

# Robert Hooke's Archive

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## Introduction

Robert Hooke (1635–1703) is one of the most intriguing and engaging characters of the scientific revolution in England. Born in Freshwater on the Isle of Wight, and educated at Oxford, in the early 1660s he became a central figure in London's nascent Royal Society. In his salaried position as the Society's "curator of experiments" he presented weekly demonstrations to the Fellows and read papers on topics from optics and astronomy to earthquakes and the Chinese language. His energy and wide-ranging enthusiasm were major factors in the continuation of the Society during its early years, when there was little funding and less respect for the new philosophers' endeavours. After a long period of obscurity, Hooke's contributions to science are now recognised and his position at the centre of Restoration London's scientific culture is firmly established.<sup>1</sup>

The publication of Hooke's memoranda and two recent biographies have also shed light on his personal life, which included acquaintance with many of the bookshops, coffee-houses and inhabitants of London.<sup>2</sup> The auction catalogue of his library, prepared soon after his death in 1703, has been reprinted twice.<sup>3</sup> However, Hooke's manuscripts, as objects and perhaps more importantly as an archive, have remained rather obscure.<sup>4</sup> This article will describe the archive, including papers

<sup>1</sup> Hooke's position as a scientist is uncontested: for differing opinions on his social status see Steven Shapin, "Who was Robert Hooke?" in *Robert Hooke: New Studies*, ed. Michael Hunter and Simon Schaffer (Woodbridge, Suffolk: Boydell Press, 1989), 253–85; and Mordechai Feingold's rebuttal, "Robert Hooke, Gentleman of Science," in *Robert Hooke: Tercentennial Studies*, ed. Michael Cooper and Michael Hunter (Aldershot: Ashgate, 2006), 203–18. For Hooke's work see Hunter and Schaffer, *Robert Hooke: New Studies*; Michael Cooper, *A More Beautiful City: Robert Hooke and the Rebuilding of London* (Stroud: Sutton, 2005); and Cooper and Hunter, *Robert Hooke: Tercentennial Studies*.

<sup>2</sup> Henry W. Robinson and Walter Adams, eds., *The Diary of Robert Hooke, M.A., M.D., F.R.S., 1672–1680* (London: Taylor and Francis, 1935), covering August 1672 to December 1681; R. T. Gunther, ed., *Early Science in Oxford*, vol. 10, *The Life and Work of Robert Hooke* (Oxford: printed for the author [i.e. Gunther], 1935), covering November 1688 to March 1690 and December 1692 to August 1693; Felicity Henderson, "Unpublished Material from the Memorandum Book of Robert Hooke, Guildhall Library MS 1758," *Notes and Records of the Royal Society* 61 (2007): 129–75, covering March to July 1672 and January 1681 to May 1683. The biographies are Lisa Jardine, *The Curious Life of Robert Hooke: The Man Who Measured London* (London: HarperCollins, 2003) and Stephen Inwood, *The Man Who Knew Too Much: The Inventive Life of Robert Hooke* (London: Macmillan, 2002).

<sup>3</sup> *Bibliotheca Hookiana sive Catalogus Diversorum Librorum* (London, 1703); reprinted in Leona Rostenberg, *The Library of Robert Hooke* (Santa Monica, CA: Modoc Press, 1989) and H. A. Feisenberger, ed., *Sale Catalogues of Libraries of Eminent Persons*, vol. 11, *Scientists* (London: Mansell, 1975), 57–116.

<sup>4</sup> One important exception is Geoffrey Keynes's calendar of Hooke's manuscripts in the appendix to *A Bibliography of Dr Robert Hooke* (Oxford: Clarendon Press, 1960), 75–84; see also Robyn Adams and

authored by Hooke and those collected and used by him, and in so doing will add to our understanding of manuscript culture in the early Royal Society. By manuscript culture is meant very broadly the practices surrounding the production, transmission and consumption of texts in manuscript, described most fully by Harold Love in his groundbreaking book *Scribal Publication in Seventeenth-Century England*.<sup>5</sup>

### The Descent of Hooke's Archive

Hooke's biographers, and historians in general, may be forgiven for believing that they know Hooke's reading habits, and the contents of his library, rather well.<sup>6</sup> The auction catalogue of his library lists around 2,500 titles, showing that he concentrated on scientific works (particularly astronomy, mathematics, chemistry, travel and medicine) but also owned a smaller number of histories and works of theology and literature. Many more books are mentioned in his memoranda as having been seen, bought, read, borrowed, and returned by him. However, the vast majority of these are printed books. What of Hooke's manuscript archive?

The personal archive is a familiar entity to modern scholars—particularly, as Michael Hunter has pointed out, to historians of science and scientific institutions. Yet Hooke's archive, despite the heightened interest in his scientific achievements over the past few decades, is not well-known.<sup>7</sup> This is partly because his papers are now scattered, and although many are known there are probably a significant number that have been lost or remain unidentified.<sup>8</sup> However, I would argue that two other factors have influenced this lack of interest. First, Hooke's posthumous editors have been dubious from the outset about his archive's integrity and have

Lisa Jardine, "The Return of the Hooke Folio," *Notes and Records of the Royal Society* 60 (2006): 235–39. Michael Hunter has made extensive use of Hooke's archive, particularly in *Establishing the New Science: The Experience of the Early Royal Society* (Woodbridge, Suffolk: Boydell Press, 1989).

<sup>5</sup> Harold Love, *Scribal Publication in Seventeenth-Century England* (Oxford: Clarendon Press, 1993). I am hugely indebted to Harold: with great wit and enthusiasm he introduced me as an undergraduate to the world of seventeenth-century English literature and culture; and with great patience and erudition he introduced me as a graduate student to the world of scholarly research.

<sup>6</sup> The longest exposition on this subject can be found in the introductory sections of Rostenberg's *Library of Robert Hooke*; a much more scholarly assessment has recently been put forward by Giles Mandelbrote in "Sloane's Purchases at the Sale of Robert Hooke's Library," in *Libraries within the Library: The Origins of the British Library's Printed Collections*, ed. Giles Mandelbrote and Barry Taylor (London: British Library, 2009), 98–145.

<sup>7</sup> For a comprehensive discussion of the Early Modern scientific archive see, in particular, Michael Hunter's introduction to his edited volume, *Archives of the Scientific Revolution: The Formation and Exchange of Ideas in Seventeenth-Century Europe* (Woodbridge, Suffolk: Boydell Press, 1998), 1–20; the individual papers in the volume discuss specific archives, although not Hooke's. Calls for a more systematic study of Hooke's papers have been made by several scholars: see, for example, Cooper and Hunter, *Robert Hooke: Tercentennial Studies*, xix; and Robert D. Purrington, "After the *Principia*: Hooke's Declining Years, 1687–1703," in *ibid.*, 233–46 (234 and n3).

