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Finding Aid - Papers of John Goodricke, Nathaniel Pigott, and Edward Pigott (GPP)

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Table of contents

Summary information

Repository:	Explore York Archives
Title:	Papers of John Goodricke, Nathaniel Pigott, and Edward Pigott
Reference code:	GPP
Date:	1760-1815 (creation)
Physical description:	3 standard boxes and 1 half standard box; 0.067 cubic metres
Language:	English
Language:	French

Administrative history / Biographical sketch

John Goodricke was born at Groningen, in the Netherlands, on the 17th September 1764. His father (Henry Goodricke) was a British diplomat, his mother (nee Levina Benjamina Sessler) was the daughter of a Dutch merchant.

John was deaf from infancy: at the age of 8 he was sent to Thomas Braidwood's Academy at Dumbiedykes, Edinburgh, a school specialising in teaching deaf or deaf-mute children. In 1778 Goodricke became a pupil at Warrington Academy, where school records noted that he had become 'an excellent mathematician'.

He rejoined his family who had moved to York: John's great-uncle the Rev. Henry Goodricke held office at York and was tenant of part of the Treasurer's House. By late 1781 John was involved with Edward Pigott in making astronomical observations. The two astronomers were soon concentrating their research on the variable stars, particularly Algol [Beta Persei].

Goodricke's first published paper was 'A Series of Observations on, and a Discovery of, the Period of the Variation of the Light of the bright Star in the Head of Medusa, called Algol'; this was read at the Royal Society on May 15th 1783. He published a supplement to these observations 'On the Period of the Changes of Light in the Star Algol' in April 1784, 'Observations of a new Variable Star' [Beta Lyrae] in January 1785, and observations on the variability in Delta Cephei in June 1785. For his work on Algol he was awarded the Royal Society's annual Godfrey Copley Medal in 1783; he was elected a Fellow of the Royal Society in April 1786, but died on April 20th 1786, aged 21. According to Turner he 'fell a victim to his favourite study […] in consequence of a cold from exposure to night air in astronomical observations.'

The two families stayed in contact after Goodricke's death: Goodricke's astronomical papers were sent to Edward Pigott in 1791, Charles Grey Fairfax (Edward Pigott's younger brother who had assumed the name Fairfax on inheriting Gilling Castle) married Goodricke's sister in 1794, and Levina Goodricke (John's mother) was executrix of Nathaniel Pigott's will.

The cause and date of John's deafness is uncertain. Most sources suggest that he became deaf after a fever in childhood. John Ford, in notes published in the Yorkshire Philosophical Society's Report for 1868, says 'At five years old he had scarlet fever ending in total deafness'; unfortunately, he did not give his source of information.

There is disagreement over the room where John Goodricke made his observations. Melmore's article concludes that the room was on the top floor of the south-east wing of the Treasurer's House. Forrester disagrees; in his MS. (chapter 8, pp. 17-19) he gives reasons for believing Goodricke's room to have been in the central range of the building, demolished by Frank Green to create the Great Hall of the Treasurer's House as it is today.

Administrative history / Biographical sketch

Nathaniel Pigott (1725-1804) and Edward Pigott (1753-1825) were astronomers notable for their work with John Goodricke and the observation of variable stars.

Nathanial Pigott

Nathaniel Pigott was a gentleman of leisure, a noted amateur astronomer and surveyor. The grandson of Viscount Fairfax of Gilling Castle in Yorkshire, Nathaniel Pigott led a peripatetic life, living for many years at Caen in Normandy and later at Louvain in Belgium (then the Austrian Netherlands). In 1749 he married Anna Mathurine de Beriot of Javingue.

In 1772-1773, at the request of the authorities in Brussels, he took a series of astronomical observations to establish the exact latitude and longitude of the principal towns of the province.

In the mid 1770s the family returned to Britain and by 1780 were living at York. In the garden of their house in Bootham (now no. 33, see York City Archives accession E98 f.58 v., Register of deeds) Nathaniel had an observatory built, where he took many transit observations. His primary interest seems to have been observations to establish the latitude of York. Following the death of his wife in 1792, he gave up the lease of the house in Bootham. He died in York on May 31st 1804.

Edward Pigott

Edward Pigott the eldest surviving son of Nathaniel Pigott (1725-1804), was involved in his father's observations from an early age; he was one of the observers of the transit of Venus of 1769.

He sent his first paper to the Royal Society, 'Account of a nebula in Coma Berenices' in September 1779. His observation of a comet in November 1781 is mentioned at the beginning of John Goodricke's 'Journal of astronomical observations'. Goodricke [John Goodricke, 1764-1786], initially a pupil, soon became a respected colleague. From 1782 the two astronomers were engaged in diligent study of the variable stars and cross-checked their observations.

Pigott discovered the comet which bears his name in November 1783. In December 1784 he published 'Observations of a new variable star' [Eta Antinoi/ Eta Aquilae]. Accompanying his father to Louvain in 1786 he assisted in observations of the transit of Mercury. He sent to the Royal Society an account of an auroral display viewed at Kensington in February 1789. In 1796 he communicated a paper 'On the periodical changes of brightness of two fixed stars' [R Coronæ Borealis and R Scuti] ; a paper on the period of R Scuti followed in 1805.

He was at Fontainebleau in 1803 when war broke out between Britain and France and was not allowed to return to the United Kingdom until 1806. His observations of the comets of 1807 and 1811 were communicated to the French Academie des Sciences. His latter years were spent at Bath, and he died there on June 27th 1825.

Scope and content

Scientific papers and correspondence created by John Goodricke, Nathaniel Pigott, and Edward Pigott in the course of their activities as astronomers. The majority of the papers relate to the observances of atronomical phenomena, particularly variable stars. Also includes papers relating to barometrical and meterologial observances [weather] and to the calculation of latitude and longitude. Some of the papers include drawings and diagrams.
Many of the observations, particularly those by John Goodricke and Edward Pigott were made at York.
References can be found accross the collection to observations and papers elsewhere in this collection.
Summaries, extracts, and transcriptions have been provided by a volunteer.

Notes

Arrangement

The collection has been broadly arranged according to the original arrangement made of the collection when it was deposited with the archive, however items originally catalogued as Acc 227.24, and previously arranged as GPP/4, have been included in GPP/1-GPP/3 as appropriate to reflect the provenance of the records, and the lack of difference between records in those first three series and items previously in GPP/4.
Items are now arraned into the following series:
GPP/1: Papers of John Goodricke
GPP/2: Papers of Nathaniel Pigott
GPP/3: Papers of Edward Pigott
GPP/4: Publications
Items and files within each series are arranged chronologically. All original and former references have been included at item/file level in the catalogue.

Alternative form available

The papers in this archive were microfilmed by the York University’s Photographic Unit in 1986. Microfilm copies (3 reels) can be accessed at Explore York and at the J.B. Morrell Library of the University of York.

Restrictions on access

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Related material

Two diaries of Edward Pigott, 1770-1783, (call reference Osborn fc80) are held at the Osborn Collection in the Beinecke Rare Book and Manuscript Library at Yale University. The diaries include information on 'journeys from Caen, where Pigott was brought up, to England in 1771, from London to Bath in 1776, from Glamorganshire to Yorkshire in 1779; also many visits to plays and operas in London; many references to scientific topics, experiments'. Both diaries have been digitised and are available to view online through the website of the Beinecke Rare Book and Manuscript Library.

The Royal Astronomical Society's Library has related MSS. collections which includes:

(i) a collection of correspondence received by Nathaniel Pigott between 1761 and 1794 [RAS MSS Pigott]

(ii) 4 items of correspondence between John Goodricke and William Herschel between August 1784 and January 1785 ; one of the letters from Goodricke to Herschel includes a note from Edward Pigott [RAS MSS Herschel W.1/13.G.12-14 and RAS MSS Herschel W.1/1 pp. 116-119].

(iii) many items of correspondence between Edward Pigott and William Herschel between June 1781 and August 1817 [RAS MSS Herschel W.1/13.P.27-42 and RAS MSS Herschel W.1/1 pp.68-70, 77-79, and 221-222]

(iv) A letter from Nathaniel Pigott to William Herschel of June 1782 and a letter from Herschel to Pigott of 1782 [RAS MSS Herschel W.1/13.P.43 and RAS MSS Herschel W.1/1 pp.72-74].

The American Philosophical Society (based in Philadelphia) holds a letter book written by Edward Pigott (1802-1806)(reference Mss.B.P62). This contains copies of correspondence written in English and French by Pigott while held as a prisoner of war at Fontainebleau by Napoleon. The letters reflect on his time in prison, as well information about subjects such as astronomy and botany. Further information can be found on the website of the Americal Philosophical Society.

The Dawson Turner correspondence in the Modern MSS Collection in the library at Trinity College, Cambridge, includes two letters from Edward Pigott (1802 and 1803), references O./13.2/No. 51 and O./13.2/No. 139.

The National Maritime Museum, Caird Library and Archive, hold a volume of letters written by Nevil Maskelyne to Edward Pigott and John Goodricke between 1781 and 1799, reference LBK/85; REG15/000535. This volume has been digitised and is available to view online through the website of the National Maritime Museum. This item is available to view online through the volume description at LBK/85.

