A CHAPTER IN THE *NACHLEBEN* OF THE FARNESE ATLAS: MARTIN FOLKES'S GLOBE*

Kristen Lippincott

Surprisingly little has been published on the celestial globe in the Map Collection of the British Library, inv. no. G 30 (Figs 2a-c). Constructed from linen stretched over a wooden armature, the surface of the globe is made of plaster which has been smoothly applied to the linen support and then polished.[1] In the northern hemisphere, there is an inscription penned in an eighteenth-century hand, stating: 'Ex Prototyp[o] Farnesiano, cujus Diameter Ped.' (Fig. 2a).[2] The object is, in fact, an approximately half-scale copy of the marble globe held by the antique figure known as the Farnese *Atlas*.[3] The beautifully detailed figures of the constellations, added by hand in dark-grey ink line and wash, suggest that the British Library globe was specifically commissioned as a high-quality, three-dimensional, manuscript copy of the antique monument.

In his 1985 pamphlet on the study and conservation of globes, Arthur Baynes-Cope claimed that the piece had been custom-made in Italy for Sir Hans Sloane, around 1740.[4] Albeit repeated by Vladimiro Valerio, this suggestion can be dismissed relatively easily.[5]

It is true that a reference to the globe can be found as the final entry into Sloane's catalogue of 'Mathematicall instruments':

> 57. A copy of the Antique *orbis coelestis*, made from the original marble in the Farnese Palace at Rome at the desire of the late Martin Foulkes Esq[r]. and purchased at his Sale. Presented by Thomas Brand Esq[r].[6]

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1. For a brief description and a radiograph photograph showing the globe's construction see A. D. Baynes-Cope, *The Study and Conservation of Globes*, Vienna 1985 (= idem, 'The Study and Conservation of Globes', *Globusfreund*, XXXIII–IV, 1985–86, pp. 1–80; the pagination is the same in both versions), pp. 13 and 34, and fig. 5. It may be added that, although tremendously fragile, the globe survives today in remarkably good condition, with relatively few abrasions and quite small losses in the plaster itself. It does, however, appear to have become damp at some stage in its life, evidenced by some blurring of the pen drawings, and areas of loss in some of the constellations; there is a paler strip where, presumably, the meridian or a now-lost hour ring retained moisture and lightened the paint surface. The globe was conserved by Sylvia Sumira in the late 1990s, who reports that she did very little work beyond light cleaning and stabilising of the surface (in conversation, June 2007).

2. The word *cuius* in the inscription refers to the prototype. The abbreviation of its scale (*ped.*) and the spacing of the letters of the inscription suggest that the number of feet (*pedes*) was never filled in.

3. The diameter of the Farnese globe is approximately twice as large; it is given as 0·65 m. by G. Thiele, *Antike Himmelsbilder: mit Forschungen zu Hipparchos, Aratos und seinen Fortsetzern und Beiträgen zur Kunstgeschichte des Sternhimmels*, Berlin 1898, p. 28; and as 646 mm. by V. Valerio, 'Historiographic and Numerical Notes on the Atlante Farnese and its Celestial Sphere', *Globusfreund*, XXXV–VII, 1987–89, pp. 97–123 (105).

4. Baynes-Cope (as in n. 1), pp. 13 and 34. In the text, he dates the globe to c. 1740, but the date 'ca 1750' appears in the caption to fig. 5. It seems most likely that Baynes-Cope believed the globe to have been made c. 1740 and that the latter date is due to overly hasty editing.

5. Valerio (as in n. 3), pp. 97–123 (99–100 and 109 nn. 27–28). Valerio's suggestions are examined further below.

But the entry is not in Sloane's hand: Sloane had died in 1753 whereas the antiquary and natural philosopher Martin Folkes, FRS, who is described as 'late', died in London in June 1754; the sale of his collections took place in May 1755 and between January and March 1756.[7] From a number of examples which could be cited, it appears to have been accepted practice that, for a few years following his death, the British Museum Trustees added descriptions of any newly-acquired artefacts to the lists of objects in Sloane's original catalogues; this is certainly the case with the British Library globe, since an almost identically worded entry in the Museum's 'Donations Book' (or 'Book of Presents') proves that the Trustees accepted the globe into the collection on 5 May 1758 and that it had indeed, been presented to the museum by Thomas Brand.[8]

Although Folkes requested in his will that all his personal papers be destroyed, his library, collection of coins, medals and medallions and 'his entire and curious collection of prints bound and unbound' were auctioned off in two tranches.[9] Numerous annotated copies of the sale catalogues have survived, though none I have consulted bear the name of Thomas Brand; nor is there any entry for a medium- or larger-scale globe in the printed text of the thousands of entries listed in the catalogues.[10]

6. I thank Marjorie Caygill for this reference. The catalogue of 'Mathematicall instruments' is bound as the last section into Sloane's *Miscellanies*, now in the Museum of Mankind, London (British Museum, Dept of Ethnography). The entry appears on fol. 277.

7. See D. B. Haycock, s.v. 'Martin Folkes', in *The Oxford Dictionary of National Biography*, Oxford 2004, xx, pp. 222–24 (224): Folkes died on 28 June 1754 in his home on [Great] Ormond Street. For more information on Folkes (b. 1690), who was President of the Royal Society from 1741–53 and President of the Royal Society of Antiquaries from 1750–54, see C. R. Weld, *A History of the Royal Society with Memoirs of the Presidents*, London 1848, I, pp. 477–527; the entry by C. Gillespie in the *Dictionary of Scientific Biography*, New York 1981, v, pp. 53–54; J. Ingamells, *A Dictionary of British and Irish Travellers in Italy, 1701–1800 compiled from the Brinsley Ford Archive*, New Haven, CT and London 1997, pp. 365–66. See also the scurrilous (albeit highly amusing) description of Folkes by the antiquary and natural philosopher William Stukeley (1687–1765), reproduced below as Appendix I.

8. I would like to thank Stephanie Clarke for providing me with a copy of this page. The passage reads: 'May 5. 1758 … A copy of the Antique *orbis coelestis*, made from the original marble in the Farnese Palace at Rome, at the desire of the late Martin Foulkes Esq^r^. and purchased at his sale. ~~from~~ ^Presented by^ Thomas Brand Esq^r^'. Best known through his later activities as a reformer, Thomas Brand (c. 1719–1804) had recently been elected fellow of the Royal Society (1756) and of the Society of Antiquaries (1757).

9. There are four different sales catalogues, with the merchandise separated according to category: 1) *A Catalogue of the Genuine and Curious Collection of Mathematical Instruments, Gems, Pictures, Bronzes, Busts, Urns, Cabinets, curious Clocks, Bookcases, etc. of Martin Folkes, Esq; … sold by Auction By Mr. Langford At his House in the Great Piazza, Covent Garden On Wednesday the 7th and Thursday the 8th, of this Instant May 1755*; 2) *A catalogue of the Genuine, Entire and Curious Collection of Prints and Drawings Bound and Unbound, Of the Learned and Ingenious Martin Folkes, Esq; … sold by Auction By Mr. Langford At his House in the Great Piazza, Covent Garden, On Thursday the 15th of this Instant January 1756, and the Seven following Evenings*; 3) *A Catalogue of the Genuine, Entire and Choice Collection of Coins, Medals, and Medallions, In Gold, Silver, and Brass of the Learned and Ingenious Martin Folkes, Esqr; Late President of the Royal Society, Deceas'd; Which (by Order of the Executors) Will be sold by Auction, by Mr Langford, At his House in the Great Piazza, Covent Garden, On Tuesday the 27th of this Instant January 1756, and the Four Following Days*; and 4) *A Catalogue of the Entire and Valuable Library of Martin Folkes, Esq. … lately Deceased; Which will be sold by Auction By Samuel Baker, At his House in York Street, Covent Garden. To begin on Monday, February 2, 1756, and to continue for Forty Days successively (Sundays excepted)*. As an indication of the extent and value of Folkes's collection, the eight-day sale of prints and drawings brought in £741 18s.; the coins and medals secured £1,000 9s. 6d. and the 5,126 lots for sale from his library fetched £3,091 6s. The total realised from the sales in 1756, therefore, amounted to £4,832 23s. 6d.