<sup>8</sup> Keynes's calendar (see footnote 4 above) remains the only printed list. William Poole has begun a project to identify and transcribe Hooke's correspondence.

found its contents of only limited use for their immediate aims. Second, Hooke himself does not seem to have thought of his “archive” in the way that modern scholars would like him to have thought of it. Both these factors are of interest in themselves, and it is worthwhile exploring them before discussing the contents of the papers.<sup>9</sup>

The question of the extent to which Hooke’s archive was dispersed after his death in 1703 was asked almost immediately and has continued to be raised ever since. Hooke died intestate, and the legal wrangling that followed was protracted, involving several members of his extended family.<sup>10</sup> In the weeks after his death, some of his possessions (including books, manuscripts and artefacts) were donated or returned to the Royal Society,<sup>11</sup> including volumes of the Society’s official records (though this was not unusual: the Society regularly had to reclaim possession of its own archives after the death of a Fellow). The donation also included some of Hooke’s personal possessions, which were given to the Society by Hooke’s niece and *de facto* executrix, Anne Dillon, who seems to have been on good terms with the Fellows. Mrs. Dillon enlisted the aid of several London booksellers in making an inventory of Hooke’s possessions: Edward Millington, eventual auctioneer of Hooke’s library; Jacob Hook; Edward Cooper; and antiquary and bibliographer John Bagford.<sup>12</sup> These men presumably assisted with the formidable task of drawing up a list of titles for auction.

Bagford also seems to have played a part in the initial assessment of Hooke’s archive. In August 1704 Richard Waller FRS, into whose hands Hooke’s papers were first put, wrote to Bagford:

You may remember you told me some time since that M<sup>rs</sup> Dillon and y<sup>r</sup>selfe had found some loose papers of D<sup>r</sup> Hookes in a Chest of Drawers but could not then tell of what subjects they treated if you could any way contribute to the getting of them for me you would do me a great piece of service for I have several imperfect pieces of his and know not but those papers you mentioned may belong to ~~the other~~ them I have if you can procure them from M<sup>rs</sup> Dillon to whome they are of no use pray leave or send them to my mothers M<sup>rs</sup> More in Crosby square directed for me<sup>13</sup>

<sup>9</sup> For simplicity’s sake I will continue to refer to Hooke’s papers as his archive, as it is the most appropriate modern term.

<sup>10</sup> These have been well documented by Eleanor Naughtie in “A Dying Life: The Last Days of Robert Hooke, and the Fate of his Estate” (unpublished MRes diss., Centre for Editing Lives and Letters, Queen Mary, University of London, 2003); Jardine, *Curious Life*, 307–9 and “Hooke’s Lost Legacy: What Really Happened?” in the reissue (London: Harper Perennial, 2004), Appendix, 8–16; Michael Hunter, “Hooke’s Possessions at His Death: A Hitherto Unknown Inventory,” in Hunter and Schaffer, *Robert Hooke: New Studies*, 287–94.

<sup>11</sup> See Royal Society JBO/11, pp. 17, 18, 20.

<sup>12</sup> See the transcription of the inventory, printed in Hunter, “Hooke’s Possessions,” 292.

<sup>13</sup> British Library MS Harley 4966, fol. 69. Bagford was known for his interest in dead men’s libraries: W. Clavell (a relation of the bookseller Robert Clavell?) sent him the following request: “Mr Seller is lately dead and consequently I expect his books will be disposed of in litle time & desire you would

There is no further evidence of correspondence between Waller and Bagford, and so the outcome of Waller's request is unknown. However, the presence of a letter to Hooke in an extremely crumpled and stained condition among Bagford's manuscripts suggests that Bagford held on to at least one of Hooke's "loose papers."<sup>14</sup>

Richard Waller (ca. 1660–1715) was elected to the Royal Society in 1681 and was one of the most active Fellows of the period.<sup>15</sup> He served as Secretary almost without a break from 1687 to 1714 and was Vice-President for some of that time. He was also very close to Hooke, whose later memoranda entries record almost daily coffee-house meetings with Waller, Waller's brother-in-law Alexander Pitfield FRS, and others in their circle. As Secretary to the Society and Hooke's friend and supporter, it was perhaps natural that Waller took on the roles of Hooke's first biographer and posthumous editor.

As his letter to Bagford suggests, Waller never believed he had access to all Hooke's papers. His introductory epistle to *The Posthumous Works of Robert Hooke*, published for the Society in 1705, merely apologises for possible inconsistencies in the volume brought about by the fact that he had received some papers after others had been printed.<sup>16</sup> In the text, however, he makes several complaints about papers being "lost." The following statement is indicative:

The Treatise our Author mentions in the beginning of this Discourse I have not had the happiness to meet with among his Papers; possibly he might formerly have read some Discourses upon these Subjects, but if so they are lost, as I am satisfied some other valuable Papers are<sup>17</sup>

Waller also mentions two papers found inserted into volumes bought at the auction of Hooke's library and given to him; in addition there were drawings of some "figured stones or Petrifications" that were inexplicably missing from the archive but had come to him "by the Favour of Dr. *Sloane*, into whose Hands they happily fell."<sup>18</sup> These notes have been interpreted with varying degrees of gloom by scholars

take what opportunity you can, to enquire into whose hands they will fall & what will be the likeliest method to get the refusall of the MSS you are better able to think of a proper person to get information of than I" (British Library MS Harley 5997, fol. 124r, probably referring to Abednego Seller (d. 1705), for whom see *Oxford Dictionary of National Biography* [henceforth *ODNB*]).

<sup>14</sup> Letter from Richard Beckford to Hooke, British Library MS Harley 4966, fol. 73.

<sup>15</sup> Waller has been unfairly neglected by historians: he was an important administrator at the Society and a very accomplished watercolourist. See *ODNB* and Margaret J. M. Ezell, "Richard Waller SRS: 'In the Pursuit of Nature,'" *Notes and Records* 38 (1983–84), 215–33.

<sup>16</sup> "The Publisher to the Reader," in Richard Waller, ed., *The Posthumous Works of Robert Hooke ... Containing his Cutlerian Lectures, and other Discourses, Read at Meetings of the ... Royal Society* (London, 1705), sig. A2v.

<sup>17</sup> Waller, *The Posthumous Works of Robert Hooke*, 278. This is straightforward, but on several occasions Waller was complaining that only part of a text was lost—that is, the archive contained several essays that were incomplete in some way.