Other notes

- **Publication status**: Published
- **Institution identifier**: GB0192

Access points

- Astronomical observatories (subject)
- Astronomy (subject)
- Scientific activities (subject)
- Weather (subject)
- Drawings (subject)
- Deaf (subject)

Bibliography

Brech, A. and McConnell, A. “The Pigott family: eighteenth century connections with church, science and law”, Recusant history, vol. 28 no. 3 (2001), pp.449-460.
Dunlop, S. “John Goodricke: 1764-1786”, Soundbarrier: Journal of Royal National Institute for the Deaf, (1986-1897), pp.13-14.
Edwards, D. “John Goodricke – the life and work of a York astronomer”, York Georgian Society Annual Report, (1968), pp.49-53.
Forrester, R. "Owners and Occupiers of Treasurer's House, York, 1815-1900", York Historian, (1992), pp.52-63
Gilman, C. “John Goodricke and his variable stars”, Sky and telescope, vol. 56 (1978), pp. 400-403.
Hoskin, M. “Goodricke, Pigott and the quest for variable stars”, Journal for the History of Astronomy, (1979), pp.23-41.
McConnell, A. and Brech, A. “Nathaniel and Edward Pigott, itinerant astronomers”, Notes and records of the Royal Society of London, vol. 53 no. 3, (1999), pp.305-318
Melmore, S. “The site of John Goodricke’s observatory”, Observatory, vol. 69, No. 850 (June 1949), pp.95-99.
The collection was used by Richard Forrester for hisunpublished “People of wealth and quality: the Treasurer’s House, York, its owners and occupiers, 1700-1815”. A copy of his draft manuscript and copious notes are held at the York City Archives as Accession 492; they include much background information on the Goodricke family.

Series descriptions

Series GPP/1: Papers of John Goodricke

Creator: Goodricke; John (1764 - 1786); astronomer

Date: 1780-1786, [1791] (creation)

Scope and content: Includes astronomical observations and journals, printed papers read before the Royal Society, handwritten letters and oberservations to be read before the Royal Society, and some additional copy correspondence. Most of these papers relate to the observation of varible stars, made in York.

Physical description: 4 folders and 1 volume

Language of the material:

- English

Restrictions on access: Open
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Publication status:

Published

File / item list

Reference code	Title	Dates	Physical description
GPP/1/1	**Item - 'Mathematics, Trigonometry and Logarithms'**	1780	1 item
	Scope and content: School exercise book, gigned inside front cover, 'J. Goodricke Warrington Academy 1780'. Pages numbered 3-28. Astronomical diagram inside rear cover shows area between Auriga and Rigel; note, 'Markab and Sheat Alpheras in Pegasus will be past the meridian …'.		
	Restrictions on access: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections.		
	Conditions governing use: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/2	**Item - Mr Goodricke's Journal of Astronomical Observations begun in November 1781'**	1781-1786	1 volume
	Scope and content: In handwriting of John Goodricke. Inside front cover signed 'John Goodricke 1783 – York'. Pages numbered 1-368 (pp.365-366 missing), with index on following 2 un-numbered pages. Several loose items have been inserted into the volume, including an astronomical diagram, notes, and blotting paper. SUMMARY, EXTRACTS, AND TRANSCRIPTIONS: 'This journal was begun in the begg. of November 1781 – the first thirty pages containing observations from Nov. 1781 to Jany. 23 1783 are copied from my old journal'. First entry, 'Comet / November 16 / Mr. E. Pigott told me that at 9 oClock P.M. yesterday he discovered a comet with a small nucleus & coma near the neck of Cygnus. It appeared like a star of the 4th Magnd.' The next few pages concern the comet: Edward Pigott showed Goodricke letters from Dr. Maskelyne (the Astronomer Royal), Sir Henry Englefield, and M. Mechain, the comet's discoverer, who was hoping to identify the comet with that of 1337 and was intending to verify the Chinese observations of that comet. From December 1781 there are observations of 'Herchell's Comet' ('or rather a star, what species we do not as yet know'). March 20th 1782, 'At noon I saw Venus thro' the transit Instrument in Mr. Pigott's observatory'. April 22nd, 'All my observations on Herchell's Comet & on that of Novr. 1781 were observed only with a small perspective Glass […] but having now just got a larger telescope of two feet and a half* [In margin, '*Dollonds 2 ½ feet Achrom. doub. obj. Glass – very good'] with two tubes mag. 80 & 50 times, I put cross wires in both these tubes in order to observe the Comet with greater accuracy but the results of the Comets R.A. as compared with difft. stars were so disagreeing & unsatisfactory so that I thought proper to omit setting them in this journal*' [In margin, '* In the old Journal they took up four pages']. June 20th 1782, 'Having a mind to observe the variable stars in Cygnus – abt. midnight I looked for all the stars between Gamma & Eta Cygni in order to find the Nova of 1600'; they are shown in a diagram 'a is the Nova of 1600 & appears at present of the 6th magnitude'. July 19th 1782 [page 9], 'Being desirous to have a Clock, I made choice of Mr. Hartley to make one for me. He has now finished it & it is put in my room. ['in the middle between my two windows & opposite to ye fire but not near it, my room being of great length.' deleted] It is to be regulated & reduced to either Apparent or Sydereal time by comparing with Mr Pigotts Clock in his observatory. The going of my		

clock is to be estimated by the vanishing of any star behind the Minster & for further particulars see the Journal of the going of my Clock. The Way to compare my Clock with Mr. Pigott's Clock is by the last stroke of the Minster Clock – thus – I must mark the time of my Clock at the last stroke of the Minster at 12 oC & Mr Pigott must do the same with his. […] We must hear at almost the same moment. Some faithful person, upon whom I can depend, always tells me every stroke of the Minster & when he tells me the last - I always mark the Clock. N.B. my Clock is Mr. Smeaton's Idea'.

Page 10, 'I lately sent to Mr. Dollonds for two eye Glasses, one to magnify abt. 6 or 8 times & another abt. 140 or 160 times. I have now got them but they did not answer my expectations very well […] They have however sometimes their use still.' Several observations and diagrams of sunspots are followed by an observation of the magnitude of Omicron Ceti.

In November 1782 (page 16) are notes on some variable stars, headed by Algol and including Delta Ursae Majoris, Alpha Draconis, and several stars in Hercules. On November 12th, 'This night I looked at Beta Persei & was much surprized to find its brightness altered. It now appears of abt. The 4th magnd. It was hardley distinguishable from Rho Persei – I reckoned it as nearly equal to it in brightness'. November 13th, 'Beta Persei is now much changed. It now appears of the second magnd. Brighter than Beta Arietis &c See page 16 of this Journal – very unexampled change !'

December 1782, 'Having mentioned in page 9 of this Journal, the way of comparing my Clock with Mr. Pigott's viz by the last stroke of the Minster but as Mr. Pigott is at a greater distance from the Minster than I am – He must hear the stroke somewhat later – I therefore judge it necessary to make some allowance when I reduce my observation by P's Clock by subtracting a little from Mr. P's time. Dr. Derham & Dr. Halley having found by accurate trials that sound takes up 1" to come at the distance of abt. Near ¼ of a mile & Mr. P's observatory where his Clock is set being abt. A ¼ of a mile from the Minster very nearly, I always subtract 1" from Mr. P's time – my distance from the Minster is only a few yards, therefore no allowance'.

December 28th, 'At 5 ½ looked at Algol. It was much less bright than when I saw it two or three days ago. It appeard to be of the 4th magnitude. It was abt. The same brightness & colour as Delta & Gamma Persei – rather a little brighter than Rho Persei – not quite so bright as Beta Trianguli & Epsilon & Zeta Persei & no brighter than Beta Arietis. I must however confess that it was rather hardly distinguishable from Rho Persei, they sometimes appearing of the same brightness & sometimes the Rho seemed to be brighter. Mr E. Pigott nearly agrees with me & and am very glad he has now confirmed it as my last observn. On the change of this star was hardly credible on act. Of the quickness of the change.'

December 30th, 'The singular Phaenomenon of Algol's variation on the 28th inst. & on the 12th of Novr. Last, I think, can't be accounted for in any other manner than that of supposing it to have suffered an Eclipse (if I may say so) by the interposition of a Planet revolving round it. This variation is evidently difft. From Omicron Ceti & other variable stars – Mr. E. Pigott having sent me a note to desire an extract of my observn. On the 12th of Novr. Last, gives the same opinion – thinks the imaginary planet must be abt. Half the size of Algol at least. Future observations will set this Phaenomenon in a clearer light.'

January 1st 1783, 'Algol of the same brightness as on the 30th ult. As I intend to observe this star every day I will set its appearance &c &c in a separate place in page 364 of this Journal'. Observations continue of Algol, Omicron Ceti, Gamma Canis Majoris. On pages 27-28 are observations of Algol on the night of January 14th, taken at 7, 7.30, 8, 9, 9.30, 12 and 12.30 (the cloud that obscured the view after 9.30 had partly cleared by midnight); example '9 ½ oC. P.M. It is now a little more nearer to equality with the Rho than at 9oC. They appeared for the most part exactly equal both in colour & brightness tho' sometimes Algol seemed to exceed it a very little. Magnd. 4th'. At the end of the night's observations is a note, 'Mr. Edd. Pigott saw it a little before 6 oClock. He thought it less bright than usual but rather brighter than Beta Arietis. Comparing this & my own observations, it appears that the duration of the supposed Eclipse is 7 hours, so that it takes up to change from the 2d to near the 4th Magd. In only 3 hours and a half – Singular indeed. – If the Period of Algol's variation is regular – this will prove it has a planet revolvg round him.'

Part of an extended comparison of Algol brightness (under January 18th-19th), 'a good deal less bright than Alpha Persei & Alpha Andromeda – much brighter than Beta Arietis & Gamma Pegasi – rather brighter than Alpha Pegasi – In short either between Gamma Pegasi & Alpha Andromeda or Beta Arietis & Alpha Persei. All these stars are of the same colour as Algol. I did not like to compare with Gamma & Beta Andromeda & Alpha Arietis because they are of difft. Colours – but as far as I can judge Algol is not as bright as them – they are a good deal larger than Algol – Alpha Andromeda and Algol are of the whiter light and consequently brilliant. Comparing this comparison with that in page 16, it appears that

that in page 16 is not exactly at its full brightness. Instead of being equal to Alpha Pegasi as on p.16, it ought to be brighter than it. When Algol agrees with the abovementioned comparison or is at its greatest brightness, I always say that it is full or at its full brightness.'

At bottom of p.30 'Here ends the Copy of my old journal – Jany. 28th 1783 J.G.'.

