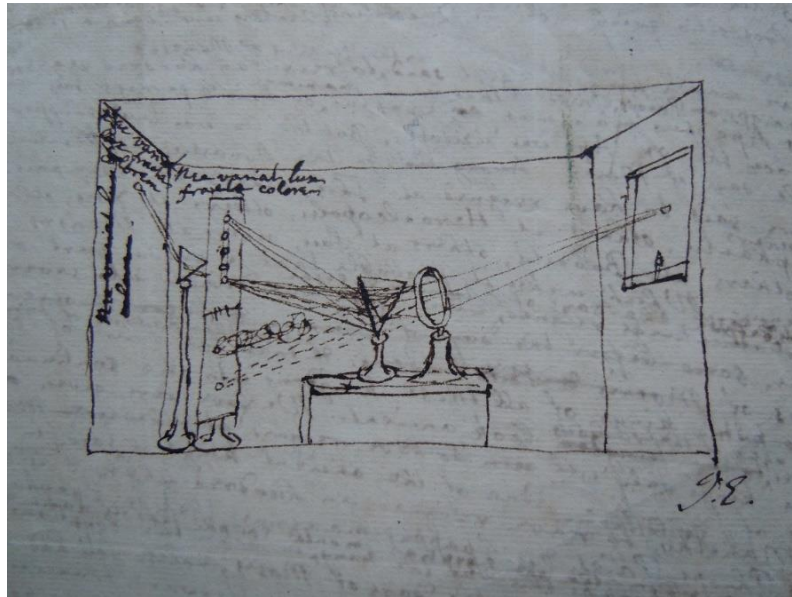


**Seeing the Light:  
Being the story of Sir Isaac Newton's prisms and papers  
and the means by which they came to New College**



*'In the sun's light let into my darkened chamber through a small round hole ... in my window-shutter ... I placed a lens ... then immediately behind the lens I placed a prism ... by which the projected light might be refracted either upwards or sidewise ...'*  
*Opticks* (1704), Prop. IV, Prob. I, Exper. II

### **Prologue**

It is one of the most famous images held in the antiquarian collections of New College Library, known around the world and reproduced in countless books and articles—the diagram hand-drawn by Sir Isaac Newton (1642–1727) illustrating his experiments into optics and the refraction of white light into the colours of the spectrum when channelled through a prism.

It is such a well-known picture that seeing the original sketch (for that, essentially, is what it is), as opposed to a reproduction, can have a profound effect on people—this author, for example, has witnessed at least one school science teacher reduced to tears in its presence! The drawing is contained within the second of four bound volumes of Newton's papers (New College MS 361/1-361/4). Amongst these papers are to be found drafts of his writings on theology and historical/biblical chronology, including *A short chronicle from the first memory of things in Europe to the conquest of Persia by Alexander the Great* (datable to 1701-2 and later), along with drafts and notes for *The original of monarchies* (1701-2 and later). MS 361/4 contains, amongst other things, his manuscript notes for *An historical account of two notable corruptions of Scripture in a letter to a friend*, a dissertation he sent in a letter to John Locke in November 1690, which was first published in 1754 and then formed part of Bishop Samuel Horsley's edition of Newton's works of 1779–1785.<sup>1</sup>

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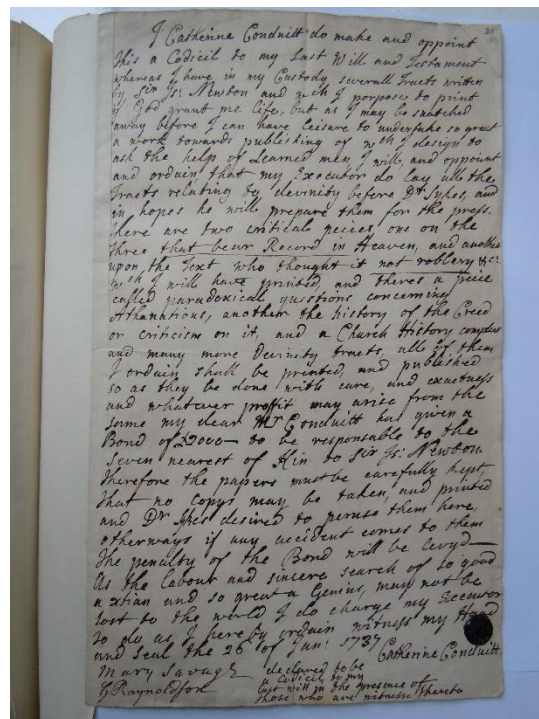
<sup>1</sup> See Appendix, notes 1 and 2.

Observers might, however, find themselves wondering quite *why* these papers are in the possession of New College. After all, Newton himself was a scholar, and subsequently a Fellow, at Trinity College, Cambridge; in later life, he became Warden (1696–1700) and then Master (1700–1727) of the Royal Mint in London, as well as President of the Royal Society—he had no connection to New College whatsoever. He never married and had no children, so how was it that this famous image came to Oxford?