<sup>18</sup> *Ibid.*, 194 (in error for 149), 203 and 281. It is possible, but perhaps uncharitable, to detect a note of irony in Waller's reference to Sloane on this occasion.

interested in the fate of Hooke's papers.<sup>19</sup> Waller's other comments, however, paint a slightly different picture of the archive, showing that he realised Hooke himself was responsible for some of the perceived defects. Next to Hooke's assurance that "somewhat more concerning this matter shall be added hereafter" he has printed the marginal note "*NB.* This the Author never performed," and on another occasion "It is a great Misfortune that the Descriptions of these two Tables are wanting amongst the Papers, if they were ever drawn up, which I somewhat question; for the Figures were not number'd."<sup>20</sup> Waller also mentions several times "Fragments," "loose Papers" and "loose Manuscripts," giving the impression of a chaotic and heterogeneous mass of material.<sup>21</sup>

Readers of the *Posthumous Works* are left with the impression that Waller has done the best he can with an imperfect set of papers. The lament with which he prefaces Hooke's "A Discourse of the Magnetical Variation" typifies his attitude:

I do not find that the Author has any where perfected this Theory of Magnetism, which it were to be wish'd he had done, as likewise that he had carry'd several other Subjects on to a greater pitch of Perfection, which indeed has been the misfortune of a great part of the Discourses publish'd in this Volume.<sup>22</sup>

Whilst he has been able to extract some valuable material from the archive, it has not provided him with the polished works that would befit a natural philosopher of Hooke's stature. He does hint at the possibility of a second volume, to be published if his first attempt proves popular, in which he will print some remaining "Miscellaneous Tracts, Fragments on several Subjects, some Inventions, accounts of Experiments, &c."

No such volume was forthcoming, despite the fact that in February 1710 the Council of the Royal Society "earnestly desired" Waller to proceed with its publication.<sup>23</sup> Nevertheless, throughout the decade following his death Hooke remained a ghostly presence at the Royal Society and elsewhere. Waller noted that Mrs. Dillon's husband gave him the manuscript of Hooke's early memoranda in 1708.<sup>24</sup> Papers

<sup>19</sup> Louise Diehl Patterson constructed the bleakest picture, suggesting that a substantial amount of Hooke's work from the period 1680 to 1703 has been lost ("Hooke's Gravitation Theory and its Influence on Newton. I: Hooke's Gravitation Theory," *Isis* 40 (1949): 327–41). Her interest in the extent to which Hooke's ideas may have been appropriated by Newton caused her to ascribe great significance to Waller's comment that he could prove "were it a proper time" that Hooke was the "first Inventor or ... Hinder of those things about which Magni Nominis Heroes have contested for the Priority" (329).

<sup>20</sup> Waller, *The Posthumous Works of Robert Hooke*, 154, 286; see also 159, 509, 543.

<sup>21</sup> *Ibid.*, 190, 384, 542, 543, 567.

<sup>22</sup> *Ibid.*, 484.

<sup>23</sup> Royal Society CMO/2, p. 165. I am very grateful to Sachiko Kusukawa for drawing this to my attention.

<sup>24</sup> Now Guildhall Library MS 1758. Waller's note is quoted in Robinson and Adams, *The Diary of*

written by Hooke, and others found in his archive, were regularly read and discussed at Royal Society meetings, all supplied by Waller.<sup>25</sup> A selection of these and other loose papers and bound manuscripts were returned by Waller to the Society over this period. However, most of Hooke's archive was presumably still in Waller's hands at the time of his death in January 1715.<sup>26</sup> At this point, Waller's widow Anna and his brother-in-law Jonas or Jonathan Blackwell FRS handed over "a Part of the Papers" to Hooke's second posthumous editor, William Derham FRS.

Derham (1657–1735) had been elected a Fellow in February 1703, so although he may have known Hooke he cannot have had the close contact with him that Waller had had. He was an enthusiastic naturalist and a prolific author and editor, in particular editing several volumes of John Ray's works and publishing some of Ray's correspondence.<sup>27</sup> His preface "To the Reader" leaves that individual in no doubt as to Derham's disappointment with the state and content of Hooke's archive as he had received it. Apologetic from the outset, Derham regrets that he "found only here and there some [texts] that answered my Expectation." The best of these had been published by Hooke or Waller; the rest would be "of little Use to the learned World," seemingly intended by Hooke "for half an Hour's Amusement to a small Auditory, rather than for the Press." This sounds bad enough, but Derham also complains that the archive was disordered, with a "confused Variety of Subjects," and that many of the papers were defective or "written in an Hand scarce legible." Finally, he amplifies Waller's complaint about not having received Hooke's archive intact:

many of those Imperfections, and Obscurities, are owing to the Miscarriage of some of the Papers, which either never came to Mr. *Waller's* Hands; or, if they did, were lost, or mislaid, before they came to mine, the Papers being put into different Hands, after Mr. *Waller's* Death. And whereas *Figures*, or *Modules*, would have explained divers of the Papers, that are published, and have enabled me to have imparted others, altogether as valuable; but finding few, or none, but what are here published, neither among the Papers themselves, nor in the Repository, nor Papers of the Royal Society, I was forced to be content.

*Robert Hooke*, v. This was also the period in which the struggle for Hooke's estate was being contested (see footnote 10 above).

<sup>25</sup> See, for example, the minutes of a meeting on 17 May 1711 (Royal Society JBO/11, p. 222); and "A Paper, concerning the mineral called Zaffora by Dr Merret, found amongst Dr Hooks papers by Mr Waller," which was read on 4 February 1713/14 (Royal Society Cl.P/20/95, copied into RBO/9/308). Sachiko Kusukawa has noted over twenty instances of this type during the period 1711–14.

<sup>26</sup> The minutes of the Royal Society do not record any gift of Hooke's papers in the months following Waller's death; they do record a minute to the effect that the Society would request its own papers be returned by Waller's executors (JBO/12, p. 45).

<sup>27</sup> Derham's editions of Ray include *J. Raii Synopsis Methodica Avium et Piscium* (London, 1713); *Three Physico-Theological Discourses* (London, 1713; repr. 1721 and 1732); and *Philosophical Letters between ... Mr Ray and Several of his ... Correspondents* (London, 1718). Derham's nephew-in-law, George Scott FRS, published Derham's biography of Ray in *Select Remains of the Learned John Ray* (London, 1760).