Observations of the magnitude of Omicron Ceti are followed on January 31st with a series of observations of Algol, at '5 ½ & 6 ¾ P.M.', '11+ P.M.', '11 ¾ P.M.', '12 ¾ A.M.', '1 ½ A.M.', and '2 ¾ A.M.' ; 'Comparing my observations on the 28th of Decr. & 14th of this month with this – It appears that its period is 17+ Days' (p. 32). February 23rd, 'At 12h Rho Persei seemed to be brighter than usual & so has it been observd several times before when Algol was at its least brightness as in page 28, 31 &c. I waited for further observations to confirm it but I am now emboldened to mention it because Mr. E. Pigott also thinks that it was brighter. Rho Persei's usual brightness is of the 4th magnd. but when Algol equals it, I always judge it to be of the 3d or 4th. Being desirous to compare Algol with several stars, which are much nearer equal to it than those mentioned in p. 30 & also nearly at the same height – I compared it with the three bright stars in Cassiopeia which I have found the most proper for my purpose. It was not so bright as Gamma Cassiopeiae, rather equal or a little less bright than Beta Cassiopeiae & a little brighter than Alpha Cassiopeiae.' [Marginal note 'Sometimes it seems brighter than the Beta & sometimes nearly equals the Alpha nay sometimes the Gamma – they are all nearly of the same size as Algol']

March 18th 1783, 'Eclipse of the moon […] The times of all these observns. were observed by my Clock which was removed from my room in the morng. to an other where the Eclipse can be more conveniently observed – my Clock was compared with Mr. Pigott's twice in the manner described in p.9. It was compared only about 20' after my observn. of the begg. of the Total darkness, & therefore a good comparison.' (p.36). April 3rd & 4th, 'This night I discovered that Iota Cancri was double & also the 1st ad Phi Cancri. The former has a star of the 8th Mag. near it at 22" dist. The large star is of the 4th Magd. The 1 ad Phi has two equal stars very close together thus ., like Mu Draconis of the second class of Herchel's Catalogue of double stars.' April 19th & 20th, 'I discovered three double stars, which I suppose is not in Herchel's Catalogue' ; marginal note, 'They are not in Herchel's Catalogue nor are those that I discovered on the 3rd & 4th of April, so I have sent them all to him'.

May 1783, 'Having now got an excellent Equatoreal by Ramsden & procured for me by Dr. Shepherd – I examined it in order to see how far I ought to depend upon the Declination found by the Quadrant belonging to that instrument, which by a Nonius shews it to one minute … The instrument is second hand but in excellent condition' (pp.40-41).

Against the marginal description 'Memoir on Algol'; 'May 12th: I sent a memoir containing all my observations on Algol & its singular Phaenomenon to the Revd. Dr. Shepherd, in order to be communicated by him to the Royal Society. The observations as they are delivered in ye memoir are nearly the same in substance as in this journal but more brief & corrected into better language, of which my first observations were in great want of. … Comparing all my observations on Algol it appears that it changes from the 2d to the 4th magnd. in abt. 3 hours & a half & from thence to the 2d again in the same space of time, so that the whole duration of this remarkable variation is 7 hours & this variation recurs regularly & periodically every two days & twenty hours & three quarters. For further particulars see my memoir & p.364 of this journal.'

After a note of the order of brightness of the stars in Hercules, on June 11th 'Mr E. Pigott having told me that the Nova in Collo Cygni is now visible, I looked for it tonight at 11h with an Eye tube magnifg. 8 times', with a plan of the stars in the area. June 22nd, 'Nova Cygni as on the 16th – did not succeed in observing [Jupiter]'s 1st Sat. Imm. it being my first attempt.'

In July 1783 Goodricke was at Scarborough, making observations there on the 5th, 22nd, 24th, and 27th. He was back at York by July 31st, 'No alteration in the Nova Collo Cygni since my last observation. It was not much difft. from the b perhaps rather brighter. I don't think it has ever varied. I am the more led to believe so because I have found that the b in p.8 is the same star we call here the Nova Collo Cygni. If it is not so, then such a plan of the stars as I have set down in p.8 never existed in the sky during the time I observed it, & then the plan wd. have been only my own fancy but that was not the case, for I remember very well the manner in which I have observed it. Mr. E. Pigott positively denies that the star, which he calls the Nova Collo & which I find is the b in my plan in p.8 did appear last year, because he observed it & could not see it then. […] In short there is much disagreement between us. As for my part, I don't think

that that star which I here call the Nova in compliance with Mr. E. P.'s opinion never did vary & so will give up observing it anymore.' Pencilled in the margin is a note, 'this & part of the preceding article are foolish – we had too warm a dispute' (p.47). The following page, headed August 11th, carries an explanation, 'I now retract what I have said in the preceding page […] That I saw it is indeed true but as I did not observe it afterwards, I can't possibly know what became of it since my observn.. But as Mr. Ed. Pigott has observed it a little while after & could not see the least trace of it till the Spring of this year, it must certainly have varied since my observn. in June 1782 […] In Short, I wish all what is said in that page be blotted out of the Journal.' (p.48)

On September 10th there was an eclipse of the moon, which was closely observed for 3 ½ hours 'All observed with Dollond's 2 ½ feet Achrom. double obj. Glass magnfg power 80+. Mr. E. Pigott also observed some of those spots which I observed & nearly agrees with me to less than ½ of a minute except one in the latter end of the Eclipse. The nearest agreement is 1" & the greatest disagreement not above 25". […] Those observations that are marked [dot] are rather a little doubtful & those that are marked : &c are doubtful' (pp. 52-54).

October 21st, 'I have great reason to believe that Alpha Cassiopeiae is brighter now than last year. It is now nearly equal & sometimes brighter than Gamma Cassiopeiae & certainly brighter than Beta Cassiopeiae. It is also rather brighter than Algol. Its magnitude about the second. Concerning my former observations on this star see p.35 &c. In p.35 I make it of between the 2d & 3d magnd. less than Algol & Beta & Gamma Cassiopeiae. […] All well compared & night fine. Alpha Cassiopeiae was observed several times before tonight. I make great use of the Cassiopeian stars whenever I observe Algol, so that I think I can't err, unless I observed them last year under unfavorable circumstances & without any caution as to the weather which as far as I can trust my memory was not the case.'

October 25th, 'Looked at the Nova in Collo Cygni. It was hardly visible with a power of 8. It appeared of abt. the 11th or 12th magnitude.' November 12th, 'The night being fine, I looked for the Nova in Collo Cygni but could not see it at all' ; a plan shows the place where the nova ought to appear. November 20th, 'Mr. E. Pigott having told me this morning that he discovered a Nebula or Comet in the Whale's head between Alpha & Gamma Ceti, I looked for it tonight at abt. 7 ½ h, & at 11h it visibly changed its place, being more northwards, from this motion it evidently appears that it was a Comet.' December 24th, 'Omicron Ceti was of the 10th magnitude & much diminished since my last observation. Could not see Nova in Collo Cygni. I intend later to take very exact plans of the small stars near Omicron Ceti & Nova Cygni with my new Night Glass, which takes in a very large aperture & magnifies 6, 12 & 20 times.' December 30th, 'Immersion of Delta Piscium into the [Moon]'s dark limb, uncertain to 5" or upwds. 2h 42' –0". I did not observe the Emmersion. The weather was intensely cold & frosty & I was not well enough to venture out. The thermometer was at about 16# & next morning Decr. 31st at 8 oClock, it was at 9# by my Thermometer.* [Marginal note, '*made by Dollond'] (p.67)

January 19th 1784, 'Algol varied to-night & I have made 6 good observations on it, from which I have determined the time of its least magnitude or greatest diminution of light to be at 6h-48' Appt. time true, I believe to 10 minutes, if not less. […] Last month I sent another Memoir to the Royal Society, in which I have determined the Period of Algol's changes to be 2d-20h-49'-3", true to ten seconds & have also added a few other remarks.'

February 8th, 'In consequence of an advertisement in the London Chronicle, that a Comet with a Tail of two degrees was discovered on the 24th of Jany., last, in France by Compte de Lassini, I looked for it tonight & immediately found it in the Tail of the Northern Fish with about 355º of Right Ascension & 5 Degrees North Declinn. Its nucleus was very bright & about half a minute in diameter. […] By comparing my observation with that of Compte Lassini Jany 24th last, I think that the Comets light is decreasing & that it is coming from the Sun. It is a very fine Comet.'

February 12th, 'At 7h½ in the morning The Thermometer was at 12º½ . This morning is the coldest day next to Decr. 31 1783 & Jany 25th last. The Thermometer was at a Southern exposure on all those days.' Headed, 'London – March 15th: The Nova Hydra appeared to me to be much diminished since the 23d of January. it was rather less than stars of the fifth magnitude – Air was not clear enough.'(p.71).