10. One might assume that the catalogue for the May 1755 sale of scientific instruments would list any globes that Folkes had owned; but, intriguingly, among the nearly 100 instruments listed (which were made by such renowned makers as Bird, the Sissons, Cuffe, Culpeper, Wright, Jackson, and the clocks made by Quare and Graham), the only mentions of globes are a 'small globe [in a case] by Cushee' (no. 16) and an unattributed '3″ globe' (i.e., a pocket globe), which was sold as a job lot with two Napier's rods (no. 76). There is no mention of any larger-scale globe in this or any

Of the annotated copies of the sale catalogue for the collection of prints and drawings, however, one copy, belonging to the British Library, contains a significant handwritten addendum to the proceedings of the Eighth Night's sale, which took place on Friday, 23 January 1756. After lot 31,[11] at the bottom of page 17, there are four additional manuscript entries:

	£	s	d
A Globe		10	6
Chinese manuscript		9	6
A portfolio		13	6
Cabinet		1	11 [12]

This unique annotated reference to a globe might well indicate that Folkes's copy of the Farnese globe was auctioned off at the end of the last evening of the second set of sales—probably amongst those incidental items which did not fit neatly into the category of 'drawing' or 'print' but were, in some way, thought to be part of the paraphernalia connected with this particular part of the Folkes collection.[13]

Having traced the globe back definitively to Martin Folkes, questions begin to arise concerning its earlier provenance. In the preface to Richard Bentley's 1739 edition of Manilius's *Astronomica*, there is a description of how the copperplate engraving accompanying the volume had been based on an illustration taken from what appears to be Folkes's globe:

But just recently the most eminent Martin Foulkes, who is a great expert in the mathematical arts, as in all else, brought with him from Rome an *ectypum* of this Farnese globe made after it with the greatest care; and, in accordance with his singular generosity and the great zeal he has for promoting scholarship, he kindly communicated this to me. Further, in case the craftsman should perhaps make a mistake in drawing it, he himself [Foulkes] very carefully checked the illustration by reference to the *ectypum*.[14]

of the remaining sales. The catalogue of the first sale is quite rare when compared to the others, and I would like to thank Jenny Boyle for bringing the only copy in an English library (the V&A) to my attention.

11. Lot 31 was 'A long roll with the justs [*sic*] and tournaments held at Westminster on the birth of K. Henry VIIIth's eldest son'. Presumably, this item is the so-called 'Westminster Tournament Roll', now one of the treasures of the Royal College of Arms, London. For reproductions see S. Anglo, *The Great Tournament Roll of Westminster: Historical Introduction*, Oxford 1968; S. Anglo, *The Great Tournament Roll of Westminster: A Collotype Reproduction of the Manuscript*, Oxford 1968 and R. Barber and J. Barker, *Tournaments: Jousts, Chivalry and Pageants in the Middle Ages*, Suffolk, 1989.

12. BL Shelfmark 1572/602 = *A catalogue of the … Collection of Prints and Drawings Bound and Unbound … January 1756*, p. 17.

13. It is interesting to note that there were a number of related prints and drawings sold on the previous nights, including: 15 Jan., lot 37, 'Six [drawings] of astronomy and fortification' (sold for 2s.); 19 Jan., lot 33, 'Eight [drawings], of the antique Farnesian globe, the atlas, &c.' (sold for 6s.); and a book of prints described for 21 Jan., lot 46, as 'Some Prints of an antique Atlas in the Farnesian gallery' (sold for £1 5s.). Folkes had also owned several volumes containing reproductions of Annibale Carracci's paintings in the Palazzo Farnese, including two copies of the '*Galeria nel Palazzo Farnese in Roma dipinta da Annibale Caracci, intagliata da Carlo Cesio, Rome*' (3 Mar., lot 3465 and 8 Mar., 3980, both of which sold for 15s.), and '*Galeria Farnesiana, ab Anibale Caraccio, Rom.*' (sold for £2 3s on 16 Mar. 1756). These entries would seem to refer to the *Aedium Farnesiarum tabulae ab Annibale Caraccio depictae a Carolo Caesio aeri insculptae atque a Lucio Philarchaeo explicationibus illustratae*, Rome 1753; and *Imagines farnesiani cubiculi cum ipsarum monocromatibus et ornamentis Romæ in aedibus Sereniss. Ducis Parmensis ab Annibale Carraccio aeternitati pictae. A Pietro Aquila delinatae incisae*, Rome 1690. Both books contain engravings of the scenes and decorative borders painted by Annibale, but neither includes an overall view of the *galeria* itself or an image of the Farnese *Atlas*, which, in any case, was housed in another part of the Palazzo.

14. Marcus Manilius, *Astronomica*, ed. R. Bentley, London 1739, pp. xv–xvi. This passage is reproduced and translated in full below as Appendix II. It is cited by Valerio (as in n. 3), pp. 99 and 108, nn. 23–24. The map is tipped in between the preface and the opening

The now rarely-used word *ectypum* refers to some form of reproduction of an object in which the figures or designs are presented in relief. In some cases, this relief was moulded or cast, but the word is also used to indicate gemstones which have been engraved or embossed or are suitable for making cameos.[15]

Bentley's edition of Manilius had a somewhat complicated publication history.[16] As early as 1691, Bentley announced that he was preparing an edition of the *Astronomica*. It may have been ready for publication as early as 1694, but was certainly in a publishable state by the mid-1730s. For numerous reasons, however—including a failed bid on the part of the Society for the Encouragement of Learning to publish the work, and Bentley's conviction that sufficiently high-quality paper was not available to do his volume justice—the publication was delayed until his nephew, also named Richard Bentley, was tasked with seeing the volume through the press in 1739. The younger Bentley was also entrusted with writing a preface for the volume, in which he defended his uncle's theory that Manilius had written the poem during the reign of Augustus and that he was certainly a Roman citizen.[17] It is the younger Bentley, then, who uses the word *ectypum* to describe the globe, and not the elder and more talented classicist. None of the subsequent scholars on the Farnese Atlas, Manilius or Bentley mentioned the nephew's word 'ectypum' until 1987,[18] when Valerio proposed that Folkes's *ectypum* was probably a plaster copy of the Farnese globe. He connected the artefact with 'Sir Hans Sloane's copy of the Atlante Farnese globe'—that is, the globe which is now in the British Library, which (following Baynes-Cope) he also dated to the 1740s.[19] And, finally, Valerio noted that a contemporary English instrument-maker, Benjamin Martin, had mentioned a copy of the Farnese globe 'which I have by me', and he speculated that this could have been yet 'another copy' of the Farnese globe, or the engraving from Bentley's Manilius, or 'Sir Hans' copy'.[20]

of book I. It bears the title 'ORBIS CÆLESTIS Tabula Ex marmore antiquo in ÆDIBUS FARNES: ROMÆ'.

15. Pliny the Elder, *Natural History*, XXXV.152 and XXXVII.173; Seneca, *De Beneficiis*, XXX.26. The word is also found as an adjective, *ectypus*, 'wrought in high relief', or 'formed in a mould', from Greek ἔκτυπος, τύπος. See *A Dictionary of Greek and Roman Antiquities*, ed. W. Smith, London 1890, s.v. *ectypus*; also a reference ibid., under s.v. *formula*.

16. See J. H. Monk, *The Life of Richard Bentley … with an account of his writings and anecdotes of many distinguished characters during the period in which he flourished,* 2 vols, London 1833, I, pp. 34–35, and II, pp. 395–97, esp. n. 19. See also R. C. Jebb, *Bentley*, London 1882, esp. pp. 141–43; and R. J. White, *Dr Bentley: A Study in Academic Scarlet*, London 1965, pp. 81–82, 84 and 234.

17. For additional information concerning the long-running debate over the date of the poem and the nationality of its author, see n. 16 above.