Derham seems fairly certain that Anna Waller and Jonas Blackwell had not given him all Waller's Hooke papers, and this may well have been the case. However, the foundation of his complaint is the same as Waller's: the archive is disordered; texts lack explanatory figures that would have illuminated their subject matter; and worst, much of the remaining material consists of Hooke's half-formed thoughts rather than polished essays. The crux of the matter is that, in Derham's view, the majority of the papers are not suitable for publication.

Despite his disappointment with the material, Derham's edition appeared in 1726.<sup>28</sup> It is a miscellaneous collection of essays, letters, receipts, queries and observations by Hooke and others, covering a diverse range of subjects. It shows, apart from anything else, the extent to which the papers of other virtuosi formed part of Hooke's archive, and it resembles a volume of the *Philosophical Transactions* rather than any of the editions of his own work Hooke published during his lifetime. Not all the papers were part of Hooke's archive: several are dated after 1703. Some of these were written by or to Waller, and the others probably belonged to him.

Derham's disappointment with the papers given to him is not merely reflected in the preface to his volume, but has also been inscribed on the manuscripts themselves. His annotations are found on many of Hooke's papers and will be discussed in more detail below. He was extremely diligent in his bibliographic undertaking, not only ordering the papers into numbered bundles (or possibly numbering bundles ordered by Waller), but also identifying handwriting where possible and noting which texts had already appeared in print, and where. These activities were all part of his attempt to make sense of the archive. At some point, presumably when he was satisfied he had taken this process as far as he could, he noted at the head of one bundle "W.D's sep[ar]ated from R.S.'s."<sup>29</sup> This marked another hiving off of papers from the archive, this time those that Derham decided belonged (or should belong) to the archive of the Royal Society. Clearly he felt that the papers he retained belonged to him.<sup>30</sup>

The disappointment expressed by Waller and Derham in their printed collections is at odds with the practice of Waller, at least, in bringing Hooke's writings to the attention of the Royal Society at meetings. When he did introduce papers they were given due consideration by the Fellows. Abstracts of their subject matter were noted down in the minutes of meetings, suggesting that they were deemed a useful addition to the proceedings. On several occasions papers were read over more than one meeting, and twice they were recommended for publication in the *Philosophical*

<sup>28</sup> William Derham, ed., *Philosophical Experiments and Observations of the Late Eminent Dr. Robert Hooke ... and Other Eminent Virtuoso's in his Time* (London: W. and J. Innys, 1726).

<sup>29</sup> This note appears on a slip pasted onto the inside of the front cover of Guildhall MS 1757.

<sup>30</sup> Seemingly this included, rather oddly, the "Hooke Folio" (Hooke's draft minutes of Society meetings during his term as Secretary and notes extracted by him from volumes of minutes taken by the previous Secretary, Henry Oldenburg, now Royal Society MS 847). The descent of Hooke's papers through Derham's heirs is described in the Bonhams Auction Catalogue for Tuesday 28 March 2006, *Printed Books and Manuscripts: Science and Medicine including the Hooke Folio*, 20–21.

*Transactions*. Only one paper was judged “not sufficient,” and this described “three contrivances for Perpetual Motions” devised by “an unknown Projector.”<sup>31</sup> It was always the case that only a selection of papers read at meetings of the Royal Society were published in the Society’s journal. However, of Hooke’s two papers specifically recommended for printing, one was apparently never published and the other appeared in Derham’s volume some fourteen years later.<sup>32</sup> It seems that, whilst the archive was still perceived as a valuable collection of papers, many of the individual papers were deemed more appropriate for oral communication to the assembled Fellows than a printed volume. In a meeting, their unfinished state and the lack of explanatory figures were not so much of a problem: here they prompted discussion among the Fellows (many of whom would have known Hooke and possibly remembered earlier work on similar topics); they also provided hints for further research and were sometimes given to particular Fellows for closer study.<sup>33</sup> In print, however, these were serious drawbacks.

In some ways it is curious that Derham in particular went ahead with his volume. That he did so is presumably an indication of the esteem with which he and other Fellows regarded Hooke’s work (perhaps even Newton, then President, was not as anti-Hooke as some have suggested). However, the miscellaneous nature of the *Philosophical Experiments* was clearly not to Derham’s taste, despite being similar in some respects to the jumble of material that went into each volume of the *Philosophical Transactions*. Two underlying reasons for this dissatisfaction suggest themselves. The first is connected with the edition’s intended audience. If Derham expected or hoped for a wider readership than the community of English scientists, presumably he would have chosen to print polished papers that illuminated some of the key concepts of the day. As we have seen, the Fellows themselves thought the material was useful as it stood; a reader less familiar with the territory might have found it daunting. The second reason for dissatisfaction with the material found in the archive is that it does not present an integrated body of work representing Hooke’s achievements over his lifetime, making it difficult to paint a clear picture of his overall contribution. The early eighteenth century saw new efforts to memorialise previous Royal Society Fellows and research, including projects to publish abridged versions of the *Philosophical Transactions* as well as the posthumous works of individual Fellows. Waller and Derham presumably had something of this kind in mind when they took on their Hooke editions. Part of their difficulty arose from Hooke’s working practices: he moved quickly from one topic to the next, making notes and observations and presenting his findings at Society meetings, but apart from his Cutlerian Lectures and the *Micrographia* he seemed reluctant to produce sustained pieces of writing on any particular topic.

<sup>31</sup> Royal Society JBO/11, p. 351. I am indebted to Sachiko Kusukawa for this and the following references.

<sup>32</sup> Royal Society JBO/11, pp. 270 and 275; Derham, *Philosophical Experiments*, 292–96.

<sup>33</sup> Royal Society JBO/11, pp. 240 and 276; MS/562, entry for 17 June 1714.



## The Shape of the Archive

It was not what his eighteenth-century editors wanted or expected: what did Hooke's archive look like in his lifetime? It is at this point that the term "archive" begins to look a bit shaky, suggesting as it does a well-ordered repository of papers that have been set aside purposefully, perhaps with posterity in mind. Hooke's archive does not seem to fit this picture at all. He himself rarely mentioned his manuscripts. As Michael Hunter has pointed out, and shown in detail when dealing with Robert Boyle's papers, many of Hooke's fellow natural philosophers were very mindful of the way their manuscripts were ordered. Boyle kept lists of his manuscript works, as did Hooke's great friend Francis Lodwick FRS, who included his own manuscript writings in the catalogue of his library. No such list of Hooke's papers is extant, although of course it is possible that he drew one up at some point.<sup>34</sup> The remaining papers show almost no signs of having been indexed, docketed or organised in any way by Hooke himself. Perhaps the only exception to this is his habit of noting the dates on which papers had been read at Royal Society meetings and listing the names of those present. A typical example runs "Read at a Meeting of ye R Society Febr: 19 1689/90. present Sr R Southwell Sr J Hoskins Mr Hill Mr Waller Mr Pitfeild Mr Lodwick Houghton. Hally Weeks Dr Slone Slare Dr Harewood. & divers others."<sup>35</sup> Although the paper itself has not been put into an ordered series by Hooke, his note links the contents with the Society's institutional record of its meetings. Thus the Society as an institution was witness to the essay's existence, as well as the individuals enumerated.<sup>36</sup>