The next entry is for July 15th and refers to Herschel's publication in Philosophical Transactions, Vol. 73, suggesting some errors in Flamsteed's catalogue of stars and ending 'Mr E. Pigott next day told me that he has looked over the 2d Vol. of Flamstead but that he could not find any observations of either the 80 or 81 Herculis in it. As to the 71st Herculis he cannot find it too but as Flamstead's observations on the 70th Herculis differs a little, he thinks he has made the 70th & 71st, which ought to be one & the same star, different ones. I believe Flamstead has put in the 80 & 81 in his Catalogue thro' some mistake

	or oversight. I am now more confirmed in opinion that the three above stars which Herschell thought were lost, never existed.' September 10th, 'Abt. 1h I thought Beta Lyrae was much less than usual'; observations were continued throughout the month, culminating in long sessions of close observation on the 29th and 30th. By the 30th he had reached a conclusion, 'viz that it varies during the space of about 36 or 40 hours & its Period is 6d-10h +- just. If, however, it shd. happen otherwise, then I have been deceived by the weather & the fallacy of sight & will no more trust to such exceeding small variations.' Meantime, on September 12th, 'Mr. E. Pigott suspects that Eta Antinoi is variable & has desired me to compare it with other stars, in order to see whether I also think it varies. Its relative brightness this night was thus – rather a little brighter than Iota Antinoi, & less than Theta Serpentis. Air clear.' On p.85 are some observations, 'The following were collected from Slips of Paper & which I forgot to set down in their right places in this journal.' 20th October 1784, '2 Hydra appeared as a Star of the 4th or 5th Magnd . 1 Hydra – of the 6 or 7 & 3 Hydra of the 7th – they were rather low. I have some doubts whether I have hit upon the right stars.' (p.94) October 24th, 'Delta Cephei / This star now appears brighter than yesterday – 6½ - it seemed nearly between Zeta & Epsilon Cephei but rather nearer Zeta – somewhat brighter than Gamma Lacertae & somewhat less than Eta & Iota Cephei', followed by comparisons of Gamma Lacertae, Eta Antinoi, and Beta Lyrae. 'For observations on the Star Delta Cephei See p. 362 of this Journal'. From December 1784 onward there are few observations in this part of the journal ; most of those taken at this time are at the back of the journal, pp.339-364. March 11th 1785, 'Thermometrical observations / at 12h – at 23# - Ramsdns. Thermr. Southn Aspect / 23 ½ - Dollnds. Do – Northn. Aspct. / - 8 – [Sun] being up – Ramsdns. with Southn. Aspect stood at 26# - / I've marked these observns. down because they denote a degree of cold uncommon for the season -'. July 31st, 'Imm. of [Jupiter]'s 1st Satell. by my Clock 12h 13' 31" When the Satell. was very faint & only seen by intervals, a thin cloud covered Jupiter. The Observation seemed to be tolerably good but the above circumstance & the Watch I used render it rather a little doubtfull. My Watch being with Mr Arnold, I used Mr. E. Pigotts Watch but the minute & second hand did not agree, however I took as much care as possible'. This is followed by entries on September 12th and 15th (the latter was an immersion of Jupiter's first satellite observed at the Pigotts' observatory using 'a good treble object telescope of Watkins') ; the next and last entry in this section is a pencilled note for 24th February 1786, 'Variable in Hydra not visible with an Opera Glass' (p.115). Pages 116-338 are blank. Entries at the back of the book contain observations of particular variable stars, the earliest in 1782 and the latest in March 1786. Entries start at p.364 and work back to p.339. Page 364 : 'Observations on Algol – see page 43 of this journal', observations covering 30th December 1782 to 20th February 1783. 'Observations on the variation of Delta Cephei, which I discovered October 19 1784', begin on pp.362-3, covering 29th November 1784 to 26th February 1785, then go to pp.351-354, covering 28th February to 1st December 1785, then to p.339, covering 2nd January to 27th March 1786. Observations on Eta Antinoi begin on p.361, covering 19th November 1784 to 20th July 1785, then go to p.346, covering 28th July to 26th September 1785. Observations of the variation of Beta Lyra begin on pp.359-360, covering 25th November 1784 to 4th April 1785, then go to pp.348-350, covering 2nd April to 16th October 1785, then go to pp.341-2, covering 17th October 1785 to 30th March 1786. The last entry is '30 – 11 ½ / believe less than last night – it seeming rather less than Xi Herculis – much Auror. Boreal'. Page 357 is headed 'Observations on the variable star in Cygnus Neck discovered by M. Kirch – 1680 / For all the observations since 1782 & 1783 see from p. to p. 82 of this Journal.' Page 355 has 'Observations on the variable star Omicron Ceti – discovered by Fabricius 1596', covering 9th August 1782 to 10th February 1783. The sheet with pages 365-366 is missing. Pages 367-368 are blank. Two un-numbered pages contain an index to the volume, not in alphabetical order. Items indexed : Comet of 1781 pp. 1,2,3 Georgium Sidus pp. 4,5,6,7,11, 12 15, 23, 55 Algol pp. 16,19, 20, 23, 24, 25, 27 to 43, 46, 48 to 61, 66, 68, 75 to 78, 87, 93, 96, 100, 364

	Nova in Collo Cygni pp. 8, 43 to 51, 58, 59, 67, 74, 75, 77, 80, 82 Nova in Cygno of 1600 pp. 7, 8 Omicron Ceti pp. 11, 12, 13, 15, 19 to 26, 29 to 34, 48, 50, 55, 56, 67, 69, 80, 89, 101, 355 Beta Lyra & other stars in Lyra pp. 79 to 84, 87 to 107 - 359 Eta Antinoi & other stars in Antinous or Aquila pp. 80 to 83, 87 to 105, 361 Variable star in Hydra pp. 68, 69, 71, 110, 112, 115 – 94, 101 Comet 1783 pp. 61 to 66 Comet 1784 pp. 70 & 71 Nebulae pp. 7, 10, 11, 46, 50, 74 Sun's Spots pp. 13, 14, 15, 20 Eclipses of the moon pp. 36, 37, 52, 53 Eclipses of Jupiter's satellites pp. 45, 54, 56, 58, 75, 77, 78, 80, 91, 104, 108, 113, 114 Occultations of stars by the moon pp. 21, 38, 67, 69 Double stars pp. 9, 38, 40 Venus pp. 6 Saturn pp. 10 Instruments pp. 6, 9, 10, 40, 41 Thermometer pp. 67, 69, 71, 95, 109 Miscellaneous remarks or observations pp. 22, 42, 43, 46, 47, 48, 49 Ursa Major p p. 16, 17, 88, 57 Draco pp. 17, 18, 19, 21, 43, 88 ; 95, 96, 100, 103, 57, 72 Hercules pp. 17, 18, 19, 21, 43, 72, 73, 81, 86, 87, 88, 79, 82, 83, 84 mostly to 107 – Theta perhaps variable and when Beta Lyrae is obserd. Gemini pp. 18 Cetus pp. 18 Aquila or Antinous pp. 18, 85, 86, 99 to 105 Leo pp. 18 Sagittarius pp. 18 Canis Major & others in Canis Maj. pp. 26, 101 Virgo pp. 26, 32 Delphinus pp. 84, 85, 89, 90 Sagitta p. 85 Ophiucius pp. 86 Corona Borealis pp. 73, 85, 86, 89, 90 Lyra pp. 76, to 107 No. 19 &c disappear'd Capricorn p. 76 Aquarius pp. 77, 86 Serpens p. 86 Pisces p. 86 Singular appearance of the sun p. 45 Ditto of the moon pp. 47 Orion compared pp. 91, 101, 102 – 105 Cepheus pp. 94, to 111 Theta is perhaps Variable Delta pp. 362-112 Hydra pp. 94, 101, 110, 112 Cygnus pp. 94, 96, 111 Procyon compared pp. 101, 102 Taurus compared pp. 101, 102 Eridanus p. 102 Andromeda p. 95 – 16, 30 when Algol is Observed - Capella p. 102 compared Libra p. 110 Variable in Leo pp. 111, 112 Cassiopeia Gamma Beta Alpha pp. 35, 42, 54, 55, 56, Alpha Gamma Beta 58, 59, 60, Alpha Gamma Beta 61, 81 Alpha Gamma Beta, 103 Triangulum pp. 16, 19, 23, 57 and when Algol is Observed Arietis pp. 16-19, 23 and when Algol is Obserd.

	Leo p. 18 Perseus many stars when Algol is Observed Pegasus , when Algol was Observed Cluster of stars p. 46 Mars p. 46 Reflection in the Sea Lacerta pp. 94, to 111 On the last page is a pencil note, 'examined throughout / Lyra / Aquila or Antinous / Herculis / Cepheus / Lacerta'. On the reverse of the last page 'New Discoveries contained in this journal ---------- A periodical and quick alteration in the brightness of the Star Algol – first discovered Nov. 12th 1782 – An account of it in the Phil. Trans. for 1783 – Art. 26 and for 1784 – Art.22 A periodical variation of the light of the Star Beta Lyrae Sept. 10 1784 – An Acct. of it in Phil. Trans. for 1785 – Art. 9 A periodical variation in the brightness of the Star Delta Cephei – Oct. 19 1784'. Notes on the inside back cover, 'Decbr. 11 – 1784 began to use the term "something" as little – see p.95' [in the hand of John Goodricke], 'used quite as a word contrary to what I meant' [in another hand], 'Beta Lyra's most exact Varia / 12-21h-30 true to 20 or 6-10h-45 true to 8 or 10' [in the hand of John Goodricke]. Summaries, extracts, and transcriptions have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/3	**Item - Catalogue of Stars, Nebulas, & Double Stars etc., April 28th 1782'** *Scope and content*: Notebook, in handwriting of John Goodricke. SUMMARY: - pp.1-3 - 'No.1 A Catalogue of the Nebulas hitherto discovered with their Right Ascensions both in order and time and Declination etc. also the length of their diameters & the years to which their R. Ascensions and Declin. were reduced' Numbered 1 to 34, 'Here ends the Catalogue in regular order of Right Ascension', followed by numbers 35 to 37. 'Year reduced' 1758 to 1780. - pp.4-5 – 'No.2. A Catalogue of all the Clusters of small stars etc that look like Nebula's or are environed with them, with their R.A. both in order of time and Declin. etc'. Numbered 1 to 33. 'Year reduced' 1764 to 1780. Notes, no.5 (Near Kappa Antinous) 'should rather be put with Neb.', and '*No.23 [Grand one in Orion's sword] – it shd. rather be reckoned amg. ye Catalogue of Nebulas'. - p.6 – 'A List of the stars between Mu and Eta Gem:inorum mostly of the 6th and 7th magnitude taken from Mayer's excellent catalogue reduced to 1750'. List gives Eta Gem., stars lettered from a to i, and Mu Gem.. 'Place of the stars giveth ye Characters'. - 'A List of the Right Ascensions and Polar Distances of the most remarkable and brightest of the fixed stars taken from Bradleys Catalogue reduced to 1760, besides others added from different Catalogues'. Includes the magnitude as given in the original catalogue and as observed by Goodricke. 5 pages. - 'A list of Double Stars with their magnitudes'. 32 listed, then note '1783 March – There is now in the Philosophical Transactions a long Catalogue of Double stars amounting to about 250 and another is also publishing – all by Mr Herschel F.R.S.'. 1 page. - 'A List of variable Stars'. Numbered 1 to 16, beginning with 'The Nova in Cassiopeia's Chair'. Gamma Canis Majoris and Algol or Beta Persei have been added in pencil. 1 page.	1782	1 item