18. Monk (as in n. 16), p. 397, describes the engraving as 'having been taken from a model of the globe in the Farnese Palace, lately brought from Rome by Mr Martin Folkes, the eminent antiquarian scholar and the well-known President of the Royal Society'. Writing in 1898, Georg Thiele (as in n. 3), p. 21, simply stated that a drawing of the globe made by Folkes served as the basis for Bentley's engraving ('Eine vom Mathematiker Foulkes gemachte Zeichnung des globus ist darin in Kupferstich reproduziert …'; the 'Mathematiker Foulkes' is certainly Martin Folkes, the variant spelling used by Thiele reflecting that in the preface to Bentley's edition of Manilius; for Folkes see above, n. 7).

19. Valerio (as in n. 3), p. 99, and on the date p. 109 n. 28 (citing Baynes-Cope). Valerio combined the information in Bentley's preface with the assumptions of Thiele (cited in n. 18).

20. Valerio (as in n. 3), pp. 100 and 109 n. 29. See also below, n. 41. Benjamin Martin, *The Description and Use of both the Globes, the Armillary Sphere and Orrery …*, London [n.d.], pp. 108–09 (reproduced here as Appendix III). The book is dated to 1758 by the database *Eighteenth Century Collections Online*, on the tenuous basis that the table for the fixed stars, which is inserted after p. 201 and referred to on p. 88, has been calculated for that year. The British Library dates its copy (shelfmark 1651/538) to 'ca. 1760'. John Millburn, however, dated it to 1762 on the basis of references to that date in the three later editions of the text (1773, 1776 and 1799) and because it was bound together with a sale catalogue of 1762; see J. R. Millburn, *Benjamin*

As the idea that there were numerous three-dimensional copies of the Farnese globe circulating in London during the middle years of the eighteenth century seems unlikely and, since 'all' the globes mentioned in contemporary and later sources appear to be directly or indirectly connected to Martin Folkes, two outstanding questions remain. Did Folkes commission a plaster cast or a full-scale model of the Farnese globe on which the features, as the term *ectypum* implies, were either modelled in high-relief or, perhaps, engraved? And, is the half-scale copy in the British Library a copy of that now-lost original, or, is it actually the 'ectypum' itself, from which a drawing and, then, an engraving were made?[21]

Whereas the questions surrounding the extact nature of Folkes's 'ectypum' are difficult to resolve, other aspects of the story, such as the commissioning, manufacture, and eventual accession by the British Museum of the Library's globe, are fairly well documented.

The first, albeit somewhat ragged, reference linking Folkes to the Farnese globe appears on the final page of the diary he kept during his visit to Italy in the 1730s.[22] Allegedly as a result of his disappointment at losing (to Sir Hans Sloane) the election for presidency of the Royal Society, Folkes spent nearly two-and-a-half years on his Grand Tour.[23] He left England on 25 March 1733, passed through Germany and then arrived in Venice by mid-June. While in the city he conducted some optical experiments

Martin: Author, Instrument-Maker, and 'Country Showman', London 1976, pp. 124–25, 201 and 219–23 (appx 3).

21. Casts of the Farnese globe do exist, but all those I have located appear have been made in the 19th or 20th centuries. For example, two casts of the Farnese globe are recorded as having been displayed in the Library of the Specola Vaticana: see F. Denza, 'Globi celesti della Specola Vaticana', *Pubblicazioni della Specola Vaticana*, IV, 1894, pp. xvii–xxiii, esp. xx–xxiii. Sabino Maffeo S.J., Librarian of the Specola Vaticana, reports that neither of these plaster copies exist as part of the Specola's current collection. I thank Father Sabino for searching the collection and library records and for securing me a copy of Denza's article. One suspects that these globes were made in the 19th century, but the idea that the Library possessed and displayed two identical copies made at the same date does seem rather curious. A plaster cast commissioned by the Viennese Archaeological-Epigraphical Seminar was consulted and photographed by Georg Thiele in the 1890s, for his publication on classical celestial iconography, *Antike Himmelsbilder*: see Thiele (as in n. 3), pp. 27–28. Giulio da Petra, Director of the Museo Nazionale in Naples, mentioned another 19th-century cast, 'sul quale si potrà fare qualche altra ricerca per precisarne l'età'; see See Denza, ibid., p. xxiii. And a roughly-cast, coloured example was made in the 1930s for the Museo della Civiltà Romana: see U. Korn, 'Der Atlas Farnese: Eine archäologische Betrachtung', in *Antiquarische Gelehrsamkeit und bildende Kunst: die Gegenwart der Antike in der Renaissance*, ed. G. Schweikhart et al., Cologne 1996, pp. 25–44, esp. 31 n. 35; and (with a reproduction) *Galileo: Immagini dell'universo dall'antichità al telescopio* (exhib. cat., Florence, Palazzo Strozzi 2009), ed. P. Galuzzi, Florence 2009, cat. III. 1.8b. (See also S. de Mailly Nesle, *L'Astrologie*, Paris 1981, p. 74, where the object is reproduced but misidentified as a 'Roman astrological globe'.)

22. The diary is preserved in Oxford, Bodleian Library MS Engl. Misc. c. 444 (ex-Phillips MS 2930). As with many other Grand Tourists, Folkes tends to focus mostly on whom he met and with whom he dined, as well as minor illnesses and how well he did or did not sleep, but he does often list works of art he has seen in various churches and private collections, and he spends a good deal of time measuring both ancient and modern monuments and researching local systems of measurement. On 17 June, for example, he reported that he had 'endeavoured at a workhouse to get the true dimensions of a Venetian foot, but have not succeeded' (ibid., fol. 4^{r}).

23. Following Newton's death in 1727, there was a heated contest for the position of President of the Royal Society between Folkes and Sloane, the two serving Vice-Presidents. Sloane was elected to the position in March 1727 and Folkes was dismissed from the Society's committee. William Stukeley claimed that Folkes's decision to absent himself from London was directly associated with his failure to win the desired office (see below, Appendix I), but other writers do not present the situation in quite this manner. For example, Weld (as in n. 7), p. 480, drawing on numerous primary sources, merely states that 'he set out with his family to Italy, for the purpose of improving himself in classical antiquity'.

before an invited audience at the Palazzo Giustiniani.[24] He also records coming upon a map in the 'convent' of St Michael of the order of the Camaldolese (the 'white Benedictines') on the island of Murano, 'which took my curiosity':

> it is drawn in one Hemisphere of about 6 foot diameter and they say is by the hand of a brother of the convent whose effigies they showed me with his inscription: Frater Maurus St Michaelis Murcinensis, Venetus, Ordinis, camaldolensis cosmographus incomparabilis.[25]

The map is, of course, the now well-known *mappamundi* by Fra Mauro, since transferred to the Biblioteca Marciana in Venice. Folkes dated it to 1460 on the basis of another inscription,[26] and may have considered commissioning a copy.[27]

Having left Venice he travelled onwards to Padua, Ferrara, Ravenna, Rimini, Pesaro, Ancona, Loreto, Foligno, Terni and Città Castellino, finally entering Rome via the Porto del Popolo on 31 October 1733. The manuscript ends abruptly only two weeks into his year-long stay in Rome,[28] although we know that he returned to England via Livorno after several months in Florence,[29] and that he arrived safely home on 1 September 1735.

The general layout of each bi-folio of Folkes's diary is such that his drawings and observations tend to occupy the left side of the opening, while his daily record of life and its incidents fills the right side. Tantalisingly, on the final verso of the last surviving page of the manuscript, there is the following notation for the date 12 November 1733:

> Diam. of the Farnesian Globe. 2^{f}. 5 ^{Inch}. $^{1}/_{10}$ English measure.[30]

The note is set above a cursory, unfinished sketch of an arch supported by columns or pilasters with simple, protruding capitals, which strongly recalls the arrangement of pilasters, capitals and arches found on the ground floor arcading of the interior *cortile* of the Palazzo Farnese. It seems perverse, but likely, that the now-lost first recto of the next quire of pages would have provided a more detailed description of Folkes's visit to the Palazzo Farnese, and some mention of the statue of Atlas and the globe. But

24. Oxford, Bodleian Library MS Engl. Misc. c. 444, fol. 38^{r} (Saturday 28 June).

25. Ibid., fols 10^{r}–11^{r}.

26. Ibid.

27. Ibid., fol. 97^{r-v}. This is a letter which has been inserted into Folkes's diary. Seemingly not in his hand, the author, addressee and text are frustratingly unclear, but the letter seems to discuss a proposition for publishing the Fra Mauro map, a prospect which would be 'welcomed by learned men'. Given this tentative lead, it might be worth examining any 18th-century copies of Fra Mauro's map to see if they bear any traces of Folkes's intended commission and/or publication. In the meantime, I would like to thank Bruce Barker-Benfield for his assistance in tackling this problematic notice.