This practice raises questions about the extent to which Hooke differentiated between his own papers and those of the Royal Society and how he viewed the relationship between the two archival entities. Hooke was in a unique position in terms of the Society's archive. The papers were kept at Gresham College, where he lived; in addition to serving a short term as Secretary, he was the official custodian of the Society's collections, manuscript and otherwise. A large proportion of the early entries in the Journal Books and Registers record Hooke's contributions to

<sup>34</sup> Michael Hunter, "Mapping the Mind of Robert Boyle: The Evidence of the Boyle Papers," in *Archives of the Scientific Revolution*, 121–36. For Lodwick's library catalogue see Felicity Henderson and William Poole, "The Library Lists of Francis Lodwick FRS (1619–1694): An Introduction to Sloane MSS. 855 and 859, and a Searchable Transcript," *The Electronic British Library Journal* (2009), online <<http://www.bl.uk/eblj/2009/articles/article1.html>>, accessed 14 September 2009. I have suggested elsewhere that Hooke may have used his memoranda books to keep track of his papers (Henderson, "Unpublished Material," 131–32).

<sup>35</sup> Trinity College, Cambridge, MS O.11a.1<sup>14A</sup>. The first eight men named were among Hooke's closest friends.

<sup>36</sup> The almost compulsive listing of names is a characteristic of Hooke's later memoranda; a similar impetus possibly underlies this listing on his papers read at meetings of the Royal Society, although Hunter has suggested Hooke required witnesses that he had delivered his Cutlerian Lectures (Hunter, *Establishing the New Science*, p. 333).

the Society's experimental programme. Did his physical proximity to the Society's archive, and his prominence in its pages, make the ordering of his private papers less urgent? It is certainly possible that he saw the two collections working in tandem, despite occasional dissatisfaction with the Society's record-keeping processes.<sup>37</sup> The Society's archive was clearly destined to play a significant role in Hooke's scheme to memorialise his scientific achievements later in life, as the contents of the "Hooke Folio" show—more significant, seemingly, than his own archive.

Since Hooke has not left many textual clues to the contents of his archive, we must turn to the remaining papers themselves for further information. The majority extant have been preserved in the archive of the Royal Society, many now bound into volume 20 of the Classified Papers series. Most are in Hooke's hand and stem from his Royal Society activities; they are papers read before the Society, letters he sent and received during his term as Secretary (1677–82), diagrams, and descriptions of inventions and experiments. There are also a large number of less-finished papers—extracts, translations, notes, calculations.<sup>38</sup> Other smaller bundles of Hooke's papers are held at the British Library, the Guildhall Library, and the Wren Library at Trinity College, Cambridge; other institutions also hold single papers.<sup>39</sup> These collections display similar characteristics to those at the Royal Society: they cover a range of topics seemingly without an organising principle; most are separates in Hooke's hand; many are unfinished drafts or disconnected notes.

The least-studied aspect of Hooke's archive is his collection of manuscripts written by others. This includes separates of a similar kind to Hooke's own productions and a number of longer manuscript texts. Some of the non-holograph papers are found among collections of Hooke's writings (such as those in the Wren and Guildhall libraries) and have therefore been identified as Hooke's. Others have escaped notice: these include papers previously owned by Hooke that are now scattered through the Royal Society's collections of early papers.<sup>40</sup> It is, however, possible to identify at least some of these by the annotations of Waller and, to a much greater extent, Derham. Derham seems to have docketed all of Hooke's papers that came into his hands as a first step in preparing his edition. His markings are often in the form of a note on contents, a number, and "N. P.," signifying "do not print." A typical example, written on a Hooke holograph, runs: "Pekin Chariot w<sup>th</sup> one wheel | IV.25 | NP."<sup>41</sup> Hooke's interest in this intriguing Chinese chariot is attested elsewhere; however, Derham's

<sup>37</sup> Hooke had been particularly vexed by what he saw as Henry Oldenburg's deliberate omission of some of his work from the records and his part in the controversies between Hooke, Newton and Huygens (Rob Iliffe, "In the Warehouse: Privacy, Property and Priority in the Early Royal Society," *History of Science* 30 (1992): 29–68).

<sup>38</sup> All Hooke's papers at the Royal Society are available for public consultation, and most are indexed in the catalogue to the archives, accessible online at <http://www.royalsociety.org/library>.

<sup>39</sup> The best guide to the location of the papers remains Keynes's calendar (see footnote 4 above).

<sup>40</sup> Papers dating from Hooke's period at the Royal Society are now mostly bound into volumes in two series, Classified Papers (Cl.P) and Early Letters (EL).

<sup>41</sup> Royal Society Cl.P/20/15, fol. 26v.

annotations can also be used to identify papers seemingly unassociated with Hooke. One example is an essay entitled “Some microscopical Observations of vast numbers of Animalcula seen in water by John Harris MA Rector of Winchelsea in Sussex & FRS,” which was read to the Society on 27 May 1696 (a fact that has been noted on the manuscript) and later published in the *Philosophical Transactions*.<sup>42</sup> Derham has written on the verso of the second page “Dr Harris’s acc<sup>t</sup> of Animalcules in water. Pubd J Low: Abr: V.3. p.650 | NP.” This note refers to the republication of Harris’s essay in John Lowthorp’s popular abridgement of the *Philosophical Transactions* to 1700, published in three volumes early in the eighteenth century.<sup>43</sup> However, the presence of Derham’s note suggests that Harris’s paper was at one time in Hooke’s archive.<sup>44</sup> This is not in itself particularly surprising, given the subject of the paper: Hooke was of course one of the pioneers of microscopy, and Harris paid tribute to “the Learned Dr. *Hooke*” in his essay. Though Hooke and Harris attended meetings of the Society together and shared similar interests, there is no indication in the surviving records of any particular friendship.<sup>45</sup> Instead, the presence of Harris’s paper in Hooke’s archive suggests that Hooke was an occasional collector of manuscripts on topics of interest—including ones that by rights belonged in the archives of the Royal Society.