	- 'Bright Stars that have nearly or exactly the same declination and fit for observing diff. of R.A. with a Quadrant only wanting [all?] 5 Revolutions of the Micrometer or none at all'. List of 12 groups of stars. 1 page. Summary provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/4	**Item - Reductions of Observations of Eclipses, Occultations etc. to Apparanet time, 1783'** *Scope and content*: Notebook, with loose covers, signed J. Goodricke. Contains 12 reductions from 30th November 1782 to 12th November 1784, starting with an occultation of Spica Virginis by the moon, and including an eclipse of the moon on 10th September 1783. Calculations include corrections for gain/loss of time by Goodricke's clock and Pigott's clock. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.	1782-1784	1 item
GPP/1/5	**Item - Journal of the going of my Clock, begun July 1782'** *Scope and content*: Notebook, with flyleaf signed J. Goodricke. Columns for Date, Stars names, Star vanishes, Clock gains + loses – per day, and Remarks ; several notes written across the columns. Observations from 30th July 1782 to 11th February 1784. SUMMARY AND EXTRACTS: August 17th 1782, 'In the morning before this observation the Clock stop't. I made it run again but whilst I was in London it stopped again and Mr. Hartley set it right'. Note from November 1782, 'On the 17th whilst I was winding up the Clock the second hand did not go on as usual – I spoke ['with' deleted] to Mr. Hartley about it and he said it was caused by my not pulling down the spring hard enough. Having now a mind to make my Clock run sidereal time, because I can then compare it better with Mr. P's Clock which also runs sidereal time, I altered the Pendulum'. Note from December 1782, 'Whilst I was winding up the Clock on the 15th the second hand did not go on as usual. As this is now ye 3d time it did so; I remonstrated with Mr. Hartley about it and asked him ye reason its doing so. He gave me the same answer as on the 17th of Nov. last but I did not credit him. However after several trials I have since hit upon the true cause and found that it was owing to a fault of my own in not pulling the spring down hard enough accordg. to Hartley's directions which I did not rightly understand or he was not very particular in explaining them to me because he thought I understood him very well. I now know how to pull down ye spring but am afraid that I may sometimes fail on act. of my not being able to hear the spring'. In March 1783 the clock was temporarily moved into another room in order to observe the eclipse. May 1783, 'From the rate of the going of the Clock it does not appear that the Clock has run uniformly well	1782-1784	1 item

	enough […] The Clock is in my bedchamber and consequently must be exposed to the negligence of the servants. It also touches a little of the floor and is not strongly fastened.' 2 loose sheets inserted contain notes comparing gains and losses of Goodricke's clock and Pigott's clock compared to sidereal time, covering November 1782 to November 1784 ; times usually compared at 23 hours (11 p.m.). Many pages at the back of the notebook have been cut out. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/6	**Item - Reductions of the Places of Comets etc. etc. 1783'**	1783	1 item
	Scope and content: Notebook with loose cover pages made from a handbill for Abraham Rees's Cyclopaedia of 1778. Page 1 headed, 'Reductions of the Places of the Comet Discovered by Mr.E. Pigott Novr. 19th: 1783'. Page 1 is for November 22nd, page 2 November 24th, page 3 November 26th, page 4 November 28th, remaining 9 leaves blank. The calculations of Right ascension of the comet refer to plans on pp. 62-66 of Goodricke's astronomical journal (archive reference GPP/1/2). *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/7	**Item - Observations by [N Maskelyne, Astronomer Royal] with annotations by John Goodricke**	1783	1 item
	Scope and content: Paper titled 'Queries and remarks concerning the meteors or fire-balls of August 18th and October 4th 1783', followed by notes made by Goodricke. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/8	**File - Printed copies of letters from John Goodricke read before the Royal Society**	1783-1785	1 folder
	Scope and content:		

	Pamphlets containing printed letters written by John Goodricke and read before the Royal Society, with annotations. Includes: (a) Two copies of 'A Series of Observations on, and a Discovery of, the Period of the Variation of the Light of the bright Star in the Head of Medusa, called Algol'. Read at the Royal Society, May 15, 1783. Both copies include handwritten annotations, and one includes a handwritten dedication, 'To Edwd Pigott Esq from His Friend, the Author -'. Page 9, 'If it were not perhaps too early to hazard even a conjecture in the cause of this variation, I should imagine it could hardly be accounted for otherwise than either by the interposition of a large body revolving round Algol, or some kind of motion of its own, whereby part of its body, covered with spots or such like matter is periodically turned towards the earth. But the intention of this paper is to communicate facts, not conjectures …'. (b) On the Period of the Changes of Light in the Star Algol. Read at the Royal Society, April 1, 1784. 'The method I have here pursued is by taking the intervals between accurate observations of Algol's least brightness or greatest diminution of light made at long distances from each other, and dividing those intervals by a certain number of revolutions … The reason of my chusing long intervals is, that the number of revolutions being greater, the errors of observation are thereby diminished'. (c) Observations of a new Variable Star. [Beta Lyrae]. Read at the Royal Society, January 1785. includes additional copies of pages 3-6. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.
GPP/1/9	**File - Draft papers and copy letters from John Goodricke to be read before the Royal Society** 1783-1785 1 folder *Scope and content*: Letters written by John Goodricke. Many contain astronomical observations, corrections, and annotations. CONTAINS: (a) Letter to the Rev Dr Shepherd dated 12 May 1783, concerning observations on the variation in Algol. Read before the Royal Society 15 May 1783. (b) Letter to the Rev Dr Shepherd dated 8 December 1783, concerning observations on the variation of Algol and including a more precise estimate of the periodicity of Algol. Read before the Royal Society 1 April 1784. (c) Letter to HG Englefield dated 10 January 1785, concerning observations on the variation of Beta Lyrae. Read before the Royal Society 27 January 1785. Includes an additional note dated 12 January 1785 concering the account. (d) Letter to the Rev Dr Maskelyne dated 28 June 1785, concerning observations on the variation of Delta Cephei. Read before the Royal Society. A note at the end of the letter indicates that Goodricke wished the paper to be read to the Royal Society, and a pencil note on the front of the letter reads 'printed in the Phil Trans [Philosophical Transactions] 76 p.48'. (e) Draft pages of a letter containing correction to the estimate of the period of Beta Lyrae; Goodricke writes that he has revised his previous division of the changes into 8 points, deciding that the 7th and 3rd points were the same, so that the period was only half that which had previously been stated. Several pages are drafts of the same section of the letter. On the back of one of the drafts are the words 'Red-house near York', and below that 'J. Goodricke of Red-house' and 'Jos. Deighton'. (f) Part of a draft letter containing corrections to the estimate of the period of Delta Cephei; undated, observations made in June 1785.

	EXTRACT: 'Since I sent you the preceding account, I have made more observations on Delta Cephei, which has enabled me not only to corroborate the phaenomenon, but also to make a few necessary corrections. The following results are more certain [illegible] satisfactory than those mentioned in the above paper. At its greatest brightness about 1-8 +- In decreasing 2-14 +- at its least 1-0 +- In Increasing 0-12 & the period about 5d-8h-45'.' Overleaf is a list of the observations, from June 19th to 22nd. Summary of contents and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/1/10	**File - Copy letters from John Goodricke, York, to William Herschel, at Datchet near Windsor**	1784	2 items
	Scope and content: CONTAINS: (a) Letter to William Herschel at Datchet, Windsor, 7th August 1784, with corrections to Flamsteed's catalogue of stars. 'Sir, The Perusal of your paper on the proper motion of the Sun & Solar System published in the last volume of Philosop. Transns. gave me great pleasure especially as the Theory of the Solar motion perfectly coincides with my sentiments. I have however upon comparing Flamstead's Catalogue with that of Ptolemy, Tycho, Hevelius &c., as also with Flamsteads observns. in the 2d vol. of his Historiae celestis, where he often marks the magnitudes of stars when observed, discovered several errors in that part of it which relates to the changes of the stars & take the liberty to send you the following corrections together with some other occasional remarks. […] Mr Edwd. Pigott in a letter he wrote to me lately has the following remarks on [29 ?] Persei & 70 – 80 & 81 Herculis & he desires me to communicate them to you. I will here transcribe part of his letter – […] If I meet with any other thing worth remarking I shall take the first opportunity to communicate them to you if agreeable.' (b) Letter to William Herschel 2nd September 1784, answering Herschel's reply of 15th August. Herschel appears to have taken the previous letter as a criticism; Goodricke points out that errors in Flamsteeds catalogue would invalidate some of Herschel's conclusions. 'As you seem not to have perfectly understood the meaning of my Letter, I have taken the liberty to write to you again & to set the matter in a clearer light. I hope the following explanation of that letter will give you satisfaction & make it appear that I have not misapprehended your paper. […] I beg leave to mention here that I did not mean to lay the errors to your own account but to Flamstead's. […] Be assured of my perfect esteem & remain […]'. Summary of contents has been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		

GPP/1/11	**Item - List of Mr J Goodricke's manuscript papers, here tied up'**	No date [1791]	1 item

Scope and content:

List of papers, presumably as sent to Edward Pigott by Goodricke's family in 1791. The list is written in the handwriting of Edward Pigott.

Restrictions on access:

Open
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Series GPP/2: Papers of Nathaniel Pigott

Creator: Pigott family of York

Date: 1760-1786 (creation)

Scope and content: Includes a journal of barometrical and thermoetrical obervations, astronomical journals including observations of stars and other metereological phenomena, and copy correspondence relating to scientific subjects. Many of the observations were made in France, including Caen and Louvain, and in England, including Frampton and York. The notebooks incude references to observations made with his son, Edward Pigott.

Physical description: 3 volumes and 3 folders

Language of the material:

- English
- French

Restrictions on access: Open
Material is available subject to the usual terms and conditions of access to Archives and Local History collections.

Conditions governing use: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.