28. While in Rome Folkes visited the usual antique sites, such as the Capitol, the Forum, and the Baths of Diocletian, where he measured Bianchini's meridian line, finding it 'seemingly in good order' (ibid., fol. 91^{r}). He also visited several of the larger churches and most of the notable villas and palaces with significant art collections or libraries. The diplomat Sir Andrew Mitchell, in the random collection of his supplementary papers, records a number of expeditions undertaken with Folkes in Rome between 29 May and 8 June 1734. See British Library, Add. MS 58318, esp. fols 95^{r} (undated entry), 107^{v}, 109^{r}–110^{r}, 113^{v} and 115^{r}.

29. Among the numerous manuscript drafts of Thomas Birch's unpublished biography of Martin Folkes is an indication that Folkes spent 'some months' in Florence: London, British Library, Add. MS 4222, fol. 24^{r}; for Birch and his biography see further below, esp. n. 34. On 9 Jan. 1735, Folkes was elected to the Florentine Academy: see M. Wynne, 'Members from Great Britain and Ireland of the Florentine Accademia del Disegno', 1700–1825, *Burlington Magazine*, CXXXII, 1990, pp. 535–58, esp. p. 537 (cited by Ingamells, as in n. 7).

30. Oxford, Bodleian Library MS Engl. Misc. c. 444, fol. 98^{v}.

based on what survives of his diary, all one can conclude is that Folkes saw the globe in the Farnese Palace and that he measured it *in situ*.

The second piece of evidence, this time concerning Folkes's facsimile globe, appears in the *Minute Book of the Royal Society of Antiquaries*, which records an 'exhibit' brought by Folkes to the Society's meeting on Thursday, 7 July 1736:

> … M^r^ Folkes brought a Globe of giesso or plaster of Paris, with the Asterisms drawn thereon, in Indian Ink, being an exact copy of the Marble Globe on the back of an Antique Statue of Atlas in the Farnese Palace at Rome, and which is supposed to be the only perfect representation of an ancient Cælestial(i) Globe, and therefore very curious as it Exhibits more Exact delineations of the Constellations, as represented by the Ancients, than can be found Elsewhere. The Colure(ii) of this Globe passes by those parts of the asterism by which it is said to have passt in the days of Hipparchus but the intersection(iii) of the Equator & Eccliptic is not at the Colure,(iv) but at some distance from it. Whence Monsigneur Bianchini(v) of Rome who had prepared a Dissertation upon this Antiquity very Judiciously referred its age to the time of y^e^ Antonines.[31] Another particular very remarkable in this Globe is, that all the figures, present their backs, for the Ancients imagining the Constellations all so placed as to look on the Earth, an Eye that behold(vi) them from without the Starry Sphere, should naturally see the back parts of them, and Ptolemy the Astronomer describing the stars, as they appeared in a Cælestial(vii) Globe hence came to describe Several of them as placed in the backs of the figures, which not being rightly apprehended by some of y^e^ Moderns has put them upon altering inadvisedly y^e^ delineations left us by the ancients. - for this, M^r^ Folkes had the thanks of the Society. -[32]

This description of the Folkes's globe as made 'of giesso or plaster of Paris, with the Asterisms drawn thereon, in Indian Ink' exactly matches the physical characteristics of the British Library globe.

One of those present at the meeting, the Reverend Thomas Birch,[33] gives a similar account in his unpublished biography of Martin Folkes:

> He exhibited to that Society [of Antiquaries] on the 8^th^ [*sic*] of July following [=1736] a model of an ancient Sphere in the Farnese Palace at Rome, which model had been made in plaster of Paris under his Directions during his residence in that city, the original Sphere in stone supported by an Atlas being conjectur'd by him upon good grounds to have been made in the Year of the Xtian Æra 112, towards the latter End of the Emperor Trajan's Reign.[34]

31. The reference here is to the lengthy discussion of the Farnese globe and its date by Francesco Bianchini in *La istoria universale*, Rome 1697. A copy of this book appears in the listings for the 20th day (24 Feb. 1756) of the sale of Folkes's library: lot 2530, '*La istoria universale da Bianchini*, Rome 1697' (which sold for 4s. 6d.).

32. *Royal Society of Antiquaries Minute Book*, vol. II, pp. 201–02. In the index, the entry on p. 298 reads: 'Globe, Cast, of a most curious one, in y^e^ Farnesian Palace 201'. The typescript version of the minute book [hereafter 't/s'] varies in a few places from the original manuscript record in minor respects, as indicated in the text above and noted here: (i) t/s p. 231, Celestial; (ii) t/s p. 232, Colme; (iii) t/s p. 232, interjection; (iv) t/s p. 232, Colme; (v) t/s p. 232, Biauchini; (vi) t/s p. 232, beheld; (vii) t/s p. 232, Celestial. Listed as present at the meeting were: 'Mr Vice President Gale in the Chair / M^r^ Maitland / M^r^ Chandler / M^r^ Treasurer Gale / M^r^ Drake / M^r^ Folkes / M^r^ Papilion [t/s p. 231, Papillion] / The Rev^d^. M^r^ Birch. / The Rev^d^ M^r^ Freeman / M^r^ Nicholas, / M^r^ Holmes / S^r^ Joseph Ayloffe / M^r^ Vertue / M^r^ West / M^r^ Glen, / M^r^ Lyn / M^r^ Cole. / Doctor Stuart / S^r^ John Evelyn. V.P. / Doctor Mortimer / M^r^ Gordon'. (Ibid., p. 201.)

33. Those present were listed in the minutes (cited in n. 32). Thomas Birch was elected to the Society on 11 Dec. 1735.

34. London, British Library, Add. MS 4222, fols 22^r^–56^v^ ('Memoirs of the Life of Martin Folkes, Esq., late President of the Royal Society'), at fol. 24^v^. A slightly altered version of much of Birch's text appears in J. Nichols, *Literary Anecdotes of the Eighteenth Century; comprising Biographical Memoirs of William Bowyer, Printer, F.S.A. and many of his Learned Friends*, 9 vols, London 1812–15, II, pp. 578–93. The biography is printed, without an obvious reference to Birch, as 'Essays and Illustrations, No. VII. Martin Folkes'. The

The text continues with a more detailed corroboration of the circumstances which led to the creation and publication of the planispheric map in Bentley's edition of Manilius:

> A Draught of Draught of [*sic*] this [i.e., of the model] was communicated by him to Dr. Bentley, then preparing his long promis'd Edition of Manilius, in which it was afterwards publish'd in the year 1739 in 4to.[35]

Despite the repetition of words in the first clause (caused by the transition from one page of the text to the next), Birch's notes assert quite clearly that the plaster model, which had been presented to the Society of Antiquaries, had been constructed under Folkes's direction while he was in Rome. Moreover, he claims that it was a 'Draught' —that is, presumably a drawing—of the plaster model which served as the basis of Bentley's engraving. Birch's descriptions, then, argue in favour of the notion that the British Library globe is itself Folkes's 'ectypum', from which a drawing and, subsequently, Bentley's engraving were made.[36]

One thing which can be maintained with certainty is that, for whatever reason, Folkes chose to exhibit at the Society of Antiquaries his half-scale, plaster manuscript globe, rather than a cast, or high-relief copy, or engraved version of the Farnese globe —if such a object ever existed. As a final test, it is useful to return to Richard Bentley Junior's claim that the planispheric map accompanying the volume had been checked by Folkes against the 'ectypum' he had obtained in Rome.[37] If the Bentley engraving had been corrected against a plaster cast of the Farnese globe, one would expect the constellations to be closer to those on the original globe than the freely-drawn versions on the half-scale manuscript copy of the globe. If, on the other hand, the engraving was adjusted against the British Library globe without recourse to the original or a cast, then there should be some evidence showing a gradual distancing from or deterioration of the constellation iconography from one to the other. Further, there should be some aspects of the Bentley maps which were derived directly from the British Library globe and do not appear in the original Farnese globe, or a cast of it.