### The Beginning: From Cambridge to Oxford

As he had died in March 1727 without having made a will, Newton's papers were claimed by his friend and successor as Master of the Royal Mint, and MP for Whitchurch in Hampshire, John Conduitt who, since 1717, had also happened to be married to Newton's half-niece, Catherine Barton; Newton had in fact lived with the couple for some time until his death. Conduitt's notes can still be seen on a number of the papers in the collection, not least the volume containing the prism diagram (MS 361/2).

Conduitt died on 23 May 1737 and was buried alongside Newton in Westminster Abbey; Catherine died two years later. The couple had one daughter, also called Catherine, who was born on 23 May 1721.<sup>2</sup> In July 1740 she married John Wallop, who acceded to the title of Viscount Lyvington in 1743 when his father (also John) was made the first Earl of Portsmouth. Their son, born in 1742 and also named John, would become the second Earl in 1762 on the death of his grandfather. The Newton papers went with Catherine to the Portsmouth family.<sup>3</sup>



The codicil to Catherine Conduitt's will, dated 26 January 1737 (MS 361/4 fol. 139)

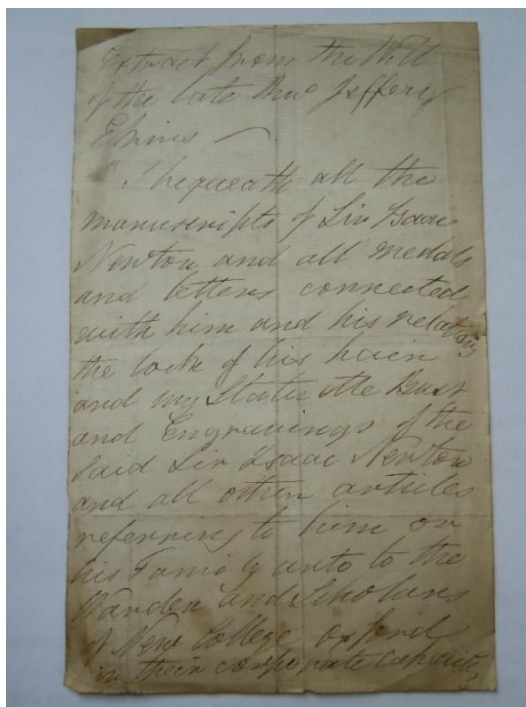
John Wallop, Viscount Lyvington, died in November 1749 and Catherine Wallop, now Lady Lyvington, passed away not long after, in April 1750, one month short of her twenty-ninth birthday.

<sup>2</sup> UK and Ireland, Find a grave index, 1300s—current <<https://search.ancestry.co.uk/search/db.aspx?dbid=60526>>

<sup>3</sup> Newton's scientific papers were ultimately deposited at Cambridge University by the 5th Earl of Portsmouth in 1872.

In late 1755, a batch of the theological and chronological papers from the Newton collection was sent to Arthur Ashley Sykes, an Anglican religious writer who sympathized with Newton's religious ideas; Newton had nominated Sykes as a preacher at St. James's Westminster, where he was a member of Sykes' congregation.<sup>4</sup> A codicil to the will of Catherine's mother, made in January 1737,<sup>5</sup> two years before her death, instructed that her executor 'do lay all the Tracts relating to Divinity before Dr. Sykes . . . in hopes he will prepare them for the press . . . so as they be done with care and exactness.'<sup>6</sup> Having compiled a 'digest' of the papers, Sykes died in November 1756, leaving them unpublished.

At this point, one might reasonably have expected the papers to be returned to the Portsmouth family so they could resume their place in the collection. However, this did not happen.



Extract from the will of Jeffery Ekins, 1872 (NCA 2844/4)

116 years later, in 1872, four bound volumes of Sir Isaac Newton's papers were bequeathed to New College by the Reverend Jeffery Ekins,<sup>7</sup> since December 1840 the rector of Little Sampford in Essex, who had died on 5 March 1872. The reason for the donation is clear—he and his wife Philadelphia had no children to whom he could leave the papers, but he had a close connection to New College, having matriculated at the age of twenty in 1823. He later graduated as Bachelor of Civil Law (BCL) in 1831, was Dean of Civil Law in 1836, served as Bursar in 1837-38, and was a Fellow until 1841. But how did the Newton papers come into his possession in the first place?

Jeffery's father was Frederick Ekins, also a New College alumnus, who matriculated in October 1786, graduated BA in 1790 and MA in 1794; he too was a Fellow. Born on Christmas Day

<sup>4</sup> Robert Iliffe, 'Newton's religious life and work', *The Newton Project*.

<sup>5</sup> MS 361/4, fol. 139. The date is possibly June 1737—the handwriting is not clearly decipherable.

<sup>6</sup> See Appendix, note 3.

<sup>7</sup> While all references available refer to him as 'Jeffery', including documents in New College Archives (NCA 2844), College registers in the Archives appear to indicate that his name was spelt 'Geoffrey'. This article will follow the documents and use 'Jeffery'.