Publication status:

Published

File / item list

Reference code	Title	Dates	Physical description
GPP/2/1	**Item - Barometrical and Thermometrical Observations in a South Chamber made at Whitton Middlesea, in the year 1760'**	1760-1769	1 folder

Scope and content:

	Notebook and pages of observations made by Nathaniel Pigott, 1760-1769. Also includes observations made from other rooms, and observations made in Caen and Louvain France. Includes some memoranda relating to political events. SUMMARY AND EXTRACTS: August 1760 to January 1761; date, barometer and thermometer readings, with 'Memorandums'. April to October 1762; headed 'North Room Two O'clock P.M.' : date and thermometer readings. Note, '1762 July 31 – a small shock of an Earthquake abt. one o'clock P.M. att Louvain – I did not perceive it, being in Company att dinner. Supposed to have lasted abt. 3" '. From April 1764, date, thermometer and barometer readings, wind direction, weather, and remarks. Note on page for April 1764, 'Observed att Caen in Normandy 1764 Fahrenheit Thermometer in a north west room observations made Each Day att noon'. Note on page for August 1764, 'N.B. The Observs. From July were made in a South West Room att noon – Well Screened from the sun'. Under remarks for 16th November 1764, 'began to observe with Waddington's Thermometer – finding Martin's Silvered Do. to give Six degrees too much : therefore that Excess must be Deducted from the anterior observations.' 10th December 1765, 'the Degrees of the Thermometer from this day are marked Down between 8 and 9 o'clock in the morning before the fire is lighted in the observatory.' 1st August 1767 'for the Variation of the magnetic needle' – an experiment using a theodolite. From 27th December 1767 to 4th January 1768 there are thermometer readings taken several times a day and compared; p.m. times have been corrected to the 24-hour clock. From the 3rd to the 6th of January 1768 there are details of experiments concerning the freezing of rum, wine, cider, beer, brandy and water ; p.m. times have been corrected to the 24-hour clock and at the foot of the page is a note 'N.B. the above alteration in the hours was made to Reduce them to astro: times. See the Dissertation sent to Docr. Bevis for ye R. Society.' Last observation taken 5th January 1769. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.
GPP/2/2	**Item - Astronomical Observations vol.1' and 'Hydrostatical Experiments'** 1760-1772 1 item *Scope and content*: Notebook containg 'Astronomical Observations Vol. 1st' at the front of the volume, and 'Hydrostatical Experiments' at the back. Rough copy. Pages numbered from 1-15, then un-numbered apart from 46. SUMMARY AND EXTRACTS: Pages 1-4 solar observations December 1760 to August 1761. Page 6 'Configurations of [Jupiter] satellites 1763 Cormeil 10h. P.M.', 31 lines showing the positions of the moons respective to Jupiter. Pages 7-11 blank. Page 12 'Syderial Observations', a table ruled up for observations but left blank. Page 14 'Meridian Observations, on ye Stars and Planets' 1760 to 1761, including 'Meridian observation on a Star Unknown' [which he deduces to be Alpha Pegasus] and calculations on the difference in longitude between Paris and Louvain. Page 15, 'Method to find ye [Sun] RA for any Place att noon by DelaLande's Tables, Suppose for Whitton 10' W. from Paris'. Calculations using observations of Sirius to check the clock and on the difference in the Right Ascension of the sun between Paris and Louvain. 'Method to observe the star's R.A.' January 1761. 'Having a clock well adjusted and an ['quadra' deleted] Instrument fixed in the Direction of the Meridian to ['observe' deleted] compute the Stars R.A. to the Greatest Exactness'; calculation dated 30th September 1761. 5 pages removed. 3 blank pages.

	2 pages of thermometer readings and weather observations May to July 1771 in Badshot, in London, and at 'Stella Farm', ending on the 31st July 'my therm.[ometer] being blown from a window at York & broken see in ye remarks farther on what observations were made on the weather etc'. 3 pages of 'Memorandums 1772', a journal from January to May 1772 which covers a stay in Brussels and the departure for England. 'Bruxelles Jan. 1st attended with Mr. eyre as witnesses to Mr. [Jaeffe's ?] & Miss Bellew's marriage which was celebrated at 8 o'clock this morning at the English Benedictine Nuns.' [Two of Nathaniel's sisters were nuns here, one of them becoming abbess the following year]. January 22nd, 'Rec'd a letter from Mr [Fector ?] at Dover in which he says he has rec'd a Telescope & the quadrant belonging to the R.S. which the Customhouse officers at Calais obliged me to Send back & that these two boxes are at his house.' February 20th, ' Miss Fairfax wrote a letter to Mrs. P. rec'd to day & sent me a mourning Ring for Ld Fairfax's death'. April 2nd, 'a letter from M. Robertson Lib. R.S. by which he informs me that I was elected a F.R.S. on 16th Jan. that he had received the quadrant lent me in Decr. by ye R.S. in good condition : that he had mislaid my note for 32 Guineas which I left as a deposit for the Sd. quadrant but that his letter would be an acknowledgement for the return of the quadrant – that he had returned the reflector which Mr. Bird had lent me & sends me back my note to Bird for 15 Guineas etc.' April 12th, 'Edward & self were presented at Court to Prince Charles of Lorraine, by the English Minister Mr. Gordon : & we were Graciously Received'. April 25th, 'Mr. Gordon presented Edward & me to the Prince of Staremberg, Prime Minister. We dined there three days after.' May 4th, 'Set out from Bruxelles for England at midnight with Edward & my Servt. Graverande in a coach & three horses hired for Seven Guineas of Hambrouck of Louvain. Eat natural asparagus quite at the beginning of this month. N.B. to Graverande on acct of his wages two Guineas = 26 flo. 2~'. 7 blank pages follow. Page 46 and the next three pages ruled up as tables for observations on Jupiter's moons – all blank apart from one observation of Jupiter's first moon on 23rd August 1761. 1 blank page. 2 pages ruled up for 'Observations made att Louvain 1761' but left blank. 'Hydrostatical Experiments' at the back of book: Note of a recipe to dissolve ore, using saltpetre, tartar and sulphur. Use of specific gravity to determine relative proportions of gold and silver in an alloy, by weighing in air and in water. Algebraic calculation of quantity of each metal contained in an alloy, leading to a 'General Rule' for the calculation. Note on composition of standard gold and silver, followed by table comparing weight and value of gold and silver coins with standard gold and silver. Calculation, dated Decr. 10th 1763, to find the gold content of a guinea; the calculation has been overwritten to make it illegible. Use of the hydrostatical balance to find the gravity of a solid. 'Heat, Light, Gravity and Attraction; has all ye Properties of Powers Reciprocally as ye squares of their distances from their center of ye Body acting, wch body being end[ow?]ed with ye abo. qualities.' Calculation of the distance from the source for different proportions of heat and light received. Essay: 'Of the Hydrometer', with a table and calculations on the value of spirit for different proportions over and under proof. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/2/3	**Item - Astronomical Journal'**	1761-1786	1 volume
	Scope and content: Alphabetical index at start, followed by numbering on right-hand pages numbered 1-259.		

	Index under Z, 'Citations of my Observations': citations 1764 to 1771 in Philosophical Transactions, Memoires de l'Academie de Sciences de Paris, Histoire de l'Academie des Sciences de Paris, and Recueil pour les Astronomes ; these refer to eclipses of the sun, the transit of Venus, and meteorological observations at Caen. SUMMAY AND EXTRACTS: Page 2, observations and corrections of 'spring clock by Shelton London at Caen', September 1764 to February 1765. Note, 'placed my astronomical compound pendulum made by Lepaute of Paris in my observatory at the Abbatial at Caen in Normandy November the second 1767'. Observations using this clock taken from 23rd December 1767 to 8th March 1770 continue from page 2 to page 13; pages 3-13 are headed 'Lepautes clock at Caen'. Note on page 13, 'Continued Page 116'. Page 15 is headed 'Journal 1761' and 'Journal 1762': these pages give details of astronomical reports from Mr Waddington and others from 1761 to 1764, and an observation of the diameter of the sun taken on 31st December 1764. Pages 16-25 are headed 'Journal', the year (from 1765 to 1769), and 'Caen': these are of astronomical observations including those relating to the comet of 1769 and the transit of Venus of 3rd June 1769 (observations were made by Pigott, his wife, and his son Edward), with reports of the transit from other sources. The last entry in this section is for 26th November 1769. 'N.B. This Journal Continued Page 117'. Pages 26-28, 'Quelques articles utiles Dans La Connaissance des tems publieé tous les ans Par L'academie des Sciences de Paris et dans L'exposition du Calcul astronomique, par Monsr. de La Lande; et dans les memoires de L'academie des Sciences de Paris.' Index in French of articles 1742 and 1760 to 1771 under headings, 'Soleil', 'Lune', 'Etoiles Fixes', etc. Pages 29-69 are blank. Page 70, 'Observations of Jupiter's Sattellites at the Refuge of wrowperg ['Groenendale' deleted] in Louvain' taken August 1762 to March 1763 (sample below), with notes of other reports of eclipses of Jupiter's satellites. Page 71 blank. Pages 72-74, 'Observations of Jupiter's Satellites at the Abbatiale in Caen', taken between September 1764 and May 1769; from 1768 these include observations taken by Edward (then 15 years old) using Short's 18-inch reflector. Pages 75-113 blank. Page 114, observations and calculations, : 'Eclipse of the Moon Novr. 1st 1762 at the Refuge of vrowperg ['Groenendale' deleted] at Louvain', 'eclipse of the sun august 16th 1765 at the abbatial a caen', 'Eclipse of the Sun august 5th 1766 at the abbatial at Caen', 'Eclipse of the Sun Jun 3d. 1769 at the abbatial at Caen'. Page 115, comparison of timing of eclipses of 5th August 1766 and 16th August 1765 (a) as observed, (b) as calculated from astronomical tables by M. Desbleds of Caen. Page 116 blank. Page 117-244, journal of astronomical observations 1770-1786, including instrument calibration. 'Continued from P.25'. Commencing in 1770 with observations taken at the Abbatiale in Caen, Normandy, includes reported observations by other astronomers. April 12th, 'This Day arrived from England my new reflecting Telescope 2½ F: Focal length made by Heath & Wing in the Strand and magnifying as follows: Long or Day Eye Piece with the day or great mettle 220 times / Long or day Eye Piece with small or night mettle 290 Do. / Short or night Eye Piece with day or great mettle 290 Do. / Short or night eye Piece with night or small mettle 360 Do. } See further concerning these magnif: Powers. Page 128'. April 22nd, 'Em: third Sat: / at 13h..5'..58",0 by the Clock. Em. Jupiter's third Sat. Wing's 2½ Reflector : 5 inches aperture, magnifying 220 times: the weather fine: good observation. / at 13h..5'..27",0 by Clock. Em. Jupiter's Third Sat. Short's 18 Inch Reflector: 4 Inch aperture : mag. 55 times: Exceeding good. Edward', followed by a calculation to bring this to apparent time. October 25th, 'Em. of Jupiter's Second Sat: 5h..17'..43" by clock. Edward achro: 6 feet. 5h..16'..8" by clock. Mrs. Pigot 18 inch refl. 55 times 5h..16'..42" by clock. Self 2½ reflector 220 times: The observations Dubious : thin clouds almost always covered Jupiter : the moon on the Horizon : we were none of us quite certain we had seen the Sattellite ; but all of us concurring as to the Situation & other circumstances makes it highly probable we were not mistaken.', followed by a calculation to convert the times by clock to apparent time.