After a close examination of the areas of agreement and disagreement in the placement and formation of the constellation figures in the original globe held by the Farnese Atlas, the British Library globe and the Bentley-Folkes hemispheres, it is clear that the Farnese and British Library globes share a number of features which

edited version reads (p. 582): 'On his [Folkes's] return to England, he presented the Royal Society with his *Remarks on the Standard Measure preserved in the Capitol of Rome*, and the model of an ancient globe in the Farnese Palace, which model was made at Rome under his direction: the original sphere, in stone, supported by an atlas, was supposed to have been made in the year of the Christian ere 112, towards the end of Emperor Trajan's reign'. A footnote to this passage (‡) continues the text: 'The Colure passes through those parts of the asterisms by which it is said to have passed in the days of Hipparchus; but the intersection of the equator and the ecliptic is not at the Colure, but at some distance, whence Bianchini, who intended a Dissertation on it refers it to the time of the Antonines. The figures all turn their back, because the Ancients supposed the constellations looked on the Earth, and so they would appear to do, if viewed from without the starry Sphere; and Ptolemy, describing their appearance on a celestial Globe , places them on the backs of the figures, which is not rightly understood by some moderns'. Birch's description appears to be the source consulted by Weld (as in n. 7), pp. 480–81.

35. British Library, Add. MS 4222, fols 24^{v}–25^{r}, reappearing in a variant form in Nichols (as in n. 34), II, p. 582 n.

36. For Richard Bentley Jnr's account (including his reference to the 'ectypum') see above, n. 14.

37. Appendix II.

have not been carried over into the Bentley-Folkes maps; and that there are several pictorial details which appear in the maps but are not evident in either of the globes.[38] Moreover, there are quite a few instances in which British Library globe and the Bentley-Folkes map share details which have not been derived from the Farnese globe.[39] In fact, there is only one point where the Farnese globe and the Bentley-Folkes map agrees against the British Library globe, and that is in Eridanus's river, which extends well to the east of Lepus in the Farnese globe and the map (Fig. 3b), though it does not in the British Library globe.

38. The following examples use the abbreviations FA (Farnese Atlas globe), F (Folkes globe), and B-F (Bentley-Folkes map). References are given to my own photographs of the constellations (Figs 1–3), with apologies for those which lack visual clarity.

CEPHEUS: The big toe of his right foot touches the vernal colure on FA and F, but is some distance from it in B-F.

BÖOTES: F preserves some features from FA which are not repeated in B-F (e.g.: in the folds and armhole of Böotes's *tunica exomis*, and the manner in which the toes of his left foot cross the colure in the globes), whereas in the maps they merely touch it. Also, in B-F, the musculature in his right shoulder has been misunderstood and rendered as if it might be the remnant of a shoulder-strap (see Figs 2a and 3a).

LYRA: B-F adds crossbars at the top and bottom of the strings (Figs 3a-b). Neither is evident on either of the globes.

AURIGA: On both FA and F, the toes of the following foot are on the upper boundary of the ecliptic band, but in the B-F maps the foot has slipped down to the Tropic of Cancer. Also, the narrow shoulders seen on FA and maintained on F have become broader in B-F (Fig. 3b).

ANDROMEDA: Her reversed 'right' foot on FA is preserved on F, so that the sole is visible on both. In B-F it has been turned around, so the foot is viewed from the top (Figs 1c, 2c and 3b).

CANCER: The claws of the crab on the globes are semicircular, but they are slightly scalloped in B-F (Fig. 3a).

VIRGO: On both globes, her left wrist overlaps the equator and the fingers touch the southern line of the ecliptic belt (although the fingertips have been lost on F). In B-F, the hand is on the equator and does not touch the southern boundary. F preserves the flouncing hem of Virgo's dress as shown on FA, but it is much calmer in B-F (Figs 1b, 2a and 3a).

SCORPIO: The legs are V-shaped on the globes, but are not jointed in B-F (Figs 1a, 2b and 3a).

CAPRICORN: On FA and F, the two horns fall on either side of the northern boundary of the ecliptic band (although the lines of the horns appear on the darker grey plaster of F and may be the work of a later conservator), but both horns run in front of it in B-F (Fig. 3b).

AQUARIUS: On FA and F, the stream of Aquarius flows into the Tropic of Capricorn, a little to the west of Cetus's tail, while it flows into the tail of Cetus in B-F (Fig. 3b).

CRATER: By comparison with the globes, in B-F the mouth is narrower, while the body is rounder and an extra step has been added beneath the foot of the urn (Fig. 3a).

CANIS MINOR: The space where Canis Minor should be is blank on F and in B-F, suggesting that the artist of F did not see it on FA, and this was copied in B-F (Fig. 3b).

39. For example:

DRACO: The head is viewed as if from the top on FA, but appears in profile on F and in B-F, with the top of the head to the south. Also, Draco's scales, which are a feature of FA, are not shown either on F or in B-F; instead, both use radial banding to indicate shading on Draco's body (Figs 3a-b).

CEPHEUS: Only the following (eastern) hand touches the ever-visible circle on FA, compared with both hands on F and in B-F. The hands are definitely seen from the back on FA, but the palms are visible on F and in B-F. And Cepheus's right toes touch the colure in FA, but not on F or in B-F (Figs 1c, 2c and 3b).

BÖOTES: FA has Böotes's head in full profile to the left, while both F and B-F show Böotes with a *profile perdu*. On FA, the hair is less shaggy and the right hand is larger than on F or in B-F (Figs 1b, 2a and 3a).

CASSIOPEIA: On FA, it is difficult to determine the orientation of Cassiopeia and the shape of her sleeves. On on F and in B-F, her back is towards the viewer and she wears a sleeveless tunic. On FA, the outline of each leg is clear and she faces towards the east. On F and in B-F, her legs are not depicted individually; also her face is turned backwards, towards Cygnus and the west (Figs 1c, 2c and 3b).

AURIGA: On FA, the fillet is tied under Auriga's breast, whereas on on F and in B-F, the fillet moves down towards the waist. The top of the left foot (closer to the advanced Twin) is visible on FA, while the foot is depicted in profile on on F and in B-F. The very large nose of the Farnese Auriga has become normalised on F and continues in that form in B-F (Fig. 3b).

SERPENS: By comparison with F and B-F, on FA the head and neck of Serpens held by Ophiuchus is much

The pictoral evidence suggests that the line of transmission runs from the Farnese globe to the British Library globe and then, via a now-lost drawing, to Bentley's engraving. Therefore, it seems safe to conclude that the globe in the British Library was a copy of the Farnese globe commissioned by Martin Folkes, probably from an Italian artist, sometime between 12 November 1733 and January 1735. Whether the piece was carried with Folkes on his return journey or was later shipped to England, we know that it was in London by July 1736, when he presented it to the Society of Antiquaries. Bentley had started work on the *Astronomicon* in the 1690s; his book was reportedly 'ready to be printed' in 1736, but was not seen through the press until 1739. It is likely, therefore, that the drawing on which Bentley's engraving was based was made, during roughly the same period, from the manuscript globe which Folkes presented at the Society of Antiquaries, with Folkes surpervising and 'correcting' the two-dimensional renderings against his copy.[40] It is possible that Folkes also had a plaster cast of the Farnese globe—the elusive 'ectypum'—in his collection, but apart from Richard Bentley Junior's notation, all other references to Folkes's version of the Farnese globe clearly indicate that it was a plaster globe, the surface of which was decorated with ink drawings of the constellations and heavenly co-ordinates. The existence of a cast or full-scale copy is a wonderful possibility, but not a necessity when it comes to explaining the various stages in the dissemination of the globe's iconography. Folkes died in 1754 and his collection was auctioned in 1756. His manuscript globe was acquired by Thomas Brand, and gifted to the British Museum on 5 May 1758.

more angular, and the head is tipped upwards (Figs 1b, 2a-b and 3a).

PEGASUS: On FA the cut-off is notably concave, whereas on F and in B-F it is depicted as a somewhat undulating line (Figs 1c, 2c and 3b).

ANDROMEDA: On FA, Andromeda's fingers lie on top of the northern line of the ecliptic band, while on F and in B-F, the fingers of Andromeda's right hand slip behind it. Also, the right hand is much larger on FA than on F and in B-F (Figs 1c, 2c and 3b).

ARIES: The right front foot is in front of the colure on FA but rests on the colure on F and in B-F. The left hoof rests on the southern boundary of the ecliptic band on FA but rests well below it on F and in B-F. And the forehead is quite straight on FA but slightly undulating, with a prominence above the eye, on F and in B-F (Figs 1c, 2c and 3b).

GRID: The left exterior beam of the grid-like object is much wider and protrudes slightly at either edge on FA, whereas on F and in B-F all of the bars are of equal width. Also, one of the interior crossbeams of the right half of the grid does not touch the outer edge of the rectangle on F and in B-F, but it does on FA (Fig. 3a).

LEO: The front right leg is very faint on FA and the line of the ecliptic runs between the two front legs. On F and in B-F, the front legs have been approximated and set close together. Both pass in front of the line of the ecliptic. Leo's tail is joined to his rump at the Tropic of Cancer on FA, but the joint is below the Tropic on F and in B-F (Fig. 3a).

SAGITTARIUS: The bow is depicted as an arc on FA but is a double curve on F and in B-F (Figs 1a, 2b, 3a).

CANIS MAJOR: The curve of the front shoulder is well above the Tropic of Capricorn on FA but precisely on it on F and in B-F (Fig. 3b).

ORION: The hand touches the bottom line of the ecliptic band on FA but not on F or in B-F (Fig. 3b).

LUPUS: On FA, the face of Lupus has either been damaged or was designed so that the snout is very short. The snout is also very short, but more closely resembles a panther, on F and in B-F (Figs 1a, 2b and 3a).

CENTAURUS: On FA, the distance between the altar and the front leg of Centaurus is quite close. It is much greater on F and in B-F (Figs 1a, 2a and 3a).

40. One might be tempted to suggest that Folkes relied quite heavily on the numerous engravings of the Farnese globe which appear among the items listed in the sale of his prints and drawings (as in n. 9). Interestingly, though, if one compares the engraving after Folkes's globe in Bentley's Manilius and the prints known from other sources, Folkes's rendering of the Farnese globe is, by far, the most faithful and most accurate of all the two-dimensional renderings of the original globe.

1a.

1b.

1c.

1. Globe held by the Farnese Atlas, now in Naples, Museo Archeologico Nazionale

The constellations shown in these photographs are (from left to right, north to south):

1a. The hind-quarters of Leo, Virgo placed along the length of the band of the ecliptic, the arms of Libra and the feet of Bootes.

1b. Centaurus with Lupus, part of Scorpio on the ecliptic, Ara, Corona Austrinus and Sagittarius.

1c. Cepheus, Cassiopeia, the wings and cut-off of Pegasus, Andromeda, the northern fish of Pisces, Perseus and the front half of Aries.

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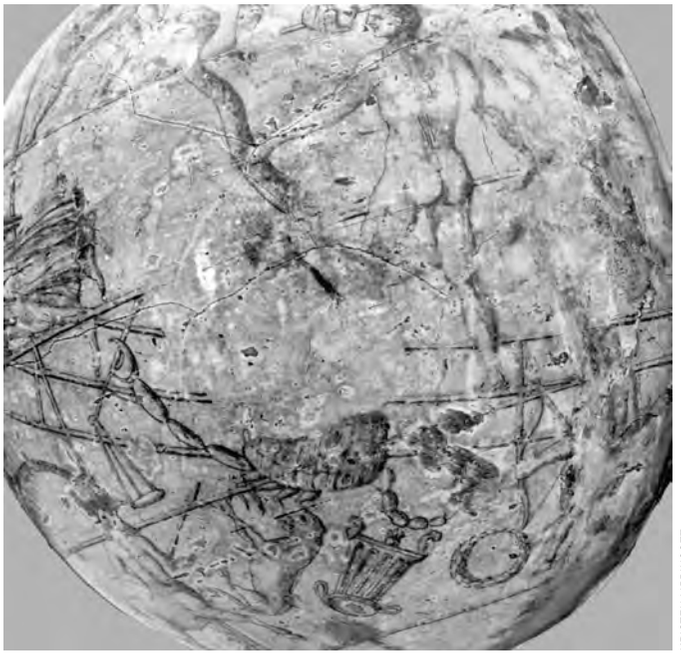
2a

2a. British Library, inv. no. G 30, manuscript globe identified here as belonging to Martin Folkes, showing the globe's inscription as well as (from north to south) the constellations of Bootes, Lyra, Hercules, Leo, Virgo, Libra, Ophiuchus and the Serpens, the claws of Scorpio and Hydra with Crater and Corvus.



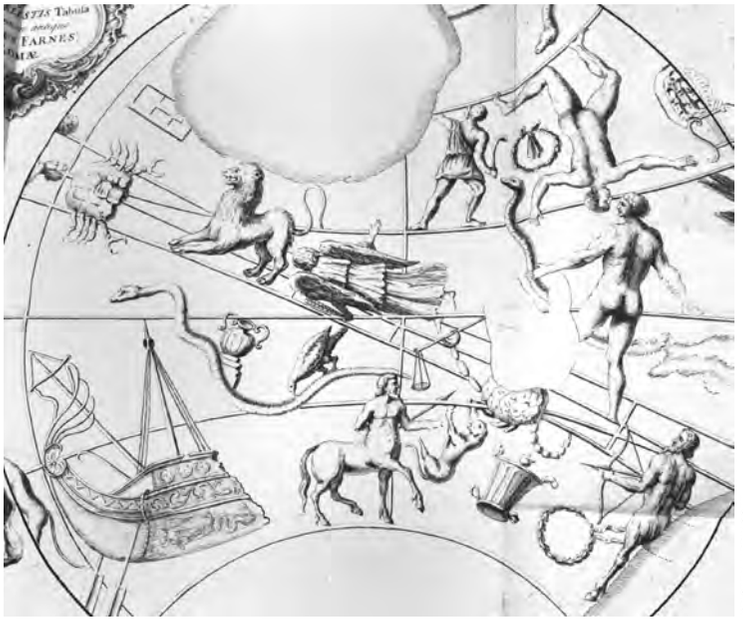
2b

2c

2b-c. Martin Folkes's globe. The constellations shown are (from left to right, north to south):

2b. The feet of Virgo, Libra, Ophiuchus and the Serpens, Scorpio, Sagittarius, Centaurus with Lupus, Ara and Corona Austrinus.

2c. Cepheus, Cassiopeia, Andromeda, Perseus, Pisces, Aries and the cut-off of Taurus.



KRISTEN LIPPINCOTT

3a

KRISTEN LIPPINCOTT

3b

3. Bentley-Folkes map, published in Marcus Manilius, *Astronomica*, ed. Richard Bentley, London 1739: the celestial hemisphere from (a) the summer to the winter and (b) the winter to the summer solsticial colures.

3a. Zones from north to south, left to right: the head of Draco, the 'gridlike' object, Bootes, Corona Borealis, Hercules, Lyra, the heads of the Gemini, Cancer, Leo, Virgo, Ophiuchus and Serpens, Argo, Hydra with Crater and Corvus, Centaurus with Lupus, Libra, Scorpio, Sagittarius, Ara and Corona Austrinus.
3b. Zones from north to south, left to right: the middle of Draco, Cepheus, Lyra, Cygnus, Cassiopeia, Andromeda, Perseus, Auriga, Aquila, Delphinus, Pegasus, Aries, Taurus, Gemini, Capricorn, Aquarius, Pisces, Cetus, Eridanus, Orion, Lepus and Canis Maior.

One final point which remains slightly mysterious is whether this manuscript globe was the same one mentioned by Benjamin Martin around 1758–62, when he claimed to 'have by me the Copy of a very antique Globe, which … is now in the Musæum of the Farnesian Palace'. The measurement he gave—'about 13 inches in Diameter'— leads one to suspect that it was,[41] but raises the question of how Martin came into such close contact with Folkes's globe.

Benjamin Martin operated at what might be considered as the margins of Britain's elite scientific community.[42] That is to say, he was quite popular as an itinerant lecturer and 'demonstrator' during the 1740s and early 1750s.[43] He also published a number of treatises on a wide range of subjects, including scientific and mathematical topics, for the educated layman. Then, in 1755–56, he abandoned travelling, purchased status as Freeman of the Goldsmiths Guild and established himself in London as a maker of scientific instruments, operating out of his shop 'near Crane-Court, in Fleet Street'.[44] Continuing to lecture on natural and experimental philosophy in the capital,[45] he also achieved notable success as a major producer and retailer of globes in England from around 1757 to 1782, employing an innovative and aggressive marketing style.[46] Despite keen cartographic competition during a period of great exploration, the business sustained him for nearly thirty years until, somewhat unexpectedly, he was declared bankrupt on 7 January 1782. This turn of events appears to have shaken Martin to such an extent that he attempted suicide. He failed, but died at his home in Fleet Street on 9 February the same year, reportedly on account of the wound he had sustained as the result of the unsuccessful attempt.[47]

41. See above, n. 20; and for the full text below, Appendix III. Valerio (as in n. 3), p. 100, misquotes Martin as stating that the globe is '12 inches in diameter', and suggests that the instrument maker confused the Farnese globe's diameter with its radius.

42. For Martin see J. Millburn (as in n. 20); idem, 'Benjamin Martin', in *Oxford Dictionary of National Biography*, xxxvi, Oxford 2004, pp. 921–23; and G. L'E. Turner, 'Benjamin Martin', *in Dictionary of Scientific Biography*, ed. C. C. Gillespie, New York 1974, ix, pp. 141–42.

43. Martin's early career provided the opportunity for John Freke, an eminent surgeon and Fellow of the Royal Society, to label him later as 'an unmannerly … country showman'; see Millburn, 1976 (as in n. 20), p. 55, and idem, 2004 (as in n. 42), p. 922.

44. See G. Clifton, *Directory of British Scientific Instrument Makers, 1550–1851*, London 1995, p. 181. In his catalogues, Martin emphasised the location of his shop (see, e.g., the 1762 catalogue cited below, n. 46). As for many of the scientific instrument makers of his day, his premises were close to those occupied by the Royal Society, which was itself housed in Crane Court from 1710 until 1782 when it moved to Somerset House.

45. For information concerning the careers of Martin and other 'London lecturers on Natural Philosophy' see A. Q. Morton and J. A. Wess, *Public and Private Science. The George III Collection*, Oxford 1993, esp. pp. 67–87.

46. For most of this trade Martin made use of updated versions of old copper plates, originally engraved by John Senex in the first half of the 18th century. See the preface to his *Description* (as in n. 20), p. iv: 'But as no former Globes were ever constructed with so much exquisite Skill, Taste, and Elegance as those of the late Mr Senex, F.R.S. (now known and celebrated to the remotest Limits of the literary World,) and since it has long been lately my Province to make and sell these Globes with many Corrections and Improvements; I thought it would be very agreeable to the Public to have a Treatise of [*sic*] the Uses of Globes particularly adapted to them, as Mr Senex himself has left us nothing of his own upon the Subject'. The Senex globes are the only globes listed in Martin's *Catalogue of Philosophical, Optical, and Mathematical Instruments, Made and Sold by Benjamin Martin, At his Shop, the Sign of Hadley's Quadrant and Visual-Glasses near Crane-Court, in Fleet Street*, London 1762 (appended to the first edition of his treatise on globes and reprinted by Millburn, 1976), suggesting that his trade in globes at this time relied more-or-less exclusively on those prototypes. The 'Senex globes' came in five different sizes. The largest, 28″-diameter globe, was available with a 'frame' made in mahogany with silvered meridians (£35), and was also available in a less expensive version set within 'Wainscot Frames' (£26 15s). For Martin's purchase of the globe plates, presumably from James Ferguson, sometime between July 1756 and Apr. 1757, see Milburn 1976 (as in n. 20), pp. 101–04.

There seem to be three possible means by which Martin could have known Folkes's globe. First, he might have had access to it during Folkes's lifetime, through the antiquary himself. Martin repeatedly courted Folkes in the vain hope of gaining entry to the Royal Society as a Fellow. In 1740, for example, he dedicated his *New and Compendious System of Optics* to Folkes, who was then the Society's Vice-President.[48] And when Folkes took over the Presidency in December 1741, Martin wrote to him again, asking Folkes to 'encourage ye affair on my behalf' and promising to visit him in London within five weeks time.[49] Whether or not he did, in fact, ever visit Folkes's library is not known, but it seems fairly unlikely that Martin's reference to having the globe by his side, made in the late 1750s or early 1760s, well after Folkes's death in 1754, relates to a meeting which had taken place between ten and twenty years beforehand.

The second possibility is that Martin borrowed the globe from Brand, sometime between the closure of Folkes's sale in January 1756, and May 1758 when the object was donated to the British Museum. Considering that Martin was a speedy and prolific author, this would suggest his treatise was composed early in 1758.[50]

Most probable, however, is the final possibility: that Martin consulted the globe when it was part of the British Museum's collection. Sadly, the records of visitors to the collection during this period are patchy and no evidence of such a visit exists. Lacking documentary support, one can only surmise that rather than Martin having had the luxury of Folkes's copy of the Farnese globe 'by' him at his home or in his shop, it is more likely that he did what all subsequent scholars have done—made his way to Bloomsbury and consulted the globe which, since 1758, had been kept as part of the nation's greatest public collection.

London

47. See Milburn, 1976 (as in n. 20), pp. 172–74, citing John Nicholls, 'Brief Memoirs of the Late Ingenious Mr. Benjamin Martin, Accompanied with a Portrait, Elegantly Engraved from an Original Painting', *The Gentleman's Magazine*, LV, part 1, 1785, pp. 583 and 943.

48. Milburn, ibid., pp. 28–29. In 1738/39, Martin had made a similar attempt to attract the attention of Sir Hans Sloane, then the Society's President; in 1741 he made subsequent entreaties to both Sloane and the Duke of Richmond (ibid., pp. 27–28 and 35–37).

49. Ibid., p. 37.

50. Two authorities, however, date its publication between two and four years later. See above, n. 20.

Appendix I

A description of Martin Folkes, by William Stukeley

The following description is taken from *The Family Memoirs of the Rev. William Stukeley, M.D., and the Antiquarian and other Correspondence of William Stukeley, Roger & Samuel Gale, etc.*, ed. W. C. Lukis in *The Publications of the Surtees Society*, LXXIII, 1882, pp. 94–140 (98–100).[51] A few abbreviations have been expanded but, to maintain the character of the text, most have been retained.

Martin Folkes has an estate of near £3000 got by his Fa[r.] in the Law. He is a man of no æconomy. Before at age he marryed Mrs Bracegirdle[52] off the stage. His mo[r.] grievd at it so much that she threw her self out of a window & broke her arm. His only son [Martin] broke his neck off a horse back at Paris. His eldest da[r.] ran away with a book keeper & who used her very ill.

Quarrelling with S[r.] Hans Sloan about the Presidentship of the Royal Society, & being baffled, he went to Rome with his wife, & dau[rs.], dog, cat, parrot, & monkey. There his wife grew religiously mad. He went to Venice and got a dangerous hurt upon his leg. Returning he was Successor to S[r.] Hans, Presid[t.] of the R.S. Losing his teeth, he speaks so as not to be understood. He constantly refuses all papers that treat of longitude. He chuses the Councel & Officers out of his junto of Sycophants that meet him every night at Rawthmills coffee house, or that dine with him on thursdays at the Miter, fleet street.[53] He has a great deal of learning, philosophy, astronomy: but knows nothing of natural history. In matters of religion an errant infidel & loud scoffer. Professes himself a godfa[r.] to all monkeys, beleives [*sic*] nothing of a future state, of the Scriptures, of revelation. He perverted Duke of Montagu, Richmond, Lo[d.] Pembroke, & very many more of the nobility, who had an opinion of his understanding; & this has done infinite prejudice to Religion in general, made the nobility throw off the mask, & openly deride & discountenance even the appearance of religion, which has brought us into that deplorable situation we are now in, with thieves, & murderers, perjury, forgery, &c. He thinks there is no difference between us & animals; but what is owing to the different structure of our brain, as between man & man.

When I lived in Ormond Street in 1720, he set up an infidel Club at his house on Sunday evenings, where Will Jones, the mathematician, & others of the heathen stamp, assembled. He invited me earnestly to come thither but I always refusd.

From that time he has been propagating the infidel System with great assiduity, & made it even fashionable in the Royal Society, so that when any mention is made of Moses, of the deluge, of religion, Scriptures, &c., it generally is received with a loud laugh.

51. The biography appeared as an entry in Stukeley's 'Common-place Book'. The text is also printed, with slight variations, in *The Commentarys, Diary, & Common-place Book of William Stukeley & Selected Letters*, London 1980, pp. 87–88. For Stukeley, fellow of the Royal Society and first Secretary of the Society of Antiquaries, see the entry by D. B Haycock in the *Oxford Dictionary of National Biography.*

52. Haycock (as in n. 7), p. 223, points out that Stukeley seems to have confused Folkes's wife, the actress Lucretia Bradshaw, with Anne Bracegirdle, another contemporary actress. The actor and theatre manager Thomas Betterton wrote that Lucretia Bradshaw was considered 'one of the greatest and most promising *Genii* of her Time', who was 'taken off the Stage, for her exemplary and prudent Conduct, by *Martin Folkes*, Esq; a Gentleman of very considerable Estate, who married her; and such has been her Behaviour to him, that there is not a more happy Couple.' See Betterton's *History of the English Stage, from the Restauration to the Present Time. Including the lives, characters and amours, of the most eminent actors and actresses. With instructions for public speaking*, ed. William Oldys and Edmund Curll, London 1741, p. 62. On the other hand J. Nicols, *Illustrations of the Literary History of the Eighteenth Century*, 8 vols, London 1817–58, II, p. 588, wrote that 'This lady appeared under the name of Mrs Lucretia Bradshaw, at the theatre in the Haymarket in 1707 to 1712, and at Drury Lane from 1710 to 1712, soon after which period she was married to Mr Folkes … . From the characters in which I find her name, she must have been a handsome woman at least, had a good figure, and probably only second-rate talents'.

53. See Weld (as in n. 7), pp. 491 and 494, who points out that Stukeley is referring here to a purported exclusive dining club, 'the Royal Society Club, … founded under the designation of the "Club of the Royal Philosophers".' The club met at the Mitre Tavern in Fleet Street from 27 Oct. 1743 until 21 Dec. 1780.

In Sept. 1751, being of very gross habit, great eater & drinker, he seizd with the cholic which soon terminated in a hemiplegia. He has now been confin'd a twelvemonth in this miserable state, but so far from correcting his irreligious notions that he's grown worse if possible. In two years time he dyed in a deplorable manner. 2 years after, his da[rs.] both marryed to indigent persons.

Appendix II

Richard Bentley's Manilius and Martin Folkes's copy of the Farnese Globe

The following passage is from Manilius, *Astronomicon*, ed. Richard Bentley, London 1739, preface, pp. xv–xvi.

Constitueram sane nonnullas adiecisse figuras in secundo libro, ubi etiam illarum in notis bis terve occurrit mentio; rem vero attentius perpendenti eae minus videbantur necessariae; earum igitur loco orbis caelestis dedi tabulam, ex antiquo globo marmoreo in aedibus Farnesianis Romae fideliter expressam. Quod cum sit antiquitatis monumentum plane singulare, et ad Manilium etiam illustrandum plurimum conferat; rem non ingratam me harum rerum studiosis facturum arbitrabar, si illud in aes incisum nunc primum, quod quidem sciam, in publicum emitterem. Licet enim Vir eruditissimus Franciscus Blanchinus eius saepius fecerit mentionem in historia sua universali, et aliquam etiam eius dederit imaginem; ea tamen est adeo minuta, ut qualis sit globus iste exinde perspici omnino nequeat. Idem Vir praeclarus in dissertatione sua de Kalendario et Cyclo Caesaris promisit se *globum hunc Romanarum antiquitatum imo et Graecarum et Assyrii et Aegypti monumentum praestantissimum aliquando editurum:* aliis vero impeditus negotiis, ut credere par est, fidem praestare haud potuit. At nuperrime Vir eximius Martinus Foulkes, ut aliis omnibus, sic artibus etiam Mathematicis instructissimus, globi huiusce Farnesiani ectypum summa conformatum cura secum Roma deportavit; et nobiscum pro singulari sua humanitate, summoque ad literas promovendas studio, benigne communicavit. Quinetiam ne quid forte in eo describendo erraret artifex, ipse etiam tabulam hanc ad ectypum suum accuratissime exegit. Ad polum quidem antarcticum paululum deficit globus; qua scilicet Herculis incumbit humeris: ut cernere est in minore huic subiecta figura. Deest etiam aliquid ad polum arcticum; qua parte marmor, incerta qua de causa, est plane excavatum.

Translation

I had of course decided to add some figures [of the constellations] to the second book, where they are mentioned two or three times in the notes; but when I considered the matter more carefully, these seemed to me not so necessary. In place of them, therefore, I have given a table of the celestial sphere, faithfully drawn after the antique marble globe in the Farnese Palace at Rome. Since this is clearly a singular monument of antiquity, and contributes a great deal too to the elucidation of Manilius, I thought I would be doing something worthwhile for students of these matters if I were now—for the first time, as far as I know—to publish it in a copper engraving. Even if the most learned Francesco Bianchini has mentioned it quite often in his *Storia Universale* and has also provided an image of sorts. It is, however, so tiny that what that globe is like cannot be seen at all from it. The same distinguished man [Bianchini] promised in his dissertation on the Calendar and Cycle of [Julius] Caesar that 'he would publish this globe, the most outstanding monument among Roman antiquities, indeed, among Greek ones too, or those of Assyria and Egypt'. He was, however, unable to keep his promise, prevented, we can readily believe, by some other duties. But just recently the most eminent Martin Foulkes, who is a great expert in the mathematical arts, as in all else, brought with him from Rome an *ectypum* of this Farnese globe made after it with the greatest care; and, in accordance with his singular generosity and the great zeal he has for promoting scholarship, he kindly communicated this to me. Further, in case the craftsman should perhaps make a mistake in drawing it, he himself [Foulkes] very carefully checked the illustration by reference to his *ectypum*. Towards the southern ['antarctic'] pole the globe is a little incomplete, obviously in the place where it rests on the shoulders of Hercules, as is to be

seen in the smaller figure next to this. There is something missing too at the arctic pole, in the place where, for some unknown reason, the marble is clearly cut out.

Appendix II

Benjamin Martin, instrument maker, on the Farnese Globe and a copy at hand

From Benjamin Martin, *The Description and use of both the Globes, the Armillary Sphere and Orrery …*, London [n.d., probably 1762], pp. 108–09.

It may be proper here to mention, that I have by me the Copy of a very antique Globe, which was found in the Ruins of ancient *Rome*, and is now in the *Musæum* of the *Farnesian* Palace, reserved as the most curious Monument of Antiquity: It is about 13 Inches in Diameter, and has upon it the various Constellations as they were depicted by the Ancients, and, amongst them, those of the *Zodiac* possessing severally the Signs bearing their own Names; together with the Equinoctial Lines, Ecliptic, and Colures: The Equinoctial Colure passing through the right Horn and Foot of *Aries*, not far from the Equinoctial Point, *viz*. about 5°, which shews that this Globe might probably be made about 360 Years after the Colure was in the Equinoctial Point. But since this Situation of the Colure on this antique Globe, the Equinoctial Point has receded 25° more, which, in Time, gives 1800 Years: Which plainly shews it to have been made some Years before the Birth of Christ. Therefore, this Globe is a Proof that the Equinoctial Colure passed through the bright Star of *Aries* nearly 2200 Years ago, agreeable to what we observed before, with regard to the Time and Observations of *Hipparchus*.