1767,<sup>8</sup> the son of the Very Reverend Jeffery Ekins, Dean of Carlisle,<sup>9</sup> Frederick succeeded his father as Rector of Morpeth, Northumberland on his death in November 1791. An obituary for Frederick, published in *The Gentleman's Magazine* of May 1842, recorded that he died at Morpeth on 29 March that year. The obituary concludes with the following passage: 'A pedigree of the family of Ekins, and memoirs of the Dean of Carlisle, will be found in Hodgson's History of Northumberland, II.ii.395, 527, where also it is mentioned that the deceased possessed several MSS. of Sir Isaac Newton, *which descended to him from his grandfather, who was executor to Lady Lemington, the great-niece of the illustrious philosopher*' (this author's emphasis).

Frederick's grandfather, the father of Jeffery Ekins, Dean of Carlisle, was (somewhat confusingly) the Reverend Jeffery Ekins. Born in 1699,<sup>10</sup> he was admitted to Jesus College, Cambridge in 1717 (BA 1720, MA 1725) and became the Rector of Barton Seagrave, Northamptonshire, in August 1723 and of Quainton, Buckinghamshire, in January 1733. He died on 26 August 1773.<sup>11</sup> The question is, of course, how did Jeffery come to act as the executor of the will of Catherine Wallop, when no obvious connection between the families is apparent. The answer lies with his father, the Reverend Alexander Ekins.

Preceding his son, Alexander Ekins was the Rector of Barton Seagrave from September 1686 until his death on 2 June 1703. Sources<sup>12</sup> indicate that he had seven children by his first wife, two of whom 'died young', but his second wife, Jeffery's mother, was Jane Barton, 'dau[ghter] of Robert Barton of Brigstock, co. Northampton, gent., by Elizabeth his 1<sup>st</sup> wife, dau. of George Pilkington of Stanton-le-Dale, co. Derby'.<sup>13</sup> Jane was baptized at Brigstock on 9 June 1670 and married to Alexander 'after 2 September 1693'.<sup>14</sup> The name Barton here should immediately ring bells. Catherine Barton, wife of John Conduitt and mother of Catherine Wallop, Lady Lymington, was the second daughter of Robert Barton of Brigstock and his second wife, Hannah Smith, whom he married in 1677.<sup>15</sup> Their first daughter, Hannah, was born in November 1678 but died at the age of three in February 1682.<sup>16</sup> Catherine was baptized at Brigstock on 25 November 1679. Hannah Smith was the half-sister of Sir Isaac Newton, born to his mother Hannah Ayscough after her second marriage to the Reverend Barnabas Smith, a union which produced three children.<sup>17</sup> The will of Robert Barton of Brigstock,

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<sup>8</sup> Pedigree of Ekins, in *Visitation of England and Wales: Notes*, vol. 13 (1919) and *The Gentleman's Magazine* (May 1842) give Frederick's date of birth as 1776. Clearly this is a misprint for 1767, as he was 75 on his death in 1842. An example of a mistake going uncorrected from publication to publication.

<sup>9</sup> Born 10 June 1731, matriculated King's College Cambridge in 1749; graduated BA in 1755, MA in 1758, DD in 1781; Rector of Quainton, 1761-75; Rector of Morpeth, 1775; Rector of Sedgefield, 1777; Dean of Carlisle, 1782; died, age 60, at Fulham, 20 November 1791.

<sup>10</sup> The ODNB entry for Jeffery Ekins, Dean of Carlisle, gives the date of his father's baptism as 1699.

<sup>11</sup> Pedigree of Ekins, in *Visitation of England and Wales: Notes*, vol. 13 (1919).

<sup>12</sup> *ibid.*

<sup>13</sup> The marriage, on 5 June 1660 at St. Gregory by St. Paul, London, of Robert Barton of Brigstock (1630-1693) to Elizabeth Pilkington (b. 1630 at Derby), is recorded in the data collection *London, England, Church of England baptisms, marriages and burials, 1538-1812* <<https://search.ancestry.co.uk/search/db.aspx?dbid=1624>>. There is reference to their son, Geoffrey, born in 1663 (d. 1725) but no mention is made of any other children. There is no record there of the fate of Elizabeth Pilkington Barton but an anonymous note, *Family of Barton* (MS 361/4, fol. 651) confirms that 'after her death [Robert Barton] married Hannah Smith'.

<sup>14</sup> Pedigree of Ekins, in *Visitation of England and Wales: Notes*, vol. 13 (1919).

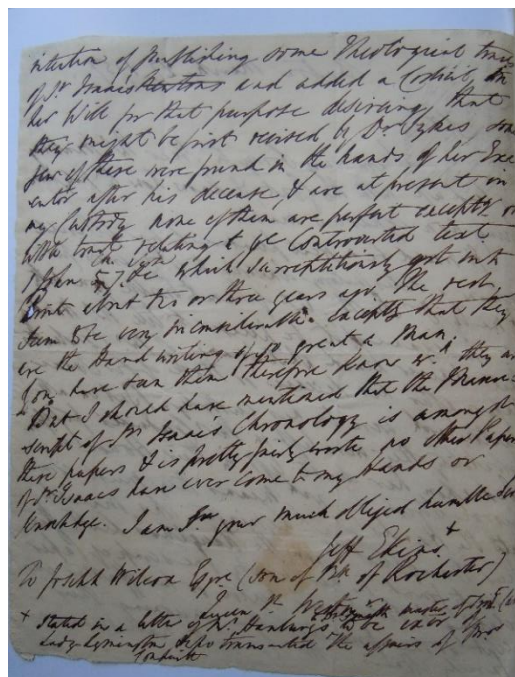
<sup>15</sup> Thomas Nicholas, *Annals and antiquities of the counties and county families of Wales, vol. 2: Pembrokeshire* (1872), p. 900.

<sup>16</sup> *Miscellanea Genealogica et Heraldica*, monthly series no. XIV (July 1871), ed. Joseph Jackson Howard (MS 361/4, fols. 126-133). The Newton pedigree printed in this offprint from the issue (pp. 169-75) also confirms that Robert Barton was buried at Brigstock on 22 September 1693, aged 63.

<sup>17</sup> *Miscellanea Genealogica et Heraldica*, monthly series, no. XIV (July 1871). The pedigree records that Elizabeth, Robert Barton's first wife, was the 'sister of Thomas Pilkington of Belton Co. Rutland husband of Marie Smith'. 'Marie Smith' was Mary, Hannah Smith's elder sister. Elizabeth Pilkington was Hannah Smith's sister-in-law.

Northamptonshire, signed on 2 September and proved on 2 October 1693,<sup>18</sup> contains details of bequests to his children, daughters Elizabeth, Mary, Jane, Barbara, ‘Katherine’ and Margaret, eldest son Geoffrey<sup>19</sup> and Robert, his youngest son (brother ‘of the whole blood’ of Katherine/Catherine and Margaret), and his ‘loving wife’ Hannah.<sup>20</sup> The will closes with Robert appointing as his executors, Hannah - and ‘my trusty friend Isaac Newton of Trinity Colledge in Cambridge Esq.’, to whom he gave twenty pounds ‘for his trouble in seeing this my will performed’. Robert Barton was, therefore, not only a friend (and half-brother-in-law) of Isaac Newton, but also the grandfather of both the Reverend Jeffery Ekins *and* Catherine Conduitt Wallop—they were cousins.

It is now clear that the family connection was the reason for Ekins’ involvement as Catherine’s executor.<sup>21</sup> There is, indeed, a note by Warden James Edwards Sewell (Warden of New College 1860–1903), inscribed on the extract of Jeffery Ekins’ will that exists today in New College Archives, that indicates ‘there was some family connexion between them [the Ekins family] & Sir I. Newton’, but evidently the link was not investigated or proved at that time. The will of Catherine Wallop, Lady Lymington,<sup>22</sup> signed on 14 April and proved on the 13 July 1750, reveals that she left Ekins the not-inconsiderable sum of £500 and confirms that he was appointed one of her three executors. Ekins must have been close to the Conduitt side of the Barton family as Catherine Conduitt, his aunt it should be remembered, had named him as a beneficiary in her 1739 will,<sup>23</sup> as well as making provision for his daughters.



Letter from Jeffery Ekins to Joseph Wilcox, 27 March 1757 (MS 361/4 fol. 141v)

<sup>18</sup> The National Archives [TNA], PROB 11/416, fols. 139r-141r.

<sup>19</sup> See note 13.

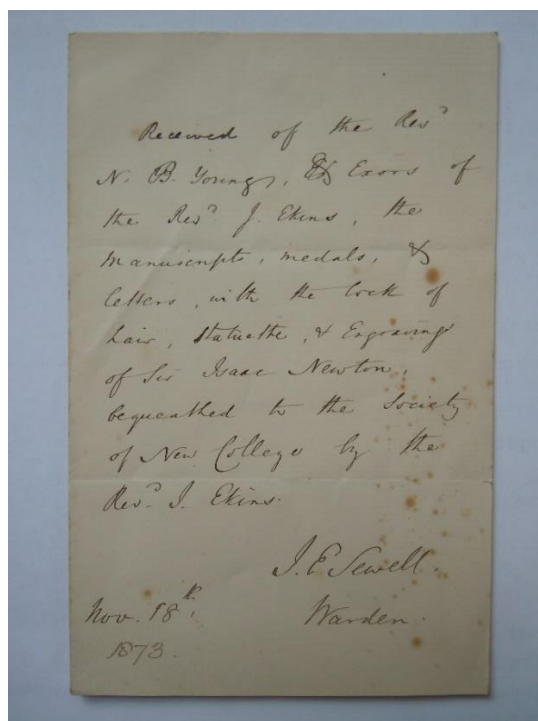
<sup>20</sup> Catherine, Margaret, and Robert were the children of Robert Barton and Hannah Smith; the others were the children of Robert and Elizabeth Pilkington. The two sides of Robert’s family appear to have been quite close, as the final clause of his will has him requesting that his daughters by Elizabeth should ‘board with and live with my loving wife Hannah’ while they remain unmarried.

<sup>21</sup> See Appendix, note 4, for further information on relationships between the Barton and Ekins families.

<sup>22</sup> TNA, PROB 11/781, fols. 157v-158r.

<sup>23</sup> TNA, PROB 11/700, fols. 261v-264r.

It is also possible to determine *how* the Newton papers came into Ekins' possession. He confirmed in a letter of 27 March 1757<sup>24</sup> to Joseph Wilcox, son of the Bishop of Rochester that, subsequent to Catherine Conduitt's request in the codicil to her will that Arthur Sykes be sent a selection of the papers, 'some few of these were found in the hands of her executor after his decease, & are at present in my custody'.<sup>25</sup> However, apart from the papers relating to the *Historical account of two notable corruptions of scripture* and the 'manuscript of Sir Isaac's *Chronology*' which was 'pretty fairly wrote', Ekins felt they were 'very inconsiderable'.<sup>26</sup> The selection of Newton papers subsequently remained in the 'custody' of the Ekins family until they, finally, arrived at New College in late 1873.<sup>27</sup>



Receipt for the Newton items signed by Warden Sewell, 18 November 1873 (NCA 2844/4)

### A most valuable piece of waste paper

It has already been noted that the Newton papers are bound into four separate volumes. The volume containing the prism diagram, MS361/2, begins with a cover note written by John Conduitt, in which

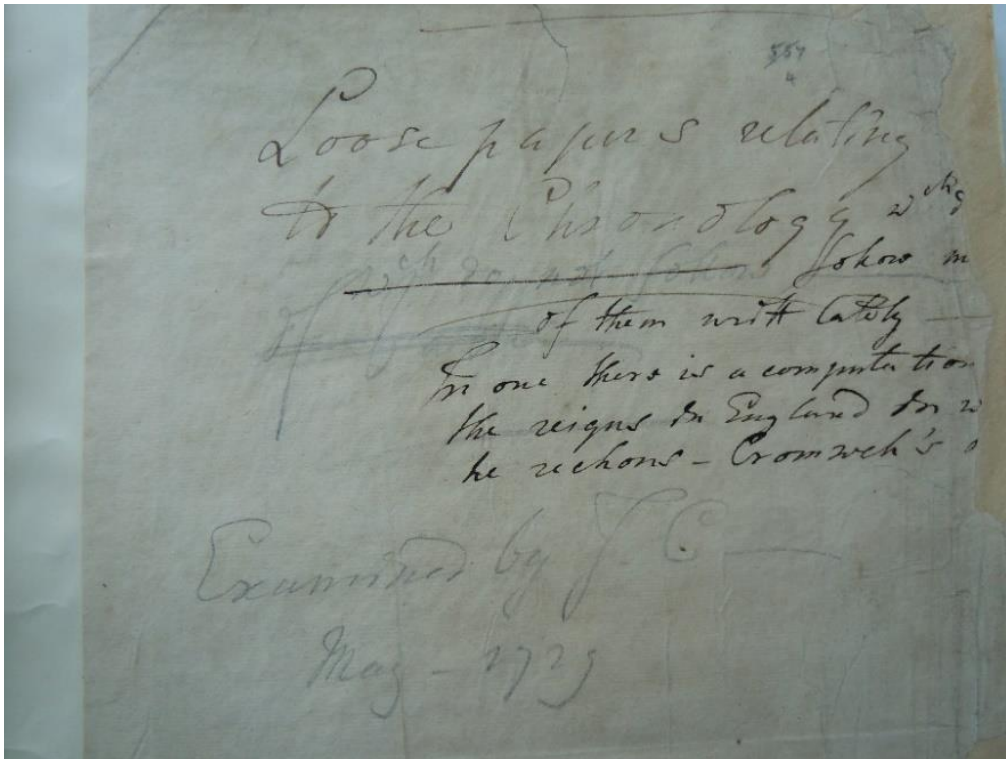
<sup>24</sup> MS 361/4, fol. 141.

<sup>25</sup> In her will of 1739, Catherine appointed the Reverend Alexander Chalmers of Burstow, Surrey as her sole executor as well as, interestingly, the guardian of her daughter Catherine. However, in a letter of 8 March 1757 from William Hanbury to Robert Smith, Master of Trinity College, Cambridge, who were involved in a contemporary search for Newton's papers, Hanbury confirmed Sykes as Catherine Conduitt's executor (detailed in *The Mathematical Papers of Isaac Newton*, vol. 1: 1664-1666, ed. by D. T. Whiteside (Cambridge, 1967)). A will appears to exist for Alexander Chalmers, Rector of Burstow in Surrey, dated 18 July 1745 (in TNA, PROB 11/740—not seen by this author), so possibly Chalmers declined the honour and his place was taken by Sykes, or perhaps Sykes assumed responsibility on Chalmers' death.

<sup>26</sup> An alternative account of events was detailed in the second volume of David Brewster, *Memoirs of the Life, Writings, and Discoveries of Sir Isaac Newton* (Edinburgh, 1855). In this version Lady Lymington, Catherine Wallop, gave the papers to Ekins herself or, at least, left them to him in her will, which she clearly did not do. Brewster was in contact with Jeffery Ekins, Rector of Sampford, so presumably the story came from him (see Appendix, note 5).

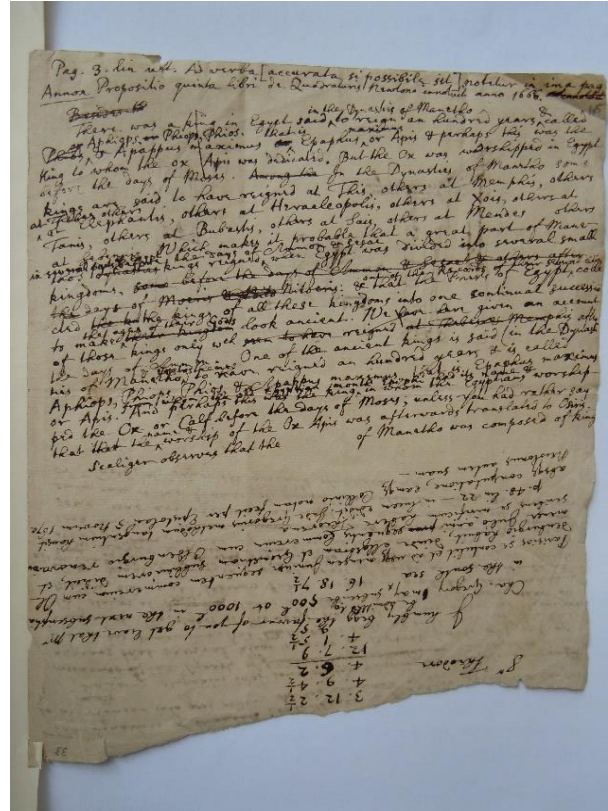
<sup>27</sup> The will of Jeffery Ekins from 1872 also bequeathed his 'statuette bust and engravings' of Newton, but both of these have since disappeared from New College. A further annotation on the will extract by Warden Sewell records that, apparently, Ekins was a Founder's Kin Fellow—but any investigation into *that* claim is for another article.

he describes the contents as ‘Loose papers relating to the Chronology. Examined by I.C. May 1729’. Newton’s *Chronology of Ancient Kingdoms Amended*, detailing the rise and history of ancient civilisations such as Egypt, Babylon and Persia, had first been published posthumously in 1728. This second volume consists of many miscellaneous papers (‘arranged in no particular order’ as a later note informs the reader) which would probably be described by most people viewing them today as pieces of scrap paper! Many pages had already been used by Newton as drafts for letters, especially concerning his work at the Royal Mint and relating to various accounts; others were used for calculations and other notes. The working notes related to his research for the *Chronology* are written in every available blank space, on these sheets as well as over and around correspondence that had previously been sent to him, his postal address still clearly visible; many of these date from the period 1703-1726.



John Conduitt’s cover note at the front of MS 361/2 describing the contents, May 1729

Remarkably, the leaf of paper containing the famous image of the prism experiment is no exception, bound amongst the other papers unobtrusively and without fanfare, roughly a fifth of the way into the volume. While the drawing occupies the top half of one side of the sheet, below it are rough notes (upside down in relation to the picture) concerning the history of Ancient Egypt; similarly, the reverse side features more notes along with some rough calculations. The bottom edge of the sheet has been torn off at an angle and the notes follow the line of the tear, further reinforcing the impression it is a reused piece of waste paper. The drawing is clearly not meant to be a finished and accurate piece of artwork, merely a rough sketch that Newton put down on paper to record the experiment he had carried out and the results he had achieved.



New College MS 361/2, fol. 45v and r

### The dating conundrum

This may all come as something of a surprise to the modern observer, who might expect the image to be preserved and displayed in a much more deliberate and prominent format, given its fame and status, and who may not be prepared for the somewhat diminutive size of the picture (11cm x 6.5cm). In truth, it is simply one ‘unremarkable’ leaf among many. An unfortunate consequence of this is that the drawing is virtually impossible to date with any degree of accuracy. While it is gratifying that Newton decided to initial his sketch, in an unfortunate lack of consideration for the efforts of researchers 300 years in the future, he did not deign to append an indication of *when* he drew it.

The importance of Newton’s experiments into light and optics cannot be understated. The modern understanding of the composition of light and colours derives from his work in the field and, indeed, his initial reputation was established by the paper on the refraction of light through a prism that he delivered to the Royal Society in 1672.<sup>28</sup> His investigations into the subject, however, began around six years before this in 1666.

Newton entered Trinity College, Cambridge in June 1661, graduating in 1665. He returned to his home of Woolsthorpe in Lincolnshire, ostensibly for the summer of 1665, but ended up staying until March 1667, his return prevented (bar a short stay in the spring of 1666) by a major outbreak of plague in Cambridge. During this extended sojourn, he began to investigate gravity (prompted, so he said later, by the famous observation of a falling apple), calculus and motion. His research at this time even saw him putting his sight at risk through various tests on his eyeballs and his vision. The

<sup>28</sup> ‘A letter of Mr. Isaac Newton, Mathematick Professor in the University of Cambridge, containing his new theory about light and colors . . .’, *Philosophical Transactions of the Royal Society* 80 (19 February 1672).

experiments with optics and ‘the celebrated phaenomena of colour’, as he described it in his 1672 paper, also began to occupy his attention during this period. His initial step was to make a round hole in the shutters of his windows, after which he fixed the position of a prism, projected the light through the hole, then through the prism onto a sheet of paper. The diagram in New College Library’s collection clearly depicts the composition of one of these experiments, although it illustrates his work at a more advanced level featuring the use, in sequence, of two prisms and a screen with a hole, through which he could project and refocus the light. Newton would refer to his work as an ‘experimentum crucis’, or crucial experiment.

Was the prism diagram completed at that time? It is tempting to answer positively but it is simply not possible to confirm it. The only dates on the leaf come from within the context of the notes Newton made on Ancient Egypt, page number references to items he had consulted dated 1666 and 1670. As his writing follows the line of the jagged tear at the bottom, the mutilation obviously occurred before he used the paper for his jottings and, assuming the notes are indeed related to the research for his *Chronology*, it seems likely they were made (well?) after 1700. If so, then it is very possible the diagram predates these notes, as it could have been on the paper before he reused it—a case of him economically filling up every available empty space he had to hand. There is, sadly, no way of being certain, but it is tantalizing to speculate that the sketch is indeed contemporary to those experiments of 1666-67.

### **Epilogue: Full Circle—the End, and the Beginning**

On his return to a plague-free Cambridge, Newton was made a Fellow of Trinity in 1667 and was awarded an MA in 1668. He demonstrated the prism experiment and gave public lectures between 1669 and 1671 in which he detailed his findings. Shortly before he published his paper in February 1672, he was elected as a Fellow of the Royal Society. However some of the reaction to his discoveries was negative, notably that of Robert Hooke, with whom Newton maintained a simmering feud until the former’s death in 1703, the same year Newton became President of the Royal Society, a position he held until he died. *Opticks* was first published in 1704 and soon established itself as a highly influential scientific work. Newton was knighted by Queen Anne at Trinity College in 1705 and, after his death on 20 March 1727, he was buried in Westminster Abbey. He never married, had no children and did not leave a will, so when he died his papers were claimed by his friend and successor as Master of the Royal Mint, John Conduitt.

And it is at that point that this story begins.

Jason Morgan  
Assistant Librarian



Lock of Sir Isaac Newton's hair. Remarkably, it appears to be one of *two* bequeathed to New College, one by Jeffery Ekins in 1872, the other by Lady Loraine in 1961. The provenance of the existing lock is uncertain (NCA 2844/2)

### Postscript

In some publications, it has been indicated that the 'Jeffery Ekins' who first received the Newton papers which were eventually deposited at New College in 1873, was Jeffery Ekins, Dean of Carlisle. However he was still at Cambridge, age 24, in 1755 when the Newton papers were sent to Arthur Sykes and did not become Dean of Carlisle until 1782. It is hoped that the evidence presented in this article, including genealogical information on the Ekins and Barton families and data from the wills of certain prominent members, highlights the relationships and ties between the two sides of Robert Barton's family and, by association, with that of Isaac Newton. The article therefore presents the *father* of the Dean of Carlisle, Reverend Jeffery Ekins (1699–1773), half-nephew of Catherine Barton Conduitt and half-cousin of Catherine Wallop, Lady Lymington, as the man who provides the link between Sir Isaac Newton, the Ekins family and New College.

### Appendix

New College MS 361/4 contains further documents of note and points of interest.

1.  
MS 361/4, fol. 142-143

A letter from Samuel Horsley, dated 26 January 1779, presumably to the future Dean of Carlisle, the Rev. Jeffery Ekins (his father had died in 1773), in answer to his enquiry about the progress Horsley was making in the preparation of his edition of Isaac Newton's works (published 1779-85). He replies that 'my first volume will be out in a few days and I hope that all the other four will be published before midsummer twelvemonth.' He has not yet transcribed the manuscripts provided by Ekins—

comparing ‘the chronological part of them’ with similar papers from the Portsmouth collection ‘will be one of the last parts of my work.’ He assures Ekins that he will get them transcribed as soon as possible and ‘when the copy is finished I will deliver the originals to Ld. Carlisle’; he will publish ‘no part of the papers I received from you without your consent.’

2.

MS 361/4, fol. 144

A further letter from Samuel Horsley, dated 29 August 1780, explaining that, ‘for want of an intelligent transcriber’, he could not get a copy of the manuscripts done so he decided to do it himself. He will return the papers ‘wherever you shall be pleased to appoint’ when he is ‘in town in October’. The papers he has copied are the three letters on corruption of the Scriptures, which are ‘entire in your MSS and, I believe, nowhere else’ and ‘a very long discourse on the antient history of Egypt’, most of which has already been published in Newton’s *Chronology*.

3.

MS 361/4, fol. 139: Codicil to Catherine Conduitt’s will, 1737

A handwritten note preceding the codicil indicates that it was ‘printed from this MS in 1845 by Sir David Brewster in his *Memoirs of Sir Isaac Newton vol.II.*’ There are further points of interest concerning this codicil. It is notable that it took over 15 years after Catherine’s death for her wishes to be carried out. The reason is not apparent, but it is interesting that no mention of the codicil is made in Catherine’s will of 1739, which is more concerned with bequests and legacies to family members, especially her daughter Catherine, and provision for the payment of debts. She wrote in the codicil that ‘the papers must be carefully kept, that no copys may be taken and printed’, otherwise a £2000 bond left by John Conduitt to ‘the seven nearest of kin’ to Isaac Newton to ensure against such an eventuality would be forfeit. Could this have been a factor in the perceived reluctance to part with them? It seems clear that the codicil itself went with the papers to Arthur Sykes, and this is presumably the reason it is to be found to this day with the Ekins Newton collection at New College.

4.

MS 361/4, fols. 126-133 and NCA 2844/4

Further binding family ties become evident from the Newton pedigree published in *Miscellanea Genealogica et Heraldica*, Monthly series, no. XIV, July 1871, and other sources.

Robert Barton (1684-1711) was the only son of Robert Barton and Hannah Smith, the brother of Catherine Barton Conduitt and half-uncle of the Reverend Jeffery Ekins (1699-1773). He married Catherine Greenwood and they had three children—Newton (b. 1707), Robert (b. 1709) and Catherine (b. 1710). Newton Barton married, on 9 June 1758, Elizabeth Ekins (b. 1735), the daughter of the Reverend Jeffery Ekins. Elizabeth died on 2 December 1804 and was buried near her brother, the Very Reverend Jeffery Ekins Dean of Carlisle, in Fulham Church; Newton Barton had died in October 1768. They had two sons, however—John Barton (1759-1803) and Charles William Newton Barton (1762-1808).<sup>29</sup> They were, therefore, the grandsons of the Reverend Jeffery Ekins. There is a note in New College Archives [NCA 2844/5], written by Warden Sewell in 1873, recording that Charles William Newton Barton, son of Newton Barton, matriculated at New College at the age of 17 on 30 August 1779, as a Founder’s Kin Fellow (c.f. footnote 27 of this article).

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<sup>29</sup> *The Early Journals of Fanny Burney*, 5 vols., ed. by Lars E. Troide and Stewart J. Cooke (Oxford, 1988-2012), vol. 5, p. 137.

Additionally Warden Sewell's receipt, of November 1873, for the Newton materials shows that they were 'Received of the Revd. N.B. Young & exec[utor]s of the Revd. J. Ekins'. The Reverend Newton Barton Young was also a Fellow of New College, from 1827 until 1852. He matriculated on 10 March 1827 at the age of 19. He was awarded BA in 1830, MA in 1834, was Dean of Arts in 1834, served as Bursar in 1835 and was Sub-Warden in 1842. He was, therefore, a contemporary of the Reverend Jeffery Ekins (1803-1872). However, the ties go deeper than this. Newton Barton Young's great-grandmother was Elizabeth Allicocke,<sup>30</sup> daughter of John Allicocke of Loddington, Northamptonshire and the sister of Susanna Allicocke, who was the second wife of the Reverend Jeffery Ekins (1699-1773)—the mother of his children including Elizabeth Ekins, wife of Newton Barton, and the Very Reverend Jeffery Ekins, Dean of Carlisle.

A pedigree chart of the relevant members of the Barton, Ekins, Smith and Newton families referred to in this article is included for the reader's information.

5.

MS 361/4, fol. 146

A short note written by Miss Susan Ekins, the daughter of the Rev. Jeffery Ekins (1699-1773) 'and sister of the late Rev. Jeffery Ekins, Dean of Carlisle', dated 29 September 1803. She explains that her father 'came into possession of Sir Isaac Newton's manuscripts either as executor of Lady Lymington, or left to him by her will.' She explains that the maiden name of Lady Lymington's mother, Mrs Conduitt, was Barton. Her father, Mr Barton, married two wives, one of which was the sister of Isaac Newton while 'the other [was] an Ekins by which means there was a family connection betwixt my father & Sir Isaac ...'. There was clearly a slight misunderstanding on Susan Ekins' part here (as has been seen, it was Barton's *daughter* who married an Ekins), but this note could be the basis, at least in part, for the explanation given by Sir David Brewster in his *Memoirs of the life, writings, and discoveries of Sir Isaac Newton* (1855) for how the Newton papers came into the possession of Jeffery Ekins.

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The author is also indebted to Alex Pound, Graduate Trainee at New College Library, for the realization of the pedigree chart of the relevant families, to be found at the end of this article.

### Further reading

Other sources have been useful background reading for this article:

College of Optometrists: *Newton and the colour of light* <<https://www.college-optometrists.org/the-college/museum/online-exhibitions/virtual-observatory-gallery/newton-and-the-colour-of-light.html>>

Dry, S.: *The Newton Papers* (Oxford, 2014).

Fara, P.: 'Newton shows the light: a commentary on Newton (1672) "A letter ... containing his new theory about light and colours ..."?' *Philosophical Transactions of the Royal Society A*, 2015 <<http://rsta.royalsocietypublishing.org/content/373/2039/20140213>>

Guicciardini, N.: *Isaac Newton and natural philosophy* (London, 2018).

Westfall, R.: *The Life of Isaac Newton* (Cambridge, 1994).

*Wikipedia* (various pages on notable figures in this story)

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<sup>30</sup> *Burke's Genealogical and Heraldic History of the Landed Gentry*, vol. 2: Young of Orlingbury (London, 1847).

Certain further articles contained within *The Newton Project*, general editors Rob Iliffe and Scott Mandelbrote (<[www.newtonproject.ox.ac.uk](http://www.newtonproject.ox.ac.uk)>) have also been helpful:

'Newton's life and work at a glance'

'History of Newton's papers 1727-1872'