Page 128, comparison of the magnifying powers of his telescope as it appears ‘to Mrs Pigot, my son Edward and to me’.
In 1771 there is a series of observations with the quadrant.
‘Having at the Request of the Gouvernment at Bruxelles Consented to observe for the Long. and Lat. of Some of the Towns in Flanders’ (page 136), Pigott began by checking his instruments. On the 22nd August he measured the difference of heights of the telescope of his Bird’s 12-inch quadrant in an upright and an inverted position, on the 25th he checked for the error of the line of collimation (in the park, using markers at 600 feet), and on the 26th he set out with Edward and Mr. Needham (John Needham F.R.S., Director of the Academy of Science at Brussels) for Namur.
His instruments are described, ‘1. a Gridiron Pendulum made by Lepaute at Paris. 2. an astronomical Quadrant made by Bird one foot Radius with which all the merd. altitudes were taken. 3. an astro: Quadrant 18 inches rad. with which the Equal altitudes were taken. 4. Two portable Barometers made by Ramsden divided into Inches, 10ths of inches, 5/100 of inches with a vernier dividing ye 5/100 of inches into 50 Parts […] on the face of these instrumts. is adapted a Fahrenheits Thermometer […]. 5. a Portable Barometer made by Wing divided into inches, tenths with a vernier dividing the inch into a hundred parts ; & a thermometer on Fahrenheit’s Scale. 6. a three feet and a half Reflector the focal distance of which is 2 ½ feet made by Wing : the aperture 5 inches & mag. from 150 to 260 times. N.B. the observat: of [Jupiter]’s Sat. by me are made with this Telescope if not otherwise mentioned. 7. a Two feet Reflector the focal distance of Which is 18 inches made by Short : the aperture 4 inches & magnifies from 55 to 200 times. N.B. the observat: of [Jupiter]’s Sat. by Edward are made with this Telescope, if not otherwise mentioned. 8. a Six feet achro: refractor with a Double object glass magnifying 80 times : the Diameter of the object glass 2 4/10 inches made by Dollond to which is adapted a micrometer. the instrument is steadily fixed & has a Polar axis with rackwork to make the wire more parallel to the Equator. 9. a Stout Mahogany Table 2 feet Square which has Strong Screws fastening it to a Strong oak bar which being let into the Stone or brick Sides of the walls of a window has no Communication with the floor & on the first trial at namur was so Steady that Several persons at the Same time Coming to & going from it, did not make the difference on the plumet line or Spirit Level of the Quadrant.’
They set out in August 1772 and took observations in Namur, Luxembourg, Hogstraeten, Ostend, and Tournai, before returning to Brussels in January 1773. There are frequent barometer and thermometer readings; although the thermometers mentioned are in Fahrenheit, the temperature is usually expressed as ‘French .. Therm.’ and appears to be in degrees Reaumur. Mr Needham is not mentioned, except as measuring the distance from the church at Hogstraeten to the house where the observations were being taken. On March 23rd 1773 a set of observations and a calculation are marked ‘N.B. the above by Edwd. I have some doubt about the precision of them’ (p.169). At Louvain on May 29th, ‘Having Settled the observatory at Monsr. De Beriot’s house Called Refuge de vrouwperck rue des Dominicaines I this day took the following altitudes […]’.
Observations then made in Louvain and Brussels. At the end of August 1773 there is a note, ‘N.B. the following observations at Louvain till Oct. 25th by Edward alone ; I being absent.’ In October, ‘all the observations at Bruxelles were made in my house near the Court unless when another place is mentioned.’ April 11th 1775, ‘having Communicated to the R. Acad. of Sciences at Paris the observ. I made in the Low Countries in 1772 and 1773 I this day received a Certificate from the Sd. Acad. by which it appears that having appointed Monsr. Le Monnier et M. Jeaurat to examine the Sd. observ. on their report the Acad. has ordered the obs. to be printed in their Mem. des savants etrangers.’ The following page has an account of an experiment on the line of collimation of a quadrant (page 195), observing stars near the zenith with the face of the quadrant turned alternately to the east and the west. Observations cease in August 1775.
They resume (page 199) in February and March 1777 at Wickhill, near Stow-on-the-Wold (Gloucestershire); observations were made ‘with 2 feet treble object glass achrom. telescope and a Compound Pendulum by Magellan. the Corresponding alt. with my theodolite four inches diameter.’ From August 1777 they are at Frampton House, near Cowbridge (Glamorganshire). ‘The Meridian Zenith Distances there were all taken with my quadrant of one foot & a half Rad. made by Bird as also the Equal altitudes and by Le Paute’s Gridiron Clock’ (p.201). Temperatures now usually expressed as Reaumur. ‘Supplement 1777’ gives timing of 4 immersions in October and November; underneath, ‘Note. for the reduction of the times, see Edward’s Journal. My books not being arrived at Frampton, the obs. in above Supplement were written down in another book and forgot to be inserted in their place’. 27th October 1779, ‘Sent an acct of 3 Double Stars, discovered in the summer, to Dr Maskelyne for R.S.’.

In 1780 the journal is headed ‘York’ (p.229). In May 1781:
‘May / Observatory / it being nearly finished and the transit instrument fixed, I began to observe – the observatory is an octagon of 14 feet; on the ground floor are two Stone pillars each of one Stone, on the most Solid foundation free from all Communication whatever either of the floor or walls of the building ; across these pillars is placed a horizontal large Stone, which receives the two pillars between which is fixed, in the room above, the transit instrument ; these pillars and the Stone above
them are Supposed to weigh above seven Ton. Slits opening both to the North and South from the Zenith to the Horizon are also provided with Meridian Marks firmly fixed on walls in both directions: the Telescope of the Transit Instrument, the axis being two feet, is an achromatic of three feet with an object Glass about four inches aperture made by Dollond – this excellent instrument was made by Sisson –
to the pillars is fixed an excellent Quadrant made by Bird of 18 inches Rad. with Telescopes of 2 feet, which can be easily moved from one pillar to the other, a well contrived apparatus of Mr. Smeaton’s invention being adapted to each pillar.’
From this point the temperature, given as ‘Therm.’ uses the Fahrenheit scale. 20th October 1782, ‘Sir Harry Englefield was here : we compared his Barometer Lately adjusted by Ramsden to mine in the observatory marked A made also by Ramsden agree to abt. 2/100 of an inch. Nov. Monday 18 / in Consequence of the above Compared my three Barom. Ramsden’s in the observatory marked A – Ramsden’s in my room marked B and Wing’s in Mrs. Pigott’s room by two observations at an hour’s interval :
A …. 29,956 …. 29,946
B …. 29,904 …. 29,900 Diff. .049
W…. 29,850 …. 29,840 Diff. .106
See Page 222’.
The next entry is for July 1783. Then on 18th August, ‘Obs’d. a Curious Meteor : See the account of it in my letter to Dr. Maskelyne dated 19th Augt. 1783’: on September 23rd he ‘went to Hewit Common to the Spot, where I saw the meteor of 18th Augt. and with the Theodolite took the azimuths, altitude &c. and on the 26th sent Dr. Maskelyne the results and a Scheme of the Same for the R.S. See Calc. among my papers.’
September 28th 1783, ‘ Mr John Goodricke acquainted me that he had deduced the Long. of Brussels from the occultations of Aldebaran made at Brussels and Greenwich Nov. 1st 1773 that it came out east of Paris 8m 15” and by my observ. of [Jupiter]’s Sat. See Phils. trans. 8’7”’. For 1784 the only observations are of temperature for 16th to 24th May (page 238), followed by a note of publications in Philosophical Transactions, volumes 57 to 74. Observations from York resume in January 1785 and continue until 31st July 1785 (page 244).
This is followed by a single side headed ‘Journal 1786 Louvain’. ‘Wednesday 3 May / Transit of Mercury over [Sun] / this observation was made at Le College Royale Rue de Heverle, which may be 1/3 of a Second in time West of Vrouw-park : Monsr. Thysbaert the president supplied me with a Geg. Teles. of 21 inches of length and 4½ which seemed to magnify about 70 or 80 times ; a compound pendulum clock beating dead Second and 18 inches astron. Quadrant ; for the times, which were gotten by Equal alt. of the Sun, for which and other particulars, see my papers of transit of [Mercury]
app. time
H. M. S.
20. 45. 41 internal contact : perhaps a few seconds later
20. 47. 26 Emers. of Centre by estimation
20. 49. 16 external contact
20. 49. 41 [Mercury] certainly clear of [Sun]’
Pages 245 on are blank.
Summary and extracts have been provided by a volunteer.