Another stray paper from Hooke’s archive is a reminder of a closer working relationship. An extract of a letter from Dutch East India Company personnel in Indonesia describes a volcanic eruption and subsequent earthquake in May 1673.<sup>46</sup> The paper is otherwise unattributed, but it is written in the distinctive hand of Francis Lodwick, Dutch-speaking merchant, friend of Hooke and active Fellow of the Royal Society from 1681 until his death in 1694. Derham has endorsed the verso “Extract of a letter from Batavia ab<sup>t</sup> an earthquake at Ternata | 12 Aug 1673 | L<sup>i</sup> 35 Duplicate | P. E. | NB This is in the same hand that the descript. of Tertuga is in.” Some of this can be decoded without much difficulty: “P. E.” is a formula meaning

<sup>42</sup> Royal Society Cl.P/17/27, unfoliated; *Philosophical Transactions* 19 (1695–97): 254–59. Harris (ca. 1666–1719) had been elected a Fellow in April 1696; for biographical details see *ODNB*. Hooke was present at the meeting in which Harris’s paper was presented to the Society, but no comment of his was minuted.

<sup>43</sup> John Lowthorp, *The Philosophical Transactions and Collections to the End of the Year 1700 Abridg’d and Dispos’d under General Heads*, 3 vols. (London, 1705), 3: 650–53.

<sup>44</sup> The presence of Derham’s annotations may not be a definite indicator of Hooke’s original ownership, as a few of Waller’s papers seem to have come into his hands as well; he printed some of these, dated after 1708, in his *Philosophical Experiments* (345–88). It is likely that he marked them up in a similar fashion, but unfortunately none of the original manuscripts survive, so this cannot be confirmed.

<sup>45</sup> Another of Harris’s early works was his *Remarks on some late Papers relating to the Universal Deluge, and to the Natural History of the Earth* (London, 1697), another subject on which Hooke was an authority.

<sup>46</sup> Now Royal Society Cl.P/9/33, fol. 97r; printed in Derham’s *Philosophical Experiments*, 35–36. Possibly with this account in mind, Hooke mentioned “Ternate of the Moluccas” in a list of islands he theorised had been raised above sea-level by earthquakes (Waller, *The Posthumous Works of Robert Hooke*, 421).

“to be printed” (possibly standing for “Print Entire”?). The “descript. of Tertuga” refers to a longer manuscript in Lodwick’s hand, a translation of Alexandre Olivier Exquemelin’s extremely popular pirate narrative *De Americaensche Zee-Rovers*, first published in Dutch in 1678. Lodwick’s translation, entitled “American Pyrats,” is now among a bundle of Hooke’s papers in the Guildhall Library, London.<sup>47</sup> It too has been endorsed by Derham with “In y<sup>e</sup> same hand y<sup>t</sup> y<sup>e</sup> Acct of | the earthquak at Ternata is.”

Hooke’s memoranda entries suggest that he and Lodwick first met in the early 1670s and became closer friends as the decade progressed, meeting regularly in coffee-houses to discuss philosophical matters with others in their immediate circle.<sup>48</sup> The two men collaborated on several translation projects, including English versions of letters from the Dutch microscopist Antoni van Leeuwenhoek to the Royal Society. In June 1693 Hooke noted that he had “delivered to Lodwick Bontecoës book of tea to translate”—this was Cornelis Bontekoe’s *Tractat van het Excellenste Kruid Thee*, published in Dutch in 1679.<sup>49</sup> Unfortunately there is no evidence among Lodwick’s papers that a translation was forthcoming.



The archive outlined so far has consisted of separates and small gatherings of papers, but it did contain longer manuscript books, some written by Hooke and some owned by him. Unfortunately there are only three sustained pieces of Hooke’s own manuscript production now extant: the two manuscripts of his memoranda and the Hooke Folio.<sup>50</sup> As well as their physical similarities, these manuscripts share a common thread in that they were all (apart from his Royal Society minutes) part of Hooke’s ongoing project to memorialise his own life and experimental work.<sup>51</sup>

The manuscript volumes owned but not written by Hooke deserve to be considered here as part of his archive, although perhaps not in quite the same way as his

<sup>47</sup> Guildhall Library MS 1757. The translation is unfinished, possibly owing to the publication in 1684 of two anonymous English translations: *Bucaniers of America* (London: printed for William Croke, 1684) and *The History of the Bucaniers* (London: printed for Tho. Malthus, 1684).

<sup>48</sup> For Lodwick’s intellectual interests see his biography in the introduction to *The Writings of Francis Lodwick*, ed. Felicity Henderson and William Poole (Oxford: Oxford University Press, forthcoming).

<sup>49</sup> Cornelis Bontekoe, *Tractat van het Excellenste Kruid Thee* (The Hague: Pieter Hagen, 1679); for the significance of the work see Harold J. Cook, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age* (New Haven and London: Yale University Press, 2007), 293–95.

<sup>50</sup> The memoranda are now Guildhall Library MS 1758 and British Library Sloane MS 4024. Other material of this type is now lost, including Hooke’s beginning of an autobiography and, perhaps, his survey books detailing the work he carried out for the City of London after the fire in 1666 (see Waller, *The Posthumous Works of Robert Hooke*, i–ii and Cooper, *A More Beautiful City*, 139–40).

<sup>51</sup> For a fuller description of the Hooke Folio see Adams and Jardine, “Return of the Hooke Folio.” For the function of the memoranda see Lotte Mulligan, “Robert Hooke’s ‘Memoranda’: Memory and Natural History,” *Annals of Science* 49 (1992): 47–61; and Henderson, “Unpublished Material.”

personal papers.<sup>52</sup> Very few can be identified, precisely because they were not regarded as part of his papers after his death. Only one manuscript is listed in the *Bibliotheca Hookiana* as having gone to auction with Hooke's library of printed works, listed among the Latin octavos as "Libr. M.S. Arabice, pulcherrime exaratus in nitidissimam Chartam."<sup>53</sup> However, he certainly owned further works in manuscript. We know that Mrs. Dillon presented some of Hooke's manuscripts to the Royal Society shortly after his death, because the Society's Journal Book records the gift at the meeting of 28 April 1703: "Severall Natural things were presented to the Society, Together with Some MSS in Divers Languages." Thanks to a handwritten note in one of the early Royal Society library catalogues, these manuscripts can be identified. There seem to have been only three: a book of automata by Hero of Alexandria, written in Greek; a translation by Samuel Griffith of Louis De La Forge's treatise *Traitté de l'Esprit de l'Homme* (Paris, 1666); and "An account of the shipwreck of the *Johanna* Capt. Robert Brown, near the Cape of Good Hope, May 29. 1682, and of the subsequent fate of the crew."<sup>54</sup> The Greek manuscript was the only one singled out for special attention in the minutes of the meeting at which it was presented. Humfrey Wanley (not yet a Fellow but certainly an expert on manuscripts) claimed it had been "Written by Angelus Burgecius a Cretan at Paris about the Year 1567," and that there were two other manuscripts in the Bodleian in the same hand.<sup>55</sup> At the next meeting the manuscripts were "referred to the Perusal of Mr Waller"; they seem not to have occasioned any further interest.

All three manuscripts can be firmly linked with Hooke. The Greek Hero was given to him by Dr. Robert Wood FRS, according to a note in Hooke's memoranda on 14 January 1678.<sup>56</sup> Wood had worked with Sir William Petty FRS in Ireland and had lent Hooke copies of Petty's writing on political arithmetic and the problems

<sup>52</sup> Michael Hunter has identified in Robert Boyle's papers a "penumbra" of more miscellaneous papers surrounding the core of Boyle's compositions (*Archives of the Scientific Revolution*, 13) and argues that they are significant for understanding an individual's intellectual development. Whilst he specified notes, commonplace books and copies of papers, there is no reason that longer manuscript tracts should be excluded from this category.

<sup>53</sup> *Bibliotheca Hookiana*, 22, no. 11. Hooke does not seem to refer to this manuscript anywhere in his memoranda, and its contents and current whereabouts are unknown.

<sup>54</sup> These are now Royal Society MSS 31, 76 and 37. The early catalogue of the Society's library containing the note on their provenance has not itself been catalogued and therefore lacks a reference number.

<sup>55</sup> Royal Society Journal Book (Copy), 10: 30–31. The scribe to whom Wanley referred was Angelus Vergikios, who worked in Paris and at the Royal Library at Fontainebleau and whose handwriting was the model for the "grecs du roi" type cut by Claude Garamond for the Estienne Press (see Mark L. Sosower, *A Descriptive Catalogue of Greek Manuscripts at St John's College, Oxford* (Oxford: St John's College Research Centre, 2007). Wanley (1672–1726) had been assistant librarian at the Bodleian between 1695 and 1700 and, following his move to London in 1700, assistant to Hans Sloane, Secretary of the Royal Society.

<sup>56</sup> "Dr Wood gave me Heroes *Antomatopeia* [i.e. Automatopeia] in a greek manuscript" (Robinson and Adams, *The Diary of Robert Hooke*, 340).

of Ireland's economy.<sup>57</sup> In 1681 he was elected master of the mathematical school at Christ's Hospital, where Hooke was a governor. The Greek manuscript was a fine gift to Hooke, who, like Hero, had a passion for inventions.

The two other manuscripts are both connected with Samuel Griffith. His translation of De la Forge, dated 1 January 1673/4, has "To Mr. Rob<sup>t</sup>: Hooke" written on the front page of each of its four parts. The final page is signed "Samuel Griffith | From Tyeuan on ye Island of Formosa," suggesting it was sent to Hooke from Taiwan, possibly in four separate sections—the first page of each section is rather dirtier than the rest, suggesting they were originally composed separately and bound together at a later stage. Griffith is an interesting character, though unfortunately he has left only sketchy traces in the historical record. East India Company records show that he was a London apothecary who petitioned for employment with the Honourable Company as a purser in 1670. Nothing came of this until the following year, when a position as factor at Bantam in Indonesia became vacant. Griffith, reported as "having some knowledge of drugs and phisic, speaking French, Spanish, and Portuguese, and several Committees testifying to his sobriety and good behaviour," was duly elected and sailed to the East.<sup>58</sup> He lived in Taiwan and Indonesia for over ten years, but intermittent mentions in Hooke's memoranda show that the two men kept in touch. Griffith sent Hooke three Chinese books in 1678, which Hooke immediately showed to Robert Boyle FRS.<sup>59</sup> These may have assisted Hooke when formulating his theories of the Chinese language, printed in the *Philosophical Transactions* in 1686.<sup>60</sup> Griffith returned to London around 1683 and met Hooke again in April of that year. Hooke presented him with a copy of Robert Knox's history of Ceylon, perhaps in the hope of spurring Griffith to attempt a similar description of life in Taiwan or Bantam.<sup>61</sup>

The third manuscript donated by Mrs. Dillon, "An account of the shipwreck of the *Johanna*," seems to be missing a title-page, perhaps cut out, as a stub of paper remains. It is almost certainly connected with an entry Hooke wrote in his memoranda on 30 July 1689: "Returnd Mr Griffith Relation of ye *Johanna* losse." The

<sup>57</sup> See, for example, Guildhall Library MS 1757, fols. 127r–130v, endorsed by Hooke "from Dr Woods copy of S<sup>r</sup> W. P. Oct 12. 1678" (fol. 130v).

<sup>58</sup> Ethel Bruce Sainsbury, *A Calendar of the Court Minutes etc. of the East India Company 1668–1670* (Oxford: Clarendon Press, 1929), 350; Ethel Bruce Sainsbury, *A Calendar of the Court Minutes etc. of the East India Company 1671–1673* (Oxford: Clarendon Press, 1932), 40, 52, 65; Ethel Bruce Sainsbury, *A Calendar of the Court Minutes etc. of the East India Company 1674–1676* (Oxford: Clarendon Press, 1935), 234.

<sup>59</sup> "Received of Capt. Walker 3 China books from Mr. Griffith. to Bennets and Boyles. shewd him books" (Robinson and Adams, *The Diary of Robert Hooke*, 347 [1 March 1678]).

<sup>60</sup> R[obert] H[ooke], "Some Observations and Conjectures concerning the Chinese Characters," *Philosophical Transactions* 16 (1686): 63–78. In his article Hooke says he has procured "a Dictionary of the Court Language" and "a *Chinese Almanack*" (66).

<sup>61</sup> Henderson, "Unpublished Material," 156; Robert Knox, *An Historical Relation of the Island Ceylon, in the East-Indies* (London: printed by Richard Chiswell, 1681). Hooke had supported the printing of Knox's work and contributed a preface.

*Johanna* was an East India Company ship wrecked off the South African coast in 1682. East India Company court minutes for the period record the decision to inspect Griffith's letters relating to the loss of the *Johanna*, so he must have been involved in some way, though it is not clear precisely how.<sup>62</sup> Hooke's copy of the narrative is not in his hand but is an elegant fair copy occasionally marked with pointing hands in the margin.<sup>63</sup> Prior to returning Griffith's copy, Hooke noted in his journal "Wrote voyage of Johanna," and again the following day "Wrote Voyage." Presumably he was transcribing the account; perhaps he then commissioned someone else to write it up neatly into this fair copy.

