

The Orrery books in Christ Church Library

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A portrait of Orrery hangs on the north side of the Hall.

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The man

Charles Boyle, 1674–1731

4th Earl of Orrery and 1st Baron Marston; scholar, soldier and statesman

Boyle was born on 28 July 1674¹ near Kensington, the youngest son of Roger Boyle, 2nd Earl of Orrery (1646–1682) and Lady Mary Sackville (1648–1710). He was brought up at the Sackville family seat of Knole in Kent.

He matriculated at Christ Church in 1690 and became a favourite of Dean Aldrich, who called him the ‘great ornament of our college’². His tutor was Francis Atterbury, Aldrich’s successor, and his sub-tutor was Robert Freind³.

Boyle graduated B.A. in 1694, ‘the only nobleman to take a degree from the college during a thirty-year period’. The following year saw his edition of the ‘Epistles of Phalaris’, inciting a quarrel with the Cambridge scholar Richard Bentley, to whom Boyle responded in print with the assistance of Atterbury.

Boyle (henceforth ‘Orrery’) succeeded as 4th Earl on the death of his brother in 1703. Between 1695 and 1699 he had represented Charleville, County Cork, in the Irish Parliament; he was M.P. for Huntingdon from 1701 to 1705. In 1711 he was created Baron Boyle of Marston in recognition of his military and diplomatic service during the War of the Spanish Succession.

Orrery married Elizabeth Cecil in 1706. A son, John, later 5th Earl, was born in 1707; Elizabeth died in 1708. Orrery had four children by his secretary’s wife.

As well as ‘Boyle against Bentley’, he wrote a play, *As you find it* (1703), contributed two verses to the *Oxford and Cambridge miscellany poems* (1708), and edited his grandfather’s plays, rewriting *The generall* as *Altemira*. He became a Knight of the Thistle in 1704 and Fellow of the Royal Society in 1706.

His Jacobite sympathies led to his imprisonment for seven months in the Tower of London, until his release on medical grounds in March 1723. Orrery died in August 1731⁴ in London and was buried in Westminster Abbey.

¹ The original *Dictionary of National Biography* gives Orrery’s year of birth as 1676. Most of the following account draws on the online version of the revised edition, the *Oxford DNB*.

² ‘Magnum Ædis nostræ ornamentum’: preface to *Artis logicæ compendium*, Oxford, 1691.

³ Handwritten note by the 5th Earl in his copy of the Epistles of Phalaris (Om.8.7a): ‘His Tutours were Dr Atterbury, since Bishop of Rochester, & Dr Robert Freind Master of Westminster School.’ The *Oxford DNB* confirms that for Atterbury, Boyle’s education ‘became his particular care’.

⁴ The *Oxford DNB* gives the date as 31 August in Orrery’s own entry and 28 August in that for his son; 28 August matches the date of his son’s letter in *The Orrery papers*, London, 1903, v. 1, p. 95.

The library

The name 'Orrery' conflates a bequest and a location. The gallery of the Upper Library at Christ Church was built to accommodate the bequest in 1731 of the personal library of Charles, 4th Earl of Orrery, which has subsequently been enlarged with many books from other sources.

Orrery's library is described by a modern biographer, Lawrence B. Smith, as follows: 'Ranked among the finest in England, it consisted of over 10,000 volumes and included works in English, Greek, French, Italian and Latin, as well as a complete set of *The Journals of the House of Lords*. Shortly after his death in 1731 it was noted that the collection ... was valued "some years" earlier at £8,000. Contemporaries numbered it as among the most valuable collections donated to Oxford in the eighteenth century, and this opinion has persisted'⁵. In the *Oxford DNB*, the same author writes that the library 'constitutes a comprehensive corpus of medical and scientific treatises between 1690 and 1730'; the collection is there estimated as '£10,000 worth of books'.

How did the collection start? Orrery described his literary routine as an undergraduate in a letter: 'My Bible and Euclid take up my morning; Caesar and exercise, Lysander and some French, my afternoon'⁶. According to Smith⁷, 'he attracted the attention of London booksellers while still at Oxford as a result of his efforts to acquire an extensive library. As early as 1692, the renowned printer and Kit-Cat Club founder, Jacob Tonson, supplied him with a newly-published copy of Dryden's controversial *Cleomenes*' which sadly appears not to have come with the bequest. Orrery hired another London bookseller, Thomas Bennet, to arrange the collation of the Phalaris manuscripts in 1693⁸.

Early ill health spurred Orrery's interest in medicine⁹. Eustace Budgell, Orrery's last secretary and uncritical biographer, recorded that 'The Lord Orrery, had so strong a Genius for *Physick* or *Medicine*, that he bought and read whatever was published on that subject; employed several Persons to send him an Account of Drugs and Herbs in foreign Countries; and prescribed, with Success, to many of

⁵ Smith, Lawrence Berkley. *Charles Boyle, 4th Earl of Orrery, 1674–1731*. Ph.D. dissertation, University of Edinburgh, 1994, p. 481.

⁶ *Ibid.*, p. 16. McGarvie (*The book of Marston Bigot*, Buckingham, 1987, p. 79) states that Orrery's 'own copy of *The Life of Lysander* is in the British Library': this is presumably the translation in MS Add. 10388, 'with the addition of some verses and speeches by Lord Orrery, and some memoranda respecting him, in the handwriting of his son, the Hon. John Boyle, 1730' (<http://www.bl.uk/catalogues/manuscripts/>).