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GPP/2/4	**Item - 'Astronomical Observations'** 1763-1773 1 volume *Scope and content*: Green volume marked 'A': spine marked 'Astronomical observations'. Right-hand pages numbered 1-244. This appears to contain fair copies of Nathaniel Pigott's notes from other sources, including the notebook of 'Barometrical and Thermometrical Observations' (Acc 227.8) and the Astronomical Journal (Acc 227.10). About 7 sheets at the back have been torn out. SUMMARY AND EXTRACTS: Page 1, Measures of the sun's horizontal diameter at noon 1766-1769, used for determining 'the value of the revolutions and parts of a revolution of my micrometer adapted to a six feet achromatic refractor made by Dollond of London'. Pages 3-4, 'Observation of The Comet Septemr. 9th 1769'. Pages 18-21, 'Latitude of the Abbatial at Caen Normandy South West Part of the Town / extract from astro: journal'; taken from observations made 1770-1771. 'Meteorological Observations made at Caen in Normandy and sent xbre 5 1770 to Doctor Bevis for the Royal society' (pages 38-42), followed by 'account of a Remarkable degree of Cold observed at Caen' (pages 42-43), and 'Experiments on some liquids' (page 43). An 'addition Decr. 18th 1770' (pages 43-44) concerns reports of differences of barometric pressure at different observatories. 'N.B. the preceding observ. from Page 38 down to Addition … are printed in Phil. Trans. 1771 – Page 274'. Page 46, 'Latitude of the Refuge of vrowperg ['Groenendale' deleted] in Louvain'; from observations made in 1763. Pages 49-64, 'Observations Astronomiques faites aux Pays-bas Autrichiens en 1772 et 1773'. Account (in French) of astronomical observations made in surveying the latitude and longitude of Belgian towns. Pages 65 and 66 are missing. Pages 67 onwards are blank. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.
GPP/2/5	**File - Letter books of mathematical correspondence** 1770-1782 2 items *Scope and content*: Two letter books ('to 1781' covering 1770-1782, and '1783.1784.1786') containing copies by Nathaniel Pigott of his mathematical and scientific correspondence in English and French. CONTAINS: 'Mathematical Correspondence to 1781': Letters: to Dr. Bevis (20th Jul. 1770), to M. Le Monnier (19th Sep. 1770), from M. Le Monnier (29th Sep. 1770), from Wing (10th Nov. 1770), to Dr. Bevis (1st Dec. 1770), to Canon Bouin (6th Jan. 1771), to M. Maraldi (26th Feb. 1771), to M. Le Monnier (28th Feb. 1771), to M. de Fouchy (26th March 1771), to M. de Rochfort (11th April 1771), to Dr. Bevis (14th April 1771), to Mrs Pigott (asking her to write to M. Le Monnier) (27th Jul. 1771), to Mr. Bird (1st Sep. 1771), to Dr. Bevis (1st Sep. 1771), to Mr. Waddington (20th Oct. 1771), to Dr. Maskelyne (2nd Sep. 1773), to Dr. Maskelyne (17th Dec. 1773), to Mr. Magelhaens (undated), to M. Messier (28th Jan. 1774), to M. Jeaurat (5th Sep. 1777), to M. Jeaurat (3rd Dec. 1777), to M. Messier (1st Oct. 1778), to Dr. Hornsby (3rd Oct. 1778), to Dr. Maskelyne (6th Oct. 1778), to M. Jeaurat (6th Oct. 1778), to M. Bernoulli (7th Oct. 1778)[this letter, in French, gives the

	background to his survey work in Belgium], to the Imperial Academy at Brussels (15th Nov. 1778), to Dr. Maskelyne (26th Jun. 1779), to Dr. Hornsby (27th June 1779), to M. Messier (10th July 1779), to Dr. Hornsby (31st August 1779), note to Dr. Maskelyne enclosed in Edward Pigott's letter to Maskelyne (3rd Sep. 1779), letter to Dr. Maskelyne (27th Oct. 1779), to Dr. Maskelyne from York (23rd May 1780), to M. Messier (6th Oct. 1780), to Joseph Planta (6th Oct. 1780), to Sir Henry Englefield (24th Feb. 1781), to Sir Joseph Banks (10th Oct. 1781), to Mr. Dollond (29th November 1782), to Mr. Herschel (15th June 1782). The last of these, beginning 'Sir, I sincerely congratulate with you on the Successes of your Astrom. Labours – your discovery of the Herschelian Comet or Planet […] does honor to you, to the nation, will form an epoch in astronomy and deserved the medal the more as it was preceded by your excellent papers in the Transactions', continues with a suggestion regarding measurement of the lunar mountains, then 'My son has received your letters, and will answer them, when he can get some franks ; I am sorry I have not a cover for this ; but hope to be provided the next time. I wish I could see you here; if ever that happens, you will find us provided with a magnificent observatory, built upon the model of that at Greenwich., Stone foundation, Stone Pillars, Slits &c – it has been an expensive building, but as my family affairs have fixed me here for the remainder of my life, I do not grudge it'. 'Mathematical Correspondence 1783.1784.1786' Letters: to Dr. Maskelyne (dated 27th Dec. 1783, but letter crossed through), to Dr. Maskelyne (28th Dec. 1783), to Sir Thomas Frankland (13th Jan. 1784), to Dr. Maskelyne (2nd Apr. 1784) ['Mr. Goodricke informs us, that he is very happy in London and mentions the polite reception at Greenwich and the civilities he received from you with great pleasure'], to Dr. Maskelyne (27th Apr. 1784), to Dr. Maskelyne (May 1784) ['I was in the country when your letter arrived. On my return, I subscribed as you desire, to Mr. Taylor's Logarithms; Mr Goodricke has subscribed for two copies […] the three york astronomers thank you for the Communication of yr. improvement in the wires of transit instrumts. it is a matter of wonder to me that 1" or 2" of angle be a sensible quantity in ye transit. We observe indeed to ½ Sec. even 1/3 of a Second in time […] but I had no Idea of attaining to the precision of 14/100 of a Second in time but you will say to this, that we are only Amateurs : this is certainly a great improvement and more particularly Serviceable in preventing alterations in the line of Collimation of our Quadrants.'], to Dr. Zach (13th July 1786), to M. Bernouilli (13th July 1786). The remaining two-thirds of the book is blank. Summary of contents and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/2/6	**File - Draft and copy letters from Nathaniel Pigott**	1774-1775	2 items
	Scope and content: CONTAINS: (i) End of copy letter from Nathaniel Pigott, undated [late 1774]. He has just returned to Louvain and sends details of the latitudes and longitudes of various Belgian towns, which will shortly be published. He sends his compliments to Mr. Howard and Mr. Aston. (ii) Copy letter from Nathaniel Pigott to the astronomer Messier at Paris, August 1775 (in French). He is combining his observations of Jupiter's satellites with observations collected and sent to him by Messier; does Messier have exact longitudes for the other observatories ? Could Messier obtain corresponding observations for 8 observations of the immersion and emersion of Jupiter's satellites taken 1773-1775? He thanks Messier, M. Le Monnier and M. Jeaurat for his admission to the Academy. Summaries have been provided by a volunteer. *Restrictions on access*:		

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GPP/2/7	**Item - 'Observations by Transit 1778.1779.1781.1782.1783.1784.1785.'** 1778-1785 1 volume *Scope and content*: Large volume recording astronomical observations. SUMMARY: The first page has a month-by-month list, from July 1778 to July 1779, of the stars observed with their magnitude. 17 blank pages follow, then the observations: these are observations of named stars, with multiple readings to obtain a mean time for transit. They start at Frampton House in July 1778 and end at York in July 1785. In handwriting of Nathaniel Pigott. Summary has been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.

Series GPP/3: Papers of Edward Pigott

Creator: Pigott family of York

Date: 1773-1815 (creation)

Scope and content: Includes journals of astronomical observances, copy correspondence on scientific subjects, printed pamphlets containing correspondence written by Edward Pigott and read before the Royal Society, and other scientific notes and calculations. Observations were made in France, at Frampton, and in York. References are made in many of the papers to work with his father, Nathaniel Pigott, and to work with John Goodricke.
Some of the later papers by Edward Pigott (c1803-1812) relate to work carried out while detained in France, and contain correspondence with members of the French scientific community.

Physical description: 2 volumes, 1 small box, and 7 folders

Language of the material:

- English
- French

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Publication status:

Published

File / item list

Reference code	Title	Dates	Physical description
GPP/3/1	**Item - First astronomical journal'**	1773-1789	1 folder (1 item)

Scope and content:

Written in English and French.
SUMMARY AND EXTRACTS:
First page, ‘Observations Astronomiques et autres Phenomenes, que mon pere a trouvé trop douteusses pour les ecrire dans son journal; il y en a cependant beaucoup qui ont été faites pendant son absence et qui sont tres bonnes, enfin celles qui sont bonnes douteusses y sont marqué telle avec beaucoup d’exactitude, car je suis tres ponctuelle a y marquer le Cas quon en peut faire selon comme je le pense.’ [“Astronomical observations and other phenomena, which my father found too doubtful to put in his journal …”].
Earliest entry Louvain September 1773. The third page has a set of lists from c.1775 : “Noms des etoilles qui paraissent periodiquement’, ‘Etoiles Doubles’, ‘Nebuleuses’ [Names of stars that appear periodically, Double stars, Nebulas]. Verbal description, sometimes illustrated, of observations of planets, sunspots, and the aurora borealis. Headed Bath 1778, ‘the following Observations were made at Mr Herchells, Kings Street: the instruments made use off were, a Clock with a Second hand, a Quadrant for Equal altitudes, very indifferent, tho sufficient for to get the Noon to 4 or 6 Seconds or Still more exactly; the Tellescope very Good. April the 12th / Em: of [Jupiter]’s Second Sat: by Clock at 7h.48’.29” I Observed with the Trib: Ob: Achro: No. 3 / the same Observation by Mr Herchell 7. