencil a large 'U.A.' to indicate that these works came from the Studio Aldrovandi library. At the same time, one should recall that Aldrovandi's own miscellaneous volumes usually bore his *ex libris* only on the frontispiece of the first title. As a result, it is often a considerable challenge to discern whether a work marked 'U.A.' by Montefani did or did not originally belong to Aldrovandi in its various elements. This point was not always well understood by later cataloguers. For instance, Lodovico Frati's catalogue of BUB Latin manuscripts indicates that MS 723 (with works of Agostino Gallesi on Aristotle's *Posterior Analytics* and *Ethics*) was owned by Aldrovandi.⁷⁷ However, Gallesi does not even appear in MS Aldrov. 147, and the manuscript in question contains none of the usual marks of Aldrovandi's ownership. Frati may have been influenced by Montefani, who listed works by Gallesi and others among the 'Aldrovandi' manuscripts.⁷⁸ These included lectures on logic delivered in San Salvatore, but they are clearly dated to three years after Aldrovandi's death.⁷⁹ Montefani's markings also seem to lie at the basis of several records of the BUB's electronic catalogue. An advanced search specifying 'Aldrovandi' as owner currently yields 3702 records in the electronic Catalogo del Polo Bolognese; 31 of these must be discounted, as they were published after Aldrovandi's death.⁸⁰ An examination of several remaining titles shows that on occasion the indications of Aldrovandi ownership are confirmed by a physical inspection of the volume in question, particularly when the writing on a volume's lower edge is in clear accordance with Aldrovandi's usual practices.⁸¹ On other occasions, however (particularly

⁷⁷ Frati, *Indice dei codici latini*, p. 255. On Gallesi's *Notanda in libros Ethicorum Aristotelis duos*, see David A. Lines, *Aristotle's 'Ethics' in the Italian Renaissance (ca. 1300–1650): The Universities and the Problem of Moral Education* (Leiden: Brill, 2002), pp. 301–3.

⁷⁸ See MS 4110-III.

⁷⁹ See MS 4110-III, fol. 63r: Dialaiti is indicated as the author of lectures on logic heard by a Stephanus Capponius in 1608.

⁸⁰ <http://sol.unibo.it/SebinaOpac/Opac> (12 April 2014).

⁸¹ An example is the volume with shelfmark A.V.Y.X.41, which was a miscellany already in Aldrovandi's time (as can be observed from the volume's lower edge) and contains the following works, all of which are correctly registered in the electronic catalogue and appear also in MS Aldrov. 147: (1) Conrad Neobarus, *De inveniendi argumenti disciplina libellus* ... (Paris: Christian Wechel, 1536), with Aldrovandi's autograph *ex libris*; (2) [Claudius Berthotius], *Sermocinales artes Roberti Vannucci Fiorentini ubi de dialectica atque grammatica tractatur, eiusdem Dialogus de arte sermocinali, eiusdem carmina* (Venice: Cominus de Tridino Montisferrati, 1545); (3) *Dialectica Progymnasmata, quibus cum omnia philosophiae instrumenta, tum maxime eius quae rationalis dicitur, elementa continentur* (Paris: Vivantius Gautherot, 1543); (4) Petrus Ramus, *Aristotelicae animadversiones* (Lyon: Godefridus & Marcellus Beringi, 1545); (5) Aristotle, *Categoriae, nunc denuo ab interprete Ioachimo Perionio Cormoeriaceno benedictino recognitae: una cum scholijs Gerardi Matthisij Geldrien* (Cologne: Peter Horst, 1551); (5 bis) *Divi Thomae Aquinatis de natura et essentia rerum libellus (quem vulgo de ente et essentia vocant) ... Libellus verae philosophiae candidatis utilissimus est, ut qui Metaphysicae scientiae iuxta ac Dialecticae principia exquisitissime explanat* (Cologne: Peter Horst, 1551); (6) Bernardinus Tomitanus, *Introductio ad Sophisticos elenchos Aristotelis* ... (Venice: Bartholomeus Imperator and his son-in-law Franciscus, 1544). Montefani did not dismember this volume, probably since it already consisted of a miscellany of works on logic.

when a volume lacks markings on its lower edge and other signs of Aldrovandi's ownership) making a judgement can be very difficult.⁸² Nevertheless, for some records the indications of the electronic catalogue do not appear well founded and must therefore be treated cautiously.⁸³ And a few Aldrovandi books do not appear in the electronic catalogue at all.⁸⁴ Such challenges have so far prevented a thorough identification of Aldrovandi books in the BUB, and no precise numbers are therefore currently available.⁸⁵ It is possible, however, that a smaller portion of Aldrovandi's original collection has survived in the BUB than is usually assumed.⁸⁶ Only a careful examination of individual book copies will confirm whether or not this is the case.

3. Aldrovandi's recording of others' library catalogues

As his notes on libraries indicate, Aldrovandi was well acquainted with the collections of his time, some of which he had had a chance to see. In the 1570s he toured a number of cities, including Padua, where he saw the libraries of Pinelli and Girolamo Mercuriale (1530–1606), among others.⁸⁷ Aldrovandi then praised Pinelli's collection for encompassing all sorts of books in Greek and Latin and including an impressive number of ancient manuscripts.⁸⁸

In Rome, Aldrovandi was privileged to visit the Vatican library, which was closely guarded by its librarian, Cardinal Sirlerto (1514–1585), one of Aldrovandi's correspondents; he was also given access to its library catalogue.⁸⁹ In his hometown, Aldrovandi visited numerous collections both private and

⁸² See, for instance, the volumes with shelfmarks A.V.Z.XIV 33 (3 items) and A.V.Tab.I.FI.4I3 (5 items), neither of which has writing on the lower edge or clear indications of Aldrovandi ownership beyond the first work, but all of whose titles appear in MS Aldrov. 147. In the case of the second volume, the lower edge was probably trimmed, so any signs of Aldrovandi ownership there have been lost.

⁸³ See the volume with shelfmark A.V.Tab. I.D.I. 325: the electronic catalogue attributes Aldrovandi ownership to two items that do not even appear in MS Aldrov. 147, namely Bernardino Crippa, *In Aristotelis librum de animalium motu ab eo latine redditum ecphrases* (Venice: Gratius Perchacinus, 1566), and Archimedes, *De insidentibus aquae . . .* (Venice: Curtius Troianus, 1565), apparently on the basis of Montefani's assignation. More likely to have belonged to Aldrovandi is *Iordani opusculum de ponderositate, Nicolai Tartaleæ studio correctum* (Venice: Curtius Troianus, 1565): a book in this edition is listed in MS Aldrov. 147, but does not clearly correspond to this specific copy.

⁸⁴ See Aristotle, *Ethici seu morales libri philosophorum principis Aristotelis interprete Joanne Argyropylo. . . et aristotelico more ab Antonio Silvestre expositi* (Paris: Badius Ascensius, 1517), 8^o, in A.IV.Q.XI.II.

⁸⁵ Over the past few years, a project to check the various works listed in MS Aldrov. 147 against BUB's holdings was begun by several of the library staff, in particular Maria Cristina Bacchi. Given her recent retirement the project is now at a standstill. Scholars can consult a four-volume photocopy of MS Aldrov. 147 available in the manuscript reading room and bearing notes and identifications relative to various items (including shelfmarks) by Bacchi, Patrizia Moscatelli, and others. However, only a fraction of the items has been identified to date.

⁸⁶ For further comments on this point, see Lines, 'A Library for Teaching and Study'.

⁸⁷ MS Aldrov. 136, vol. 5, fols. 188r–190r, vol. 13, fols. 62v–83v.

⁸⁸ MS Aldrov. 83, vol. 1, fol. 191r.

⁸⁹ François Rigolot, 'Curiosity, Contingency, and Cultural Diversity: Montaigne's Readings at the Vatican Library', *Renaissance Quarterly*, 64 (2011), 847–74, and MS Aldrov. 136, vol. 6, fols. 105r–113v.

belonging to religious orders such as the congregation of San Salvatore, whose collection was rich in manuscripts on numerous subjects, and the San Domenico library, the oldest and largest library in Bologna.⁹⁰

These visits were at the core of the naturalist's method of learning about natural specimens, museum objects, and books. Aldrovandi took notes almost exclusively on items he did not own himself, and it may have been through these collections that he found manuscripts that he then recopied among his own. Such recording, however, was not simply intended to be used for potential future acquisitions but also to serve as a catalogue for one's personal use. The naturalist, indeed, advised collectors to write subject catalogues recording their own books as well as books owned by others so that they could consult them when needed.⁹¹

Aldrovandi compiled his lists of books either by consulting library catalogues written by their owners or by browsing books on shelves.⁹² The lists he made by strict alphabetical order of names were likely based on his reading of catalogues similar to his own. Depending on the size of a collection and how much time he had to access it, the naturalist might record only a few or several hundred titles. Sometimes Aldrovandi copied out whole sections or indexes of books read in others' libraries that he could then use for his subject catalogue.⁹³ His notes reveal the multiplicity of arrangements chosen by collectors for their books, reflecting on the various interpretations of the term *biblioteca*—recorded in Aldrovandi's 'Bibliologia' (MS Aldrov. 83)—which could signify a collection of books, the piece of furniture or place where books were stored.⁹⁴ In some cases, collectors housed their books alongside objects, following the early Renaissance style for studios; in others they dedicated a piece of furniture or a space to them. Some owners mixed printed books and manuscripts while others had catalogues dedicated to their manuscripts collection, some of which included bibliophilic manuscripts on vellum.⁹⁵

Despite the diversity of settings, these notes show that Aldrovandi's classification schemes reflected the organizational methods of contemporaneous book collections. They also point to the growing division between physical and intellectual arrangements of books due to the increasing size of private libraries: catalogues represented an ideal classification more and more difficult to implement on the shelf.

⁹⁰ MS Aldrov. 83, vol. 1, fol. 191r and MS Aldrov. 136, vol. 31, fol. 71r. See also Venturino Alce and Alfonso D'Amato, *La Biblioteca di S. Domenico in Bologna*, 2 vols (Florence: Olschki, 1961).

⁹¹ 'q[ue]sto puo servir non solo a sua bibliotheca m'ancora a molti altri libri, che non sono in potesta nostra ma in qualche biblioteca per poterli veder quando vuole'. See Ventura Folli, 'La natura "scritta"', p. 506.

⁹² For example, Aldrovandi noted books in Bartolomeo Roberti's library 'at the bottom of a closet' ('in fondo armarii'); MS 136, vol. 5, fol. 312v.

⁹³ MS Aldrov. 136, vol. 5, fol. 188r.

⁹⁴ MS Aldrov. 83, vol. 1, fols. 82–86.

⁹⁵ See for example MS Aldrov. 136, vol. 5, fol. 312v and vol. 6, fols. 41r–45v.

Aldrovandi's notes did not necessarily reproduce the order of the books as he saw them on shelves or as they were listed in catalogues. On the shelf, Pinelli organized his books by language and date, separating ancient from modern authors; but Aldrovandi's notes list Pinelli's books by the author's name or title in alphabetical order; they also mix together works written in different languages and in various formats.⁹⁶ Aldrovandi may have consulted one of the collector's indexes listing all his books to make his own list or he may have rearranged the books in a convenient way for him.

Indeed, Aldrovandi sometimes appears to have rearranged titles in an order specific to his own use, probably in conjunction with his author catalogue. Hence, he listed the titles of books from Mercuriale's library in a different order from that in the existing catalogue.⁹⁷ Shortly after the physician moved to Bologna in 1587, Aldrovandi visited him and took notes on over 500 titles in his library.⁹⁸ Mercuriale organized his collection of about 1170 books into four areas: medicine, philosophy, humanities, and theology, following a classification similar to the one suggested by Aldrovandi. In his notes Aldrovandi listed Mercuriale's books following these four categories but arranged the titles by author name, which the physician had not done.

Sometimes Aldrovandi's notes are less methodical, as in the case of his lists of books from Carlo Sigonio's library of about 700 titles. The naturalist seems to have browsed Sigonio's shelves rather than a library catalogue, which, in any case, may not have existed. His notes are organized by title, roughly in format order, probably following their arrangement on the shelf.⁹⁹ This organization corresponds to an inventory of Sigonio's library made after his death.¹⁰⁰

The Bolognese collection Aldrovandi was the most familiar with was that of the bishop Gabriele Paleotti.¹⁰¹ As mentioned earlier, the two men were close friends and had collections of similar size but different contents: while Aldrovandi's was centered on his exploration of the natural world, Paleotti's was at the core a clerical collection.¹⁰² Although Aldrovandi remarked on the wide range of books included in Paleotti's collection, he also noted its

⁹⁶ MS Aldrov. 136, vol. 5, fols. 189r-190r.

⁹⁷ Jean-Michel Agasse, 'La bibliothèque d'un médecin humaniste: L'index librorum de Girolamo Mercuriale' in *Les Cahiers de l'Humanisme* (Paris: Klincksieck), tom. III-IV (2002-3), 201-53.

⁹⁸ MS Aldrov. 136, vol. 13, fols. 59v-61r, 62r-84r.

⁹⁹ 'Catalogus librorum ex bibliotheca Ca. Sigonii', MS Aldrov. 136, vol. 6, fols. 19r-v, 33r.

¹⁰⁰ Luigi Simeoni, 'Documenti sulla vita e la biblioteca di Carlo Sigonio' in *Studi e memorie per la storia dell'Università di Bologna*, 11 (1933), 185-262.

¹⁰¹ On Paleotti see Paolo Prodi, *Il Cardinale Gabriele Paleotti (1522-1597)*, 2 vols (Rome: Edizioni di storia e letteratura, 1959 and 1967).

¹⁰² Bologna, Biblioteca Comunale dell'Archiginnasio, MS B 1348, 'Catalogus bibliothecae illustrissimi et reverendissimi Domini Gabrielis Paleotti . . . Anno salutis. MDLXXXVI.'; see *Inventari dei manoscritti delle biblioteche d'Italia*, vol. 79, ed. by Fausto Mancini (Florence: Leo S. Olschki, 1954), p. 16. See also G. Montecchi, 'La biblioteca arcivescovile di Bologna: dal card. Paleotti a papa Lambertini', in *Produzione e circolazione libraria* (Bologna: Istituto per la storia di Bologna, 1987), pp. 369-82.

specialization in theology.¹⁰³ As a matter of fact, Aldrovandi took notes mainly on titles in this subject.¹⁰⁴ Despite his own empirical investigations of nature in his botanical garden and with his herbaria, Paleotti was best informed on the theological matters of the time as an active Church member who had taken part in the Council of Trent and was working on a reform of the clergy. His collection, therefore, seems to have best served Aldrovandi as a source of information on religious titles.¹⁰⁵

The two collections shared similar features: they mixed printed books and manuscripts; and Paleotti placed some of his books in closets each with a letter, similar to Aldrovandi's shelving system in his 'dark room'.¹⁰⁶ Aldrovandi praised Paleotti's organization method, which he felt made it easy to locate books.¹⁰⁷ Perhaps the bishop shelved his books in each closet by format and subject, following the system suggested by Aldrovandi, and similarly to the method used for the Biblioteca Arcivescovile. While some of Aldrovandi's notes were written by browsing shelves, and are not organized in a systematized way, in 1579 the naturalist copied titles in the bishop's collection that he did not own. This list, over a hundred leaves long, became a partial catalogue of Paleotti's collection, with titles listed by author's name, that Aldrovandi kept among his books and manuscripts in his library.¹⁰⁸

4. *Building a Collection*

This section of the article analyses the different networks Aldrovandi used to learn about and obtain books, the nature of his transactions with different suppliers and the role they played in the formation of his library. Finally, it examines how Aldrovandi's methods of investigating nature were also useful for compiling information about and managing his book acquisitions.

Early on in his life, Aldrovandi acquired books through purchase and family inheritance.¹⁰⁹ It was in the 1550s, shortly after starting his museum collection, that he began actively acquiring books. His notes about the titles he considered for purchase or that he did purchase are scattered among his thirty-two volumes of notebooks, catalogued under the call number MS Aldrov. 136.

¹⁰³ MS Aldrov. 83, fols. 190r–191v.

¹⁰⁴ MS Aldrov. 136, vol. 5, fols. 310r–312v, 350r–351v, and vol. 6, fols. 198r–200v.

¹⁰⁵ MS Aldrov. 136, vol. 5, fols. 310r–311v.

¹⁰⁶ See for example 'libri ex bibliotheca nova illustrissimi Cardinalis Paleotti in quatuor primas capsulas', MS Aldrov. 136, vol. 9, fols. 34r–35v.

¹⁰⁷ MS Aldrov. 83, vol. 1, fols. 190r–191v.

¹⁰⁸ MS 120.6. This must be the catalogue listed in Aldrovandi's library catalogue as Paleotti's 'Bibliotheca manuscripta', Aldrov. MS 147, vol. 1, fol. 220v.

¹⁰⁹ Bacchi, 'Ulisse Aldrovandi e i suoi libri', p. 313. A book owned by Aldrovandi as a student is currently on sale at Martayan Lan's in New York, Martayan Lan, *Rare Books, Maps and Manuscripts, Catalogue 50* (New York: Martayan Lan, 2013), item 38, pp. 98–99.

Throughout his life, the Bolognese scholar relied on a group of well-organized and successful professionals who supplied him regularly with the books he wished to acquire for his collection.¹¹⁰ The Venetian Vincenzo Valgrisi (active 1539–1573) and the Giunti firm with offices in both Venice and Florence—two of the most important dealers of the sixteenth century—transacted business with him.¹¹¹ Later the Venetian dealers Francesco de Franceschi (active 1558–1599) and, in the late sixteenth century, Giovanni Battista Ciotti (1583–1621) played an important role as Aldrovandi's book suppliers. The book collector also enlisted the help of Bolognese dealers who could offer him a wide range of works published in Italy and elsewhere, including titles sold at the Frankfurt book fair.¹¹²

Aldrovandi visited bookshops in Bologna and in other cities—such as the Giunti bookstore in Florence that he toured in the 1570s—and through these visits established personal contacts with book dealers.¹¹³ As well, these excursions were a means of inspecting books to make sure they were what he wanted at a time when book collectors were increasingly suspicious of the marketing techniques used by publishers and authors to appeal to their customers.¹¹⁴

Booksellers and their agents also visited Aldrovandi and brought him books. Valgrisi, for instance, sent his son Felice to Bologna and later thanked Aldrovandi for having 'trained' him.¹¹⁵ During their visits, dealers must have had the opportunity to tour Aldrovandi's museum and library, which would have been instrumental in shaping their offers to the collector. Thanks to his dealers' networks and the speed at which bookstores were supplied by their distributors, Aldrovandi was able to receive books a few months after their printing.¹¹⁶

However, booksellers and printers were not Aldrovandi's only suppliers of books. As a matter of fact, his notes and correspondence point to the deficiencies of the book trade, such as the problems of transportation and the limits of what dealers could offer to collectors. Booksellers simply were

¹¹⁰ On Aldrovandi's bookdealers see Ventura Folli, 'La natura "scritta"', pp. 495–506 and Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 295–99.

¹¹¹ MS Aldrov. 136, vol. 7, fol. 130v; fols. 276r–277r.

¹¹² Caroline Duroselle-Melish, 'A Local-Transnational Business: The Book Trade in Late Renaissance Bologna', in *Bologna: Cultural Crossroads from the Medieval to the Baroque. Recent Anglo-American Scholarship*, ed. by Gian Mario Anselmi, Angela De Benedictis, Nicholas Terpstra (Bologna: Bononia University Press, 2013), pp. 27–42.

¹¹³ MS Aldrov. 136, vol. 6, fols. 88v–93v.

¹¹⁴ *Une correspondance entre deux humanistes: Gian Vincenzo Pinelli et Claude Dupuy*, ed. by Anna Maria Raugé (Florence: L. S. Olschki, 2001) vol. 1, p. XIX.

¹¹⁵ Letter from Vincenzo Valgrisi to Ulisse Aldrovandi (23 May 1558), MS Aldrov. 38, fol. 278r–v.

¹¹⁶ For a detailed example of the speed at which bookstores were supplied see Kevin M. Stevens, 'Venetian Invoices (1563) as a Source for Understanding the Commercial Book Trade' in *The Books of Venice*, ed. by Lisa Pon and Craig Kallendorf (Venice: La Musa Talia: Biblioteca Nazionale Marciana; New Castle, DE: Oak Knoll Press, 2009), p. 280. See also Bacchi, 'Ulisse Aldrovandi e i suoi libri', pp. 294–99. On the Italian booktrade see also Angela Nuovo, *The Book Trade in The Italian Renaissance*, trans. by Lydia G. Cochrane (Leiden and Boston, MA: Brill, 2013).

neither aware of, nor able to import all the books printed throughout Europe. As a result, Aldrovandi's correspondents asked for his assistance in obtaining books that even dealers such as Valgrisi were unable to find.¹¹⁷ Records of these deficiencies also appear in other collectors' correspondence; for instance, in Gesner's letters to his friends, he often described how he had requested books that dealers could not find for him.¹¹⁸

The community of naturalists, which in many ways functioned as a society of mutual aid, was thus an important alternative to dealers in finding and acquiring books.¹¹⁹ Aldrovandi, like others, made great use of it. His correspondents and informers, who were from all over Europe, were wealthy apothecary-collectors, physicians and university professors, botanists with court appointments, and princes.¹²⁰ In addition, Aldrovandi had a lasting relationship with his students, many of whom were from Northern Europe. He often relied on them to find specimens and books when they were back in their home country.¹²¹

Aldrovandi and his correspondents would ask one another for help in finding a printer or selling a friend's work, and recommended booksellers to one another: with his contacts in the book trade Aldrovandi could be a useful intermediary between authors and booksellers. For this reason, the Roman physician Ippolito Salviani (1514–1572) asked him to find a suitable bookseller in Bologna to sell copies of his book on fish.¹²² And in 1554, Aldrovandi contacted Valgrisi to find out whether Valgrisi could print a philosophical text written by a physician who was a friend of the Bolognese scholar.¹²³

The most frequent assistance either provided or requested, however, had to do with the acquisition of books. Naturalists wrote to each other mainly about books dealing with the study of nature. This was not surprising as they were deeply invested in (and the best informed on) the subject. The

¹¹⁷ For example see the letter from Alfonso Pancio to Ulisse Aldrovandi (25 September 1568), in Fantuzzi, *Memorie*, pp. 235–37.

¹¹⁸ Conrad Gesner, *Vingt lettres à Jean Bauhin fils (1563–1565)*, traduites par Augustin Sabot, présentées et commentées par Claude Longeon ([Saint-Étienne]: Publications de l'Université de Saint-Étienne, 1976). See also Grendler, 'A Greek Collection in Padua' and Maria Teresa Biagetti, 'La Biblioteca di Federico Cesi. Un progetto di ricostruzione', in *Le biblioteche private come paradigma bibliografico*, pp. 95–103.

¹¹⁹ See Angela Nuovo, 'The Creation and dispersal of the Library of Gian Vincenzo Pinelli', in *Books on the Move: Tracking Copies and the Book Trade*, ed. by Robin Myers, Michael Harris, and Giles Mandelbrote (London: British Library, 2007), p. 45.

¹²⁰ Paula Findlen, 'The Formation of A Scientific Community: Natural History in Sixteenth-Century Italy' in *Natural Particulars: Nature and the Disciplines in Renaissance Europe*, ed. by Anthony Grafton and Nancy Siraisi (Cambridge, MA: MIT Press, 1999), pp. 369–400.

¹²¹ Paula Findlen, 'The Economy of Scientific Exchange in Early Modern Italy', in *Patronage and Institutions: Science, Technology, and Medicine at the European Court 1500–1750*, ed. by Bruce T. Moran (Rochester, NY: Boydell Press, 1991), p. 7.

¹²² Laurent Pinon, 'Clematite bleue contre poissons séchés: sept lettres inédites d'Ippolito Salviani à Ulisse Aldrovandi', in *Mélanges de L'École française de Rome (Italie et Méditerranée)*, 114 (2002), 477–92.

¹²³ Letter from Vincenzo Valgrisi to Ulisse Aldrovandi (Venice, 21 May 1554), MS Aldrov. 38, vol. 1, fol. 277r–v.

letters that circulated among the naturalists resulted in a sharing of more book-buying information than any one of them could have received from any one book dealer.

Novelty and rarity characterized the books mentioned to Aldrovandi: only distinct works were worth mentioning to a collector who already had a good network of dealers. Aldrovandi's correspondents sent him information about new titles that they had just seen, heard of, or read. They provided him with descriptions of hard-to-find books, such as works printed in Arabic, or in far-away countries that they had visited: in one case, a friend who was on his way to Moscow on a diplomatic trip sent the titles of books that he had seen in Poland.¹²⁴ Aldrovandi's correspondents also reported on magnificent manuscripts of plants that only princely collectors could afford, such as a manuscript including over a thousand images of plants from the New World, acquired by Granduke Francesco I de' Medici (1541–1587).¹²⁵

Correspondents sent each other descriptions of collections they had visited. Aldrovandi regularly received such descriptions and reciprocated by sending detailed accounts of the items he had seen in various collections. His friends were also keen on sending him information on works concerning subjects close to his research of the moment, such as theriac, an all-purpose medicinal antidote made from a complex of natural substances—which Aldrovandi published a book on in 1574.¹²⁶ News about books not yet printed was especially precious. Authors therefore sent reports on the progress of their own works. The famous Sieneese physician Andrea Mattioli (1501–1577) is a case in point as he regularly gave Aldrovandi detailed updates about the writing and printing stages of the various editions of his commentary on Dioscorides's treatise on plants.¹²⁷ No doubt Mattioli expected this information not to remain private but instead to be forwarded to others by Aldrovandi, as indeed it was. Other authors shared the status of their works with the Bolognese naturalist who, in return, sent information about his own writing projects. Such exchanges maintained correspondents' interest in one another's work and built up their expectations: the apothecary from Rimini Costanzo Felici (1525–1585), for example, wrote that he could not wait to read Aldrovandi's book on theriac.¹²⁸

Correspondents also expressed through their letters discerning judgments on others' works, in order to appear to be worthy scholars and book collectors. Felici frequently reported to Aldrovandi on the style and content

¹²⁴ MS Aldrov. 136, vol. 11, fols. 137r–v, 161v.

¹²⁵ Letter from Girolamo Mercuriale to Ulisse Aldrovandi (16 June 1599), in *Ulisse Aldrovandi e la Toscana*, pp. 428–29.

¹²⁶ Ulisse Aldrovandi, *Antidotarii Bononiensis, sive de usitata ratione componendorum, miscendorumque medicamentorum, epitome* (Bologna: Joannes Rossius, 1574).

¹²⁷ Carlo Raimondi, 'Lettere di P.A. Mattioli ad Ulisse Aldrovandi', in *Bullettino senese di storia patria*, XIII.1–2 (1906), 121–85.

¹²⁸ Letter to Ulisse Aldrovandi (10 March 1572), in Costanzo Felici, *Lettere a Ulisse Aldrovandi*, ed. Giorgio Nonni (Urbino: Quattro Venti, 1982), pp. 140–43.

of works he was reading, such as a new book on plants written by the Dutch physician and botanist Rembert Dodoens (1517–1585) that he had just read.¹²⁹ In another letter, he mentioned how much he liked Carolus Clusius's Latin translation of a Portuguese work on Indian spices, including specimens never previously described but observed by the author 'with his own eyes'.¹³⁰ Likewise Aldrovandi wrote to Clusius (1526–1609) how much Pierre Belon's book on birds written in French was to his taste and how he wished it were written in Latin so that it would be accessible to a wider audience.¹³¹

Naturalists often asked Aldrovandi for his opinion about books, just as they did about plants. The apothecary Francesco Calzolari (1521–c. 1600), for example, having just received a new book on theriac, asked Aldrovandi for his judgement on it.¹³² Aware of Aldrovandi's vast network of friends, Felici enquired about Aldrovandi's opinion of a newly printed book on plants that he thought the Bolognese collector might have had a chance to see while it was still in the workshop since he was a friend of the author.¹³³ The same Felici sent parts of his book on mushrooms to Aldrovandi as he had great confidence in the scholar's judgement and wished for the Bolognese scholar to be his first reader: Felici's request was not devoid of flattery and reflected both his social and intellectual rank within the naturalist community. As a matter of fact, correspondents often praised Aldrovandi's work and collections, including his library, and they made sure to report when they had praised his work to others, perhaps expecting a service or favour in return.¹³⁴

But epistolary exchanges were also the conduit through which quarrels took place. Mattioli thanked Aldrovandi not only for praising his work to other naturalists but also for defending him against critics. In return he kept the Bolognese naturalist informed of newly published books that spoke well of Mattioli's own work, such as a new treatise written in response to the attacks against him made by the Portuguese naturalist Amato Lusitano (1511–1568). However, critics of Mattioli were also friends and correspondents of Aldrovandi, like the botanist Melchior Guilandini (c. 1519–1589), who sent Aldrovandi a number of exotic plants and detailed reports about observations he had made in Egypt. Guilandini wrote that he could not mention all the errors in the works of ancient and modern writers on the

¹²⁹ Letter to Ulisse Aldrovandi (29 March 1570), in Felici, *Lettere a Ulisse Aldrovandi*, pp. 125–26.

¹³⁰ Letter to Ulisse Aldrovandi (10 March 1572), in Felici, *Lettere a Ulisse Aldrovandi*, pp. 140–43.

¹³¹ Ulisse Aldrovandi to Carolus Clusius (3 April 1590), University of Leiden Library, VUL 101 / Aldrovandi, U_005. Perhaps here, Aldrovandi was indirectly asking Clusius to translate this work aware of the botanist's translating work see Paula Findlen, 'Natural History' in *The Cambridge History of Science, Early Modern Science*, ed. by Katharine Park and Lorraine Daston (Cambridge: Cambridge University Press, 2008), III, 452.

¹³² Letter to Ulisse Aldrovandi (9 December 1571), MS Aldrov. 38, vol. 3, fols. 58r–59r, <http://www.filosofia.unibo.it/aldrovandi/pinakesweb/main.asp?language=it>

¹³³ Letter to Ulisse Aldrovandi (22 March 1559), in Felici, *Lettere a Ulisse Aldrovandi*, pp. 48–49.

¹³⁴ His correspondents reported when they had praised him to potential patrons; see, for example, the letter from Francesco Patrizi to Ulisse Aldrovandi (n.d.), MS Aldrov. 136, vol. 19, fols. 149v–150r.

flora from that part of the world as they were so numerous, and he did not hesitate to point out Mattioli's errors.¹³⁵ In response, Mattioli made clear that he was aware of Aldrovandi's relationship with his enemy. The Sieneese physician also sent a reference to a newly published book that defended him against the criticisms of another correspondent of Aldrovandi, Luigi Anguillara (1512–1570), whom Mattioli described as 'a nasty beast'.¹³⁶

News about books, like news about plants, was carefully transcribed by Aldrovandi into his notebooks under the rubric entitled 'I saw' ('vidi'), 'I record' or 'I record seeing' ('ricordo'). The same words were also frequently used by his correspondents and reflect how direct observation was applied not only when studying the natural realm but also when learning about books.

Aldrovandi's notes often include made up of lists of titles sent by correspondents. These frequently specify the provenance and the printing place of books, reflecting the concern for localized descriptions that was promoted by naturalists of Aldrovandi's generation. This gathering of information generated, in turn, a second stage in Aldrovandi's recording-of-information process: now in his notebooks he added the headings 'I desire' ('cupio'), or 'I desire to have' ('cupio habere'). His letters—as well as those of his correspondents—were infused with the urgent need to possess. Hence Aldrovandi wrote to Granduke Francesco de' Medici that he would like 'very, very much' to learn about the plants in his garden.¹³⁷ Mattioli, who was waiting for a copy of Aldrovandi's catalogue of plants, wrote that 'every hour felt as long as hundred years'.¹³⁸ Naturalists were well aware that they could not afford everything they wanted, so they desired information as much as the objects themselves. Aldrovandi often contented himself with descriptions of items, which he would then include in his writings.

His wish lists could generate requests that he sent to various correspondents. This was the most efficient way of publicizing what one was searching for, and it was a crucial step toward obtaining what one wanted. In a letter to Clusius, Aldrovandi praised their friendship before asking the Dutch botanist to send him plants and his most recent book on the Spanish flora.¹³⁹ In another letter, Aldrovandi wrote to Joachim Camerarius (1534–1598): 'I hear about a book on insects written in the vernacular by an English man. If you have seen it, write about it at length . . . for I have in my studio more than six hundred insects depicted with their colors, which I have been collecting

¹³⁵ Letters from Melchior Guilandini to Ulisse Aldrovandi, in Fantuzzi, *Memorie*, pp. 219–25.

¹³⁶ 'questa bestaccia', letter to Ulisse Aldrovandi (1 June 1561), in Raimondi, 'Lettere di P.A. Mattioli ad Ulisse Aldrovandi', p. 174.

¹³⁷ Letter to Francesco I de Medici (26 April 1583), in *Ulisse Aldrovandi e la Toscana*, pp. 276–77.

¹³⁸ Letter to Ulisse Aldrovandi (27 September 1553), in Raimondi, 'Lettere di P. A. Mattioli ad Ulisse Aldrovandi', pp. 133–34.

¹³⁹ Letter to Carolus Clusius (8 February 1569), University of Leiden Library, VUL 101/Aldrovandi, U_001.

for many years'.¹⁴⁰ By then the Bolognese naturalist was working on a book about insects and had compiled a list of titles on the subject to be used in his work. His request may refer to the manuscript of *Theatrum insectorum* written by Thomas Penny and completed by Thomas Moffett in 1589 upon Penny's death but only published in 1634.¹⁴¹ Aldrovandi's knowledge of this work exemplifies how members of the republic of letters circulated news about works both in manuscript and in printed form. In turn, Aldrovandi sent descriptions of books to his correspondents; these sometimes led to purchases. The apothecary Felici was reported to have been so taken by Aldrovandi's description of Ippolito Salviani's book on fish, *Aquatilium animalium historiae*, that he ordered a copy for himself.¹⁴² While correspondents' letters often seem to answer Aldrovandi's requests directly, they did not hesitate to send him their own wish lists, which were, in turn, recorded in his notebooks.

Aldrovandi used the same method with book dealers. He sent requests to his suppliers, who sent him quotations or lists of books of potential interest to him. Lists were not only sent by faraway dealers but also by local ones. They were then transcribed in Aldrovandi's notebooks.¹⁴³ These lists included the same range of bibliographical information—either short titles broadly arranged by subjects or more descriptive ones with title page information—as printed catalogues did, such as those of Plantin that were owned and transcribed by Aldrovandi.¹⁴⁴ The format, which differentiated one edition from another and affected the price of the book, was sometimes included, but the price was rarely mentioned as it varied from one customer to another and was fixed by considerations of supply and demand; being an excellent customer, Aldrovandi must have benefited from discounts.¹⁴⁵

Aldrovandi's requests to his correspondents show that he was directly engaged in the selection and the search for items for his collections. He had a coherent intellectual conception of his collections that he could explain to correspondents and visitors. His notes on books are often written in his own hand rather than in his secretaries'. Similarly, he personally conducted transactions with dealers. One finds memoranda in his notebooks such as, 'Write a note to Venice to find a Plutarch on Homer in Greek printed in Germany', pointing to the fact that Aldrovandi was very much in control of the selection of his books.¹⁴⁶ Dealers did not shape his interests or tastes but

¹⁴⁰ Letter to Joachim Camerarius (8 October 1590), in *Briefsammlung Trew* (Erlangen: Harald Fischer, 2007), consulted through http://www.haraldfischerverlag.de/hfv/trew_briefe_engl.php

¹⁴¹ See Janice Neri, *The Insect and the Image: Visualizing Nature in Early Modern Europe, 1500–1700* (Minneapolis: University of Minnesota Press, 2011), pp. 45–46.

¹⁴² Letter to Ulisse Aldrovandi (26 February 1558), in Felici, *Lettere a Ulisse Aldrovandi*, pp. 43–44.

¹⁴³ For example see the list of books expected by Aldrovandi from Valgrisi, MS Aldrov. 136, vol. 5, fols. 375r–376r.

¹⁴⁴ MS Aldrov. 136, vol. 9, fols. 316v–317v.

¹⁴⁵ Bacchi, 'Ulisse Aldrovandi e i suoi libri', p. 298.

¹⁴⁶ MS Aldrov. 136, vol. 11, fol. 174r.

mainly responded to his demands. Over time, they must have come to know his collection well and prepared for him lists of items corresponding to his interests or to the works he sought to acquire.

The next phase of records in Aldrovandi's notebooks dealt with the responses of his correspondents and dealers under the headings 'I am promised' ('promissus sum') and 'I am awaiting' ('aspetto'). In some cases, correspondents bought books on his behalf and must have expected to be compensated for their purchases.¹⁴⁷ Aldrovandi also received gifts of books written by his correspondents and, in return, he sent copies of his own works as a sign of friendship. Gifts of books were the most tangible way to thank friends for their assistance with the production of one's own work, and they complemented the acknowledgements printed in the dedications of books. Mattioli mentioned in his letters that he had sent copies of his books to Aldrovandi in memory of their friendship and had acknowledged him in a new edition of his commentary.¹⁴⁸ In return Aldrovandi sent to the Siense botanist books on subjects he was working on at the moment. He made sure to acknowledge friends who had helped him with his research and kept lists of people to whom he needed to send copies of his works.¹⁴⁹ Like Mattioli, he let his correspondents know that he would acknowledge them: Ferrante Imperato (1550–1625) wrote to express his gratitude for the promise of being mentioned in Aldrovandi's book on theriac.¹⁵⁰

Sometimes books were sent as gifts in exchange for natural specimens. To thank Aldrovandi for the gift of a case of caustic, a certain Pietro Fumagalli sent him a copy of a book written by a professor of medicine at the University of Bologna.¹⁵¹ But books, here again, were not sent simply for acknowledgment. The Paduan Guilandini offered Aldrovandi a book in defense of his own work against Mattioli's criticism—certainly to ensure that the Bolognese naturalist was aware of both sides of the argument. Some authors sent copies of their own books, just as they sent descriptions of others, hoping for the patronage and support of the Bolognese naturalist, whose social and scholarly status was high enough to help them professionally. Aldrovandi himself gave copies of his works to current and potential patrons and even sent them copies with special features such as manuscript dedications or fancier bindings than the ones he had given to his less

¹⁴⁷ This method of acquisition was not unique to Aldrovandi as other collectors such as Pinelli or Federico Cesi, founder of the Accademia del Linceo, used their correspondents respectively in Paris and Prague to find books. See Anna Maria Raugei, 'Gian Vincenzo Pinelli e il contributo degli amici alla creazione di una grande biblioteca', and Maria Teresa Biagetti, 'Fisionomia scientifica e valore bibliografico della raccolta libraria di Federico Cesi' in *Le biblioteche private come paradigma bibliografico*, pp. 47–56 and pp. 97–106.

¹⁴⁸ Letters to Ulisse Aldrovandi (27 December 1553 and 17 February 1554), in Raimondi, 'Lettere di P.A. Mattioli ad Ulisse Aldrovandi', pp. 135–37.

¹⁴⁹ MS Aldrov. 136, fol. 215r–v.

¹⁵⁰ Letter to Ulisse Aldrovandi (10 July 1573), in Fantuzzi, *Memorie*, pp. 252–56.

¹⁵¹ Letter to Ulisse Aldrovandi (30 March 1565), in Fantuzzi, *Memorie*, pp. 239–40.

influential friends.¹⁵² Clearly, the Bolognese collector was aware of the importance of covering a book with an ornate binding when making a gift to an important patron.

Nonetheless, one should not exaggerate the quantity of books offered to Aldrovandi as it remained limited compared to the number of those he purchased. Printed books were commodities produced within an organized economic network, which, by Aldrovandi's time, had been perfected for over a hundred years. Collectors spent large sums of money to build their libraries and Aldrovandi, like other collectors, did not hesitate to mention this in his own work.¹⁵³ Moreover, in an economy of patronage, where scholarly status could not transcend social rank, Aldrovandi was not able to provide his correspondents with the same kinds of credit and rewards as could those princely collectors to whom it was recommended that they all send their work, in exchange for a service.

Once Aldrovandi had received the books he had purchased or been given, he inventoried them and sometimes listed them in his notebooks under the rubric 'habeo' ('I have' or 'ricordo d'haver'). These notes, along with the others previously mentioned, were the point of departure for his four library catalogues.

Conclusion

As we have seen, Aldrovandi was an extremely ambitious, learned and well-connected individual who was highly aware of the power of books, both in the culture of exchange that marked the early-modern Republic of Letters, but also as tools for his own scholarly projects and the cultural development of his native city of Bologna. Although his own collection was not the largest of his day, and his achievements were not necessarily exceptional when compared to some of his contemporaries, the wealth of documentation on his library (in terms of its holdings, disposition and development) is clearly unusual and something worth exploring further. It provides significant insights into Bolognese (but also, more broadly, sixteenth-century) learned culture and into the place occupied by books and libraries in the broader intellectual landscape. We hope that more scholars will join us as we continue our explorations, which ought to include a copy-by-copy examination of Aldrovandi's books held in the BUB. Much research still lies ahead, and is likely to shed further light on Aldrovandi's practices of book collection. What we can say already, though, is that Aldrovandi was not—as he is sometimes portrayed—a bibliophile, engaged in the acquisition of expensive,

¹⁵² Laurent Pinon, 'Portrait emblématique du parfait mécène: comment Ulisse Aldrovandi remercie le cardinal Montalto', in *Conflicting Duties: Science, Medicine and Religion in Rome, 1550–1750*, ed. by Maria Pia Donato and Jill Krave (London: Warburg Institute, 2009), pp. 59–79.

¹⁵³ Ulisse Aldrovandi, 'Præfatio ad lectorem', in idem, *Ornithologiæ, hoc est de avibus historiæ, libri XII* ... (Bologna: Francesco de Franceschi, 1599), fols. [¶] 2–5^v, and Fantuzzi, *Memorie*, pp. 67–85.

highly valuable books, whose purpose might be that of impressing his visitors. His taste in books to be bought was largely dictated by the practical considerations involved in the projects he was carrying forward.¹⁵⁴ Many of his books survive in durable (but not particularly impressive) bindings, which make quite a contrast with the expensive bindings often found in princely libraries. And the library itself was, as we have seen, separate from the museum, which was meant to welcome visitors, but also strongly connected to it both physically and intellectually. Its place within Aldrovandi's cultural enterprise strongly deserves further exploration.

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¹⁵⁴ See also Lines, 'A Library for Teaching and Study'.