⁷ Smith, p. 455.

⁸ *Ibid.*, p. 19.

⁹ *Ibid.*, p. 16.

his Friends, upon several Occasions.’¹⁰ But he did not collect indiscriminately: rather he ‘had generally speaking, but *one* good Edition, seldom or never more than *two* Editions of the *same Book*’¹¹. Orrery undertook no Grand Tour but his diplomatic postings to the Low Countries and Jacobite missions to Paris may have offered opportunities to purchase foreign books directly.

The seriousness of his scientific interests is difficult to gauge, as next to no information survives in the form of correspondence or annotations. In particular, it appears that he was never an active participant in the Royal Society despite his Fellowship¹². But collecting is itself an expression of interest and Orrery’s will shows pride in ‘having with great expense and trouble made a large collection of useful books, and of mathematical instruments, machines, optical glasses of value which I have carefully preserved for the benefit of posterity’¹³. The inventory of the bequest includes books published in 1731 (e.g. Ol.4.17), implying that Orrery continued collecting up to his death.

‘The primary challenge in Orrery’s particular case is how to assess, fully and reliably, the extent to which his intellectual, literary, and scientific pursuits were little more than casual diversions designed to fulfil the outward maintenance of a dilettanté’s reputation, or engaged in genuinely and conscientiously’¹⁴, in the words of Smith, who nonetheless concludes that ‘if Orrery was a relative failure in his own literary and scientific contributions, he should receive credit for his enlightened generosity and zeal as a collector’¹⁵.

Where did Orrery keep his books? His library appears to have been divided between addresses in town and country. Orrery’s son was born at his ‘house in Glasshouse Street, Westminster, on 2 January 1707’¹⁶, and Orrery is reported as renting lodgings in this street from 1717 until his imprisonment in 1722¹⁷; in particular, his biography at the Royal Society¹⁸ cites an address in the adjacent Vigo Lane in 1718. He inherited the estate at Marston Bigot in Somerset in 1714, which he used as a summer retreat, and later bought a home nearer London, Britwell House in Burnham, Buckinghamshire. His last home was in Downing Street, Westminster.

¹⁰ Budgell, Eustace. *Memoirs of the life and character of the late Earl of Orrery, and of the family of the Boyles*. London, 1732, p. 237.

¹¹ Budgell, p. 255.

¹² Smith, pp. 486–488.

¹³ McGarvie, p. 78.

¹⁴ Smith, p. 454.

¹⁵ *Ibid.*, p. 512.

¹⁶ McGarvie, p. 80.

¹⁷ Smith, p. 271.

¹⁸ Royal Society Sackler Archive (<http://www.royalsoc.ac.uk/>).

There were certainly books in both country houses. The grounds at Marston were laid out by the landscape gardener Stephen Switzer, who dedicated his *The practical fruit-gardener* to Orrery. In his magnum opus *An introduction to a general system of hydrostaticks and hydraulicks* (1729), Switzer writes as part of the conventional prefatory apology: 'the greatest Help that I had being out of the Library (tho' as yet unfinished) of my very worthy learned and noble Friend and Master, the right honourable the Earl of *Orrery*, at his seat at *Marston* in *Somersetshire*: But that noble Lord's collection in that Place being far short of what he intends, I could not be fully supply'd there.' Orrery's will mentions both homes in his request that 'all the books and instruments from his houses at Britwell and Marston' be left to Christ Church 'to be kept in a separate room for the use of students'¹⁹.

Detail of the library in town, meanwhile, is provided in Budgell's account of the events surrounding the bequest to Christ Church: 'The Legacy left them by the late Lord Orrery, is indeed a noble one: I can speak of his Library with the more Certainty, as I had a *constant* Access to it, and a Key left for me, whenever he went out of Town. He had three large Rooms filled with Books. In the first Room he ranged his *French* and *Italian* Books, and in the second, his *English*: The third and innermost Room, which was much the largest, was filled with *Greek* and *Latin* Authors. He had likewise, a fine Collection of Mathematical Instruments.'²⁰ This division into three rooms is confirmed by Wright's inventory of the instruments, which refers to their locations in 'the Small Room', 'the Next Room' and 'the Great Room'²¹.

In 1722, Orrery's then secretary Simon Swordfeger admitted that the Jacobite conspirator Philip Neynoe 'had used Orrery's personal library on several occasions to assist with articles for *The Freeholder's Journal*'²²; this presumably took place in London. It would be interesting to know who else was admitted to the library.

¹⁹ McGarvie, p. 84.

²⁰ Budgell, pp. 254–255.

²¹ Gunther, R.T. *Early science in Oxford. Vol. I. Chemistry, mathematics, physics and surveying*. Facsimile reprint. London: Dawsons of Pall Mall, 1967, p. 380. Beware that the Upper Library at Christ Church was sometimes referred to as the 'Great Room'.

²² Smith, p. 381.

The gifts

The library's Donors' Book contains two entries for Orrery²³. As well as his bequest, there is an entry dated 1695 for the statutory gift upon graduation:

Acta Eruditorum 13 Vol: 4^o Lipsiæ 1682 Insuper D.D. Phalaridis epistolas G.L. 8^o chartâ magnâ Oxon: e Theatro 1695. versione Annotationibus et vitâ insuper Authoris a se donatus, et futuris eruditorum Actis novum daturas materiam.

The 'Epistles of Phalaris' are shelved at AE.6.15 with the inscription 'Donum Honoratissimi Editoris'; this could be the copy presented to the college or a personal gift to Aldrich. Orrery did present a copy of his defence of the Epistles, *Dr. Bentley's Dissertations on the Epistles of Phalaris, and the Fables of Æsop, examin'd*, to the Master of University College²⁴.

The *Acta eruditorum* are shelved at Of.2.1–30 and Of.3.1–30, but lack the conventional inscription in Christ Church books presented on graduation. Certainly the Library purchased volumes for 1721–1729 in 1731²⁵. A second set of the *Acta* came with the bequest; one set was sold as a duplicate in 1793²⁶.

The circumstances of the **bequest** are more complicated. Dean Aldrich bequeathed his books, prints and music to Christ Church in 1710 and Francis Atterbury's brother Lewis gave his significant pamphlet collection in 1722²⁷. Another of Orrery's associates and a fellow Christ Church man was Christopher Codrington, benefactor of the library at All Souls. Despite these examples, Orrery had intended his library to go to his son, but in November 1728, during a period of estrangement, he made a new will in favour of his college, and failed to revert his intentions before his death in 1731.

Orrery's son did not challenge the will but intended 'to send the Library of his deceased Father to *Christ-Church* in such a *Manner*, as will fully convince that learned Society, how sincere a Respect he has for them'²⁸. The bequest was of 'all his noble Library, save only the *Journals of the House of Lords*, and such Books as relate to the English *History* and *Constitution*, which are left to the present Earl his Son; who is likewise allowed the Term of two Years, to separate *these* from the

²³ Shelfmark: W. Arch. Sup. G.1.2 / Library records 1, pp. 212, 238.

²⁴ Boyle, Emily Charlotte, Countess of Cork and Orrery. *The Orrery papers*, v. 1, p. 19–20.

²⁵ Library Accounts: Library records 16, fol. 24v.

²⁶ *A catalogue of a large collection of books, in most languages* (see note 40 below), lots 609 and 610, purchased by (Alexander?) 'Dalrymple'.

²⁷ Morgan, Paul. *Oxford libraries outside the Bodleian: a guide*. 2nd ed. Oxford, 1980, p. 31.

²⁸ Budgell, p. 254.

other Books'²⁹. The preface to his son's *Letters from Italy* (London, 1774) confirms this but changes the term to three years.

An **inventory** of Orrery's books was drawn up. The handwritten *A catalogue of the library of Charles late Earl of Orrery* is now at Library records 22, having previously been shelved with the collection at OB.3.16. It is a folio volume bound in contemporary gilt-tooled red morocco. The books are divided into Latin & Greek, English, and French & Italian – matching Budgell's description of the three rooms of Orrery's London library – and then by bibliographic format. A note towards the end of the volume in which the Registrar of Christ Church acknowledges receipt from Budgell is dated 6 March 1732, so perhaps the inventory was made at Orrery's house rather than at Christ Church. There follows an appendix headed 'A Catalogue of Books sent down to Christ's College Oxon after the preceding Receipt was transmitted to London.' It is not apparent why these books had been separated; perhaps they came from Orrery's country residence?

In any event, the books were transported from London to Oxford in 1733³⁰:

1733 Apl. 3.	Pd for cases for Ld. Orrery's Books	19. 7. 0
	“ Mr. Pittard Steward to Ld. Orrery	5. 5. 0
	“ for Carriage of ye s ^d Books	26. 6. 10

The Chapter Minute Book records: 'Agreed that some proper room or rooms be pitched upon by ye Dean & Subdean & the Ld. Bp. of Asaph wherein to place ye Ld. Orrery's books & that they agree with ye Student & Students on whose rooms they shall so pitch upon at some reasonable rent for ye same'³¹. It appears that the books were not unpacked until at least October 1734, when they were stored in Tom 1.2³². The New Library was still being built at this time, so it was not until 1763 that the collection was moved to its current location³³.

A previous shelving arrangement, presumably that used in Tom Quad, may be inferred from the original shelfmarks. Although the first inventory does not include shelfmarks, it was transcribed in 1735³⁴ with the same organisation and headings, but with full alphabetisation rather than only the first letter and with the important addition of shelfmarks. These take the form A.1.1, where the letter

²⁹ *Ibid.*, p. 250.

³⁰ Disbursement Books, quoted in Hiscock, W.G. *A Christ Church miscellany*. Oxford, 1946, p. 66.

³¹ Hiscock, p. 66.

³² *Ibid.*, p. 66.

³³ *Ibid.*, p. 72.

³⁴ The transcription is now Library records 23. The Library Accounts note: 'Pd Mr Sandford for transcribing L^d Orrerys Catalogue 05 05 -': Library records 16, fol. 27v.

ranges from A to Z (excluding I and U, but including W and with the addition of Æ), the first number ranges from 1 to 4 and the second from 1 to as high as 100. If these are arranged in the same way as today's shelfmarks then they imply 25 long, low bookcases. These old shelfmarks can be read, cancelled, on the endpapers of several books (e.g. OA.5.5 and OA.5.9), though far from all of them; the suffix 'Orr' (sometimes 'Or') has been added to correspond with Old Library shelfmarks ending Art. or Th.

Orrery also bequeathed his **scientific instruments** to accompany his library. They were inventoried by the London instrument-maker Thomas Wright in September 1731³⁵ for John Fanshawe at Christ Church. In 1732, the Library Accounts record³⁶:

May 20	Carriage & porters for L ^d Orrerys instruments	01 03 -
31	M ^r . Wrights bill for packing & mending &c	04 08 6

When the New Library was ready in 1763, the instruments were housed in the 'small south rooms'³⁷, presumably Arch. Inf. and Arch. Sup. Later instruments were incorporated into the collection while it remained at Christ Church. The 'Orrery Collection' has been on loan to the Museum of the History of Science in Broad Street since 1925, where it is displayed in the entrance gallery. A display panel hints that the instruments, perhaps like the books, may have been for display as much as enquiry, observing that 'some seem to be for practical purposes, such as calculating or surveying, but show little sign of wear'. A more generous assessment is that of Gunther, who calls Orrery 'a wealthy scientific amateur, a patron of good work rather than an original investigator'³⁸. The original orrery named in his honour was not part of the bequest; it is currently on display in the Science Museum in London³⁹.

Rearrangements

It is important not to make inferences about Orrery's ownership of a book solely from its current location. The best evidence that a book came to Christ Church with the bequest is the presence of an original shelfmark of the form A.1.1.Orr. If this is absent, the copy in hand may be Orrery's but may also have been substituted from elsewhere, Orrery's copy having been sold as a duplicate. If a book cannot be found in the inventory, assuming it to be complete and accurate,

³⁵ The inventory is transcribed in Gunther, appendix A, pp. 378-382.

³⁶ Library records 16, fol. 25v.

³⁷ Hiscock, p. 72.

³⁸ Gunther, p. 378.

³⁹ Inventory no. 1952-73 (<http://www.sciencemuseum.org.uk/objects/astronomy/1952-73.aspx>).

then it is definitely a later addition to the collection. These additions continued into the 20th century – On.3.21 was presented in 1964 – but have now ceased.

Duplicate sales took place in 1793 and 1813⁴⁰ and 1857–1862⁴¹. Strays which have been located from the Orrery collection include *A military dictionary* (ESTC T145661) now at the Harry Ransom Center at Texas⁴² and Pratt's *Grammatica Latina* (ESTC T144389) now at King's College London, the latter bought by the orientalist William Marsden⁴³, whose name appears in the marked-up 1793 sale catalogue. OP.2.11 and Ok.6.4 are examples where Orrery's copy may have been replaced by a copy from another source. Op.5.44 has been removed from the shelflist but escaped sale and is currently in the Arch. Inf. 'duplicates cupboard'.

Current **shelfmarks** take the form OA.1.1 where O stands for Orrery, the second letter represents the bay (A–X, a–t), the first number represents the shelf and the second number is the position along the shelf. They are usually recorded in pencil inside the front board and on a printed paper spine label.

There is a broad arrangement by subject:

OA–OK	Theology
OL	Miscellaneous
OM–OS	Mathematics, physics, and astronomy
OT–OX	Modern history
Oa	Dictionaries and grammars
Ob–Og	Classical literature
Oh–Oi	Miscellaneous
Ok–Op	Medicine, physiology, and chemistry
Oq	Religious tracts
Or	French literature
Os–Ot	Miscellaneous

⁴⁰ Hiscock, p. 89. A printed catalogue of the 1793 sale exists in the university libraries of Cambridge and Durham: *A catalogue of a large collection of books, in most languages; being the duplicates of a college library*. [London]: T. King, [1793]. ESTC T161940. Library records 25 is a photocopy of the marked-up copy at Durham. Hiscock refers to an 1814 sale in a footnote to p. 13 – see also Library records 25a, 25b – but the date has been queried: Kiessling, Nicolas K. *The library of Robert Burton*. Oxford Bibliographical Society, 1988, p. xv, note 23.

⁴¹ Library records 59.

⁴² Chalmers, John P. 'Christ Church College'. *Journal of library history*, v. 18, no. 2 (Spring 1982), pp. 190–192: http://sentra.ischool.utexas.edu/~lcr/archive/bookplates/18_2_ChristCollege.htm

⁴³ Cahill, Hugh. 'The first and most curious of its kind': the library of William Marsden (1754–1836) (<http://www.kcl.ac.uk/depsta/iss/library/speccoll/exhibitions/marsden/topmars.html>).

See in particular 'Marsden the Collector'. Marsden bought extensively at the 1793 sale and his purchases survive in his bequest to King's. Searching the KCL library catalogue for Christ Church Library as former owner produced 22 results in December 2007.

The books have clearly been rearranged extensively. There are gaps in the sequence, and cancelled shelfmarks show that books would sometimes be moved even within the same shelf. Moreover, books from other parts of the Library have been interpolated: for instance, an edition of the works of Bernard of Clairvaux from the Wake bequest was moved to OC.2.2 next to Orrery's earlier edition at OC.2.3, and many scientific books were previously in Arch. Inf. and Arch. Sup. Similarly, books from the gallery have been moved elsewhere, e.g. WM.5.11 and WP.6.21 (once OB.5.26 and OB.6.29 respectively), or Hyp.Q.90-93 (Leeuwenhoek's works, moved via Arch. Sup.).

There are books in the gallery with previous shelfmarks from the named collections of Wake, Nicholson, Aldrich, Stratford and Morris (e.g. Oo.1.11, OA.1.13, OB.6.1, OP.6.15, OA.8.11 respectively) and from Dean Gregory's bequest (e.g. OC.1.11). Op.5.41 belonged to Nicholas Stratford, father of Canon William Stratford. On.3.16 has the previous shelfmark L.3.42.Nov., perhaps indicating the New Library. Several books have presentation inscriptions from Christ Church graduates to the college (e.g. Oo.2.4, Oo.2.5) and therefore cannot be from Orrery's library.

For an example of the pitfalls in inferring ownership, Pemberton's *A view of Sir Isaac Newton's philosophy* (ON.5.1) appears in the catalogues of both Orrery's and Wake's libraries and both men are listed as subscribers (Wake under 'Canterbury'). There is a Wake bequest bookplate and a previous Wake shelfmark is visible beneath a typewritten slip on the front free endpaper. Presumably Orrery's copy was sold and Wake's copy given an Orrery shelfmark.

Provenances

Those books identified from old shelfmarks as definitely belonging to Orrery share unremarkable eighteenth-century calf bindings. There is very little internal evidence of his ownership: no bookplates, no signatures, no annotations and no shelfmarks. A few exceptions appear in the provenance index⁴⁴: the books shelved at Of.5.33, Oq.6.6 and Ot.4.25 are signed 'Boyle'⁴⁵. OQ.6.12, OQ.6.20, Of.5.33 and Og.6.22 are marked 'Read'; the last of these, the letters of Pliny, may in fact have belonged to John Boyle, who edited them. A number of books have annotations in red crayon: Giles Mandelbrote has mentioned these as characteristic of 'Cork and Orrery' books, i.e. John Boyle and his descendants⁴⁶.

⁴⁴ This is a black-covered exercise book, compiled in the 1930s, currently awaiting an MS number.

⁴⁵ Tantalisingly, On.3.15 is marked 'C.B' together with a price, but does not appear in the inventory and has been moved from Arch. Sup.

⁴⁶ Personal communication, July 2007.

Where did Orrery's books come from? There are a few presentation copies: MacGregory's *An account of the sepulchers of the antients* (OL.6.6) is inscribed to Orrery; in Thomas Burnet's *De fide & officiis Christianorum* (OD.3.2) Orrery records its donation by 'amici mei', the physician Richard Mead. Lucian's works (Oe.3.6-9) has a Boyle armorial binding, identified by Paul Morgan⁴⁷ as a presentation copy made by Elkanah Settle in an attempt to solicit patronage⁴⁸.

Orrery was great-nephew of Robert Boyle, the scientist, but they appear to have had few other connections: 'also contrary to expectations, Orrery does not seem to have inherited any of his uncle's books or his scientific instruments following Boyle's death in 1691'⁴⁹. Boyle's own library was dispersed after his death and few of his books have been traced⁵⁰. Several works by Boyle are shelved in the gallery, but his name does not appear in the inventory, so these must be later additions; even the collected works dedicated to Orrery by their editor, Richard Boulton, are not in the bequest. Some of Boyle's works do appear in the 1905 Marston sale, presumably acquired by genealogically-minded descendants⁵¹.

The writings of Roger, the 1st Earl, are similarly absent, although '[a]mong the Orrery muniments at Harvard is an impressive first edition of the 1st Earl's play, *Herod the Great*, which is described as the 4th Earl's copy'⁵². Roger Boyle 'was much interested in fortifications'⁵³ but those books on the topic which remain in Orrery's library were published after the 1st Earl's death in 1679.

The 5th Earl, whose literary connections merit study in their own right, had meanwhile assembled his own library at Marston⁵⁴. The library was sold in 1905⁵⁵ at the same time as the contents of the house, so those of Orrery's books

⁴⁷ Christ Church, MS 560.

⁴⁸ Pearson, David. *Provenance research in book history: a handbook*. London: British Library, 1994, pp. 108-109.

⁴⁹ Smith, pp. 480-481.

⁵⁰ Fulton, John F. *A bibliography of the Honourable Robert Boyle*. 2nd ed. Oxford, 1961, p. iv-vi.

⁵¹ A copy of Robert Boyle's *Languid and unheeded motion* in the Medical Historical Library at Yale University, belonging to the 5th Earl, is described in the Orbis online catalogue (<http://orbis.library.yale.edu/>) as having 'a binding of the Earls of Orrery'.

⁵² Smith, p. 478.

⁵³ McGarvie, p. 55.

⁵⁴ *Ibid.*, p. 101.

⁵⁵ *Catalogue of the valuable and extensive library and collection of autograph letters of the Rt. Hon. The Earl of Cork and Orrery removed from Marston, Frome which will be sold by auction by Messrs. Christie, Manson & Woods at their great rooms 8 King Street, St. James's Square on Tuesday, November 21, 1905 and two following days at one o'clock precisely*. London: Printed by William Clowes and Sons. It consists of 736 lots in 109 pages, mostly itemised. The Bodleian copy (shelfmark 2591.d.6[7]) is marked up with the purchasers of the letters, though not of the books; the four names Dobell, Maggs, Quaritch, and Sabin predominate, all book dealers, suggesting that they were also the purchasers of the printed books.

on English history which did pass to his son may have survived outside Christ Church. Certainly a number of books belonging to John Boyle (such as his copy of the Epistles of Phalaris, now shelved at Om.8.7a) returned to Christ Church during the 20th century, presumably following this sale.

There are a number of other familial connections, mostly tenuous. A 16th-century Sackville family Bible in French is shelved at OA.5.1, and *A new history of Ethiopia* (Arch. Inf. B.2.2) is signed by Orrery's mother, Mary Sackville. Mary appears as a subscriber to *Annals of the Reformation* (ESTC T146319) and *A full and just account of the present state of the Ottoman empire* (ESTC T107053), but neither book came to Christ Church. By coincidence, the eight volumes of Galen shelved at On.1.3–10 were donated to Christ Church in 1587 by Mildred Cecil, Lady Burghley, ancestor of Orrery's wife; Elizabeth herself owned a copy of Richard Allestree's popular *The whole duty of man* which is still in the possession of the Boyle family⁵⁶.

One might have expected books dedicated to Orrery, and certainly those for which he subscribed, to have stayed in his possession; but few seem to have come to Christ Church, even accounting for those in the class of English history and constitution which went to his son. The playwrights George Farquhar and Thomas Southerne served under Orrery's command and later counted him their patron, but none of their printed works appear in the inventory, although Southerne's *The maids last prayer* is dedicated to Orrery, and Orrery contributed a prologue to his *The fate of Capua*. Books in which Orrery appears either as subscriber or dedicatee are listed in the appendix.

Several books, for example OB.1.10–12⁵⁷, have the armorial stamp and paper tickets of the library of Loménie de Brienne, sold in London in 1724⁵⁸.

Presumably Orrery acquired these books either directly or through a bookseller present at that sale. There are two copies of the sale catalogue (ESTC T36991) in the Bodleian, but apparently none in Christ Church.

⁵⁶ McGarvie, p. 80, with photograph.

⁵⁷ See the provenance index at Christ Church, MS 560.

⁵⁸ Birley, Robert. 'The library of Louis-Henri de Loménie, comte de Brienne, and the bindings of the abbé du Seuil.' *The library*, fifth series, v. 17, no. 2, June 1962, pp. 105–131.

The bookplates

Orrery and his wife did have a personal bookplate⁵⁹, but this has not been seen in any books at Christ Church, which produced a special bookplate for the bequest. The Library Accounts contain three references to this work⁶⁰:

Apr 23 1736	p ^d for new touching ye plate of L ^d Orrerys Arms	00 05 –
Dec 14	For printing L ^d Orrerys Arms 6000 Copies	04 10 –
Jul [1737]	P ^d Mr Wilkins for 2 plates of L ^d Orrerys arms	01 10 –

This was apparently the first engraving by John Wilkins II for Christ Church⁶¹.

The design for the Orrery bequest combines the arms of Christ Church surmounted by a cardinal's hat and the arms of Boyle (per bend embattled argent and gules) with the motto of the Order of the Thistle ('Nemo me impune lacessit') surmounted by an earl's coronet, above the lettering 'Ædes Christi in Academiâ Oxoniensi'.

There are three variants of the design, referred to in the catalogue of the Franks bequest as 'Jacobean Armorial', reference numbers 33411–33413⁶². The first two have both been recorded in cataloguing as 'type 1'. 33412 is a reworking of 33411 in which the hatching on the left of the coronet is only vertical, not cross-hatched, and the internal lines in the flourishes beneath the coronet do not reach the top.

Franks 33413 has been recorded in cataloguing as 'type 2' and can be easily distinguished as it shows two lozenges, instead of one, following the motto. There is no obvious difference in the application of the three variants.

It appears that all the books with cancelled shelfmarks ending 'Orr' have Orrery bookplates, but the bookplate alone is not evidence that the book came with the bequest, as it appears in books printed after 1731 (e.g. ON.2.4). Each form of the standard Christ Church bookplate has been found in books in the gallery, occasionally with the Orrery plate pasted on top (e.g. OB.2.4).

⁵⁹ Howe, E.R.J. Gambier. *Franks bequest: catalogue of British and American book plates bequeathed to the Trustees of the British Museum by Sir Augustus Wollaston Franks*. London, 1903–1904.

Number 3378 is described as follows: (**Boyle, Earl of Orrery**), C.O.; E.O. (*Arms. Boyle impaling Cecil.*) It apparently bears the Boyle motto, 'Honor virtutis præmium'.

⁶⁰ Library records 16, fol. 27v.

⁶¹ Hiscock, p. 140, note 2.

⁶² The plates of the Franks bequest have been microfilmed in a set entitled *Franks Collection: book plates in the British Museum* (Bodleian shelfmark: Films 1753).

Scientific books

Although Orrery's library contains as much theology and history as science, and although mathematical books were included in the bequests from Aldrich and Stratford, the gallery has often been considered the home for early science in Christ Church Library, along with the adjoining room known as Arch. Sup. Thus important books from other sources have been moved into the gallery, such as John Aubrey's copy of William Harvey on embryology and the first edition of Newton's *Principia*. Scientific books now occupy two areas: bays M–S contain mathematics, physics and astronomy and bays k–p contain medicine, physiology and chemistry (including alchemy). Botanical books are now in Arch. Sup.

Notable books include, in **astronomy**, the 1566 edition of Copernicus' *De revolutionibus* and the Rudolphine tables of Kepler; in **physics**, the second edition of Gilbert's *De magnetē* 'even more rare than the first'⁶³ together with second editions of Newton's *Principia* and *Opticks*; in **biology**, Leeuwenhoek's *Arcana naturæ detecta* and the first edition of Hooke's *Micrographia*; in **medicine**, Paré's surgical works in Latin, 1582 ('considered the choicest of all'⁶⁴) and the (stolen) 1552 pocket edition of Vesalius's anatomy⁶⁵; and in **botany**, Parkinson's *Theatrum botanicum* and the second edition of Gerarde's *Herball*.

Incunables

Five books printed before 1501 have been located in the inventory⁶⁶. Their references in Rhodes's *A catalogue of incunabula in all the libraries of Oxford University outside the Bodleian* (Oxford, 1982) and current shelfmarks are:

736	e.7.34	<i>Epistolæ diversorum philosophorum</i>
812	e.4.45	Theodorus Gaza, <i>Grammatica introductio</i>
983	e.3.53	Jacobus de Voragine, <i>Legenda aurea</i> (Strasbourg, 1486; folio)
1277	e.3.60	<i>Historiæ adversus paganos</i>

A quarto edition of the *Legenda aurea* (Lyon, 1500) is listed in the inventory but has not been traced. It is not in Rhodes but has ISTC number ij00136000.

⁶³ Thornton, John L. & R.I.J. Tully. *Scientific books, libraries and collectors*. 3rd ed. London: Library Association, 1971, p. 71.

⁶⁴ Thornton, John L. *Medical books, libraries and collectors*. London: Grafton, 1949, p. 44.

⁶⁵ Between 1992 and 1995 Christ Church Library suffered the theft of 74 books, several from the gallery, by a music lecturer at Queen's, Simon Heighes. The **Vesalius** is the only item yet to be recovered, as it was bought at auction by Nippon Dental University, which refuses to return it: McGill, Peter. 'Law is not on our side, but honour is. We won't give up.' *The Times higher education supplement*, 12 May 2006 (http://www.thes.co.uk/story.aspx?story_id=2029942).

⁶⁶ "Lascaris (Const.) *Grammatica graeca* Messin. 1470" (p. 19) refers to the place and date at which the work was written, not published.

The numbers

Estimating the size of a library is a black art. The *DNB* describes Orrery's library as 'ultimately consisting of 10,000 volumes', of which the books on English history went to his son. Hiscock's figure is that the bequest 'comprised 2,500 volumes' yet 'only a few gaps remained in the Orrery gallery'⁶⁷.

In 1999, Owen Massey estimated from the shelflists that the Orrery gallery held 7,330 *volumes*. Will Hale estimated shortly afterwards that the Orrery collection consists of 5,130 *books*, of which around 2,500 then remained to be catalogued.

A count of the *titles* in the inventory helps to assess the size of the *bequest*:

Latin & Greek folios:	627 (STC 12, Wing 38, ESTC 21)
Latin & Greek quartos:	727 (STC 16, Wing 47, ESTC 28)
Latin & Greek octavos:	801 (STC 5, Wing 114, ESTC 85)
Latin & Greek small formats:	341 (STC 7, Wing 36, ESTC 18)
<i>Latin & Greek total:</i>	2496 (STC 40, Wing 235, ESTC 152)
English folios:	156 (STC 30, Wing 89, ESTC 37)
English quartos:	174 (STC 23, Wing 83, ESTC 68)
English octavos:	702 (STC 8, Wing 244, ESTC 450)
English duodecimos:	132 (STC 5, Wing 79, ESTC 48)
<i>English total:</i>	1164 (STC 66, Wing 495, ESTC 603)
French & Italian folios:	28
French & Italian quartos:	125
French & Italian octavos:	192
French & Italian duodecimos:	314
<i>French & Italian total:</i>	659
Grand total:	4319 titles

Thus a majority (58%) of the titles in Orrery's bequest are in Latin or Greek, 27% are in English and 15% are in French or Italian.

⁶⁷ Hiscock, p. 72.

The cataloguing

The existing physical catalogues of the Orrery collection are as follows: the inventory of the bequest at Library records 22; its transcription at Library records 23; a handlist of the whole gallery in shelf order, kept in the East Library; the ledger catalogues for the whole Library compiled in the nineteenth century, kept in the entrance hall; and the pamphlet catalogue on cards in the East Library.

Books printed before Orrery's death are checked against the inventory as they are catalogued and their presence or absence is recorded in a copy-specific note on OLIS; if located, the current shelfmark is written in a photocopy of the inventory. The inventory does not list items bound together beyond the first in a volume: if the books were already bound when they arrived at Christ Church, as seems likely, then all items currently bound together will share an Orrery provenance, regardless of earlier names written inside.

The handlist has been photocopied and each item catalogued is ticked. It is useful for determining whether a gap on the shelves corresponds to a missing book or is merely a jump in numbering.

The nineteenth-century ledger and pamphlet catalogues are hard to read and their headings unpredictable, but they are nonetheless in many cases the only record of a book's location. Bear in mind that the ESTC often notes the existence of more than one copy of a book at Christ Church, which may include a copy in the Allestree Library, which has a separate card catalogue.

Modern cataloguing on OLIS began in June 1995 with Mark Purcell, initially as an employee of the Early Printed Books Project⁶⁸ and later working directly for Christ Church. His remit was to catalogue foreign books printed before 1641. Since September 1999 Mark has been Libraries Curator for the National Trust.

Mark was followed in October 1999 by Will Hale, who worked on the RSLP project 'Charting the European Printed Heritage, 1641-1800', cataloguing Continental books. Will finished in March 2003 and now works in the Department of Rare Books at Cambridge University Library.

Owen Massey was employed in 2007 to complete the cataloguing of books in the gallery prior to 1851. As a result of the previous projects, English books have predominated in this part of the work. Bays OA-OD, OM-OS and Ok-Op have been finished. Owen left to become Assistant Librarian at Worcester College.

⁶⁸ <http://www.lib.ox.ac.uk/icc/>

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Appendix: Subscriptions and dedications

The following books contain subscription lists including Orrery's name. It is a necessarily incomplete selection obtained through full-text searching of *Eighteenth Century Collections Online* (ECCO).

Only a few have been traced in the inventory: *A comment on The book of common-prayer* (OH.1.15); *Palladio's Architecture* (OT.1.13–14); "Homers Works by Mr. Pope 3 Vol 1715/20"; *Prior's Poems*; *The grove*; and *A view of Sir Isaac Newton's philosophy*. The copy of this last book at ON.5.1 was in fact Archbishop Wake's.

- 1704 *The grounds of criticism in poetry* (ESTC T071092)
- 1710 *A comment on The book of common-prayer* (ESTC T087380)
'Large paper'
- 1710 *Lexicon technicum: or, An universal English dictionary of arts and sciences* (ESTC T142408)
The inventory lists the 3rd ed. of 1716, which lacks a list of subscribers
- 1712 *The memoirs of Philip de Comines* (ESTC T118091)
- 1713 *The lucubrations of Isaac Bickerstaff Esq. ['The Tatler']* (ESTC T097938)
- 1713 *A compleat history of the late war in the Netherlands* (ESTC T114756)
Orrery's subscription marked 'for the coats of arms'
- 1714 *An ecclesiastical history of Great Britain. Vol. II.* (ESTC T145339)
- 1715 *The architecture of A. Palladio* (ESTC T095463)
- 1715 *The Iliad of Homer, translated by Mr. Pope* (ESTC T014925)
- 1718 *Prior's Poems on several occasions* (ESTC T075639)
'5 books'
- 1719 *A compleat collection of state-tryals* (ESTC T108672)
'Large paper'
- 1721 *The grove; or, A collection of original poems, translations, &c.* (ESTC T035894)
'5 copies on royal paper' [Copy at Ot.3.6 = small paper?]
- 1722 *Memoirs of the Right Honourable the Marquis of Clanricarde* (ESTC T143709)
- 1722 *The history of the antient abbeys, monasteries, ...* (ESTC T147338)
- 1722 *Vitruvius Britannicus, or the British architect* (ESTC T050966)
'2 sets'
- 1723 *The general history of Ireland* (ESTC T122585,6)
'Fine paper'
- 1724 *The life of Cardinal Wolsey* (ESTC T118407)
- 1724 *The life of Dr. John Colet, Dean of S. Paul's* (ESTC T092619)
'Large paper'. Orrery is marked as having attended St Paul's School
- 1724 *Sixty sermons preach'd on several occasions* (ESTC T105049)
- 1725 *The Odyssey of Homer* (ESTC T014927)
'The Library of Christ-Church' appears in the list of subscribers,
and indeed the copy at Os.1.11 has an earlier Christ Church shelfmark.

- 1726 *Della architettura di Leon Battista Alberti libri X.* (ESTC T032315)
1727 *The addresses to King George II* (ESTC T053018)
'A list of the First Parliament of His Majesty King George II. a great number of whom are Subscribers to this Book.'
1727 *The history of Scotland* (ESTC T084144)
1728 *Cyclopædia: or, An universal dictionary of arts and sciences* (ESTC T114002)
1728 *A view of Sir Isaac Newton's philosophy* (ESTC T053471)
1729 *Mitchell's Poems on several occasions* (ESTC T118847)
'Large paper'
1730 *Francisci Baconi Baronis de Verulamio, ... opera omnia* (ESTC T088308)
1730 *A complete collection of state-trials*, 2nd ed. (ESTC T108500)
1730 *The travels of Cyrus*, 4th ed. (ESTC T082620)
1733 *Memoirs of affairs of state* (ESTC T124295,6)
'The Right Hon. The Earl of Orrery, deceased.'

A similarly derived and similarly incomplete list of dedications follows. Of these, only *The history of Dion Cassius*, *A philosophical account of the works of nature* and *The practical fruit-gardener* are listed in the inventory, this last in its 2nd ed. The Christ Church copy of *A philosophical account* (Oo.1.12) belonged to Wake.

- 1693 *The maid's last prayer* (ESTC R011651/R232422)
1704 *The history of Dion Cassius abridg'd* (ESTC T130908)
1706 *Perolla and Izadora* (ESTC T026003)
1711 *The excellency and usefulness of a publick spirit* (ESTC T009622)
1714 *The mausoleum: a poem* (ESTC T136612)
1715 *The theological works of the Honourable Robert Boyle. Vol. II.* (ESTC T080858)
1717 *Fenton's Poems on several occasions* (ESTC T140950)
1717 *The censor. Vol. II.* (ESTC T098530)
1721 *A philosophical account of the works of nature* (ESTC T027550)
1722 *The antiquities of St. Peters*, 2nd ed. (ESTC T091380)
1724 *The practical fruit-gardener* (ESTC T059739)
1725 *The philosophical works of ... Robert Boyle. Vol. II.* (ESTC T080857)