At least one further manuscript from Hooke's library is now in the Royal Society's archives, bound with a letter from Richard Mead FRS to "Revd Mr Chishull at Walthamstow," noting that "Mr Waller, Secretary to the Royal Society, found these Papers among Dr Hooke's Collections." Hooke's hand appears in an annotation on one page, but there are no other signs of his ownership. The manuscript is a journal kept by Francis Vernon FRS of his travels in Greece and Turkey in 1675 and 1676.<sup>64</sup> Vernon was elected a Fellow in 1672 and wrote to the Society's Secretary Henry Oldenburg describing the antiquities he had encountered in the early part of his travels, particularly at Athens.<sup>65</sup> In his letter he mentioned keeping "Memorials" of all he had seen; this is possibly a volume of his memorials. Francis Vernon died in Persia in 1677. In October 1677 Hooke recorded a visit to "Mr Vernon," probably Francis's younger brother James.<sup>66</sup> From him he received "Mr Vernons Letters from Cephalonia, Constantinople and Trapezeum," which he went on to transcribe over the following two weeks.

Further manuscripts of this kind once owned by Hooke are now in the British Library collections. Despite the fact that Hooke's manuscript library seems to have been dispersed separately from his printed library, it is perhaps not surprising that the same buyers were interested in both formats. The most prominent of these was the busiest and most omnivorous of early-eighteenth-century collectors, Sir Hans Sloane FRS. Giles Mandelbrote has recently demonstrated that Sloane purchased a number of volumes at the auction of Hooke's books.<sup>67</sup> Evidence in Sloane's manuscript accession registers shows that several manuscripts connected with Hooke entered Sloane's collections at around the same time.<sup>68</sup> These include a commentary on Manilius by Godefridus Wendelinus; George Hough's annotations and explication of Bernardus Varenius's *Geographia Generalis* (Amsterdam, 1650);

<sup>62</sup> British Library, India Office Records, B/37 (East India Company court minutes, 1682–84), 148.

<sup>63</sup> Similar pointing hand annotations occur in some of Hooke's printed books, but it is not clear whether they were made by him or another reader.

<sup>64</sup> Now Royal Society MS 73. For Vernon (1637–77) see *ODNB*.

<sup>65</sup> Published in *Philosophical Transactions* 11 (1676): 575–82.

<sup>66</sup> Later Secretary of State (see *ODNB*).

<sup>67</sup> "Sloane's Purchases at the Sale of Robert Hooke's Library."

<sup>68</sup> For a more detailed discussion of Sloane's accession registers with regards to Hooke's manuscripts see Felicity Henderson, "The Library of Robert Hooke: Notes and an Early Catalogue" (forthcoming).

and Hooke's autograph library catalogue from the period ca. 1676.<sup>69</sup> It is possible that the manuscripts of Francis Lodwick, also acquired by Sloane at this time, had been part of Hooke's library.<sup>70</sup> Later accessions by Sloane include three manuscripts previously owned by Dr. Francis Bernard which show signs of Hooke's ownership; a treatise on the variation of the compass; and some of Hooke's personal papers, including the remaining sections of his later memoranda.<sup>71</sup>

## Conclusion

Even a brief survey of the archive reveals dimensions to Hooke's work that have not previously been given much thought. Many of his papers attest to his strong interest in the translation of travel narratives and other natural philosophical works into English. As Secretary of the Royal Society Hooke dealt with correspondence from foreign philosophers, translating some letters himself and finding translators for others. This has been seen as merely part of his duties, but his archive shows him to be an enthusiastic translator of material that interested him. For example, Hooke translated two letters by the Jesuit Father Ferdinand Verbiest describing the Chinese Emperor's travels in Tartary in 1682 and 1683, published in French; these translations were printed anonymously in the *Philosophical Transactions* in 1686<sup>72</sup> along with his "Observations and Conjectures concerning the Chinese Characters." He also translated accounts of two journeys to China made by Feodor Iskowitz Backhoff and Zachary Wagener.<sup>73</sup> As we have seen, he collaborated with Lodwick on other translation projects. This literary aspect of Hooke's work has yet to be remarked upon by scholars.<sup>74</sup>

The archive also provides a somewhat different picture of Hooke's working life from that of his printed works. Evidence of Hooke's close association with Francis

<sup>69</sup> Now Sloane MSS 77, 917 (item 1) and 949. For Wendelinus see Tabitta van Nouhuys, "Copernicanism, Jansenism, and Remonstrantism in the Seventeenth-Century Netherlands," in John Brooke and Ian MacLean, eds., *Heterodoxy in Early Modern Science and Religion* (Oxford: Oxford University Press, 2005), 145–68, esp. 160–62.

<sup>70</sup> For further discussion of this possibility see Henderson and Poole, "The Library Lists of Francis Lodwick FRS."

<sup>71</sup> Sloane MSS 3858, 3888 and 3889, Francis Bernard's notebooks, contain additions in Hooke's hand; Sloane MS 3964, on the variation of the compass, shows no signs of Hooke's ownership, but Sloane's accession register describes it as "out of the Library of Mr Robt. Hooke" (Sloane MS 3972B, fol. 381v); Sloane MS 1039 is a miscellaneous collection of Hooke's papers, now bound; Sloane MS 4024 is the later memoranda.

<sup>72</sup> Guildhall Library MS 1757, fols. 82r–86v; *Philosophical Transactions* 16 (1686): 39–51 and 52–62. The intervening "Explanation, Necessary to Justify the Geography Supposed in These Letters" (62–63) is presumably also Hooke's.

<sup>73</sup> Translations of both these accounts were published in *A Collection of Voyages and Travels*, ed. Awnsham Churchill and John Churchill, vol. 2 (London, 1732), but they were not Hooke's versions.

<sup>74</sup> Hooke's reading of classical authors (which formed the basis of much of his work on geology, earthquakes and the age of the Earth) would also make an interesting study.



Lodwick would have been almost completely lost if not for Hooke's memoranda entries; these note the frequent contact between the two men but only occasionally hint at shared interests or endeavours. At first glance, their association seems an unlikely but unremarkable friendship between two men with very different backgrounds and working lives. However, the discovery of Lodwick's papers in Hooke's archive adds much more to this picture, showing that Lodwick was an important collaborator on certain of Hooke's projects, that he provided useful information to Hooke through his own contacts, and that Hooke valued his contributions enough to keep even Lodwick's half-finished "American Pyrats" translation among his own papers. No doubt more of Hooke's philosophical conversations and collaborations with his wide network of associates will be teased out when his papers are more fully understood.

*Royal Society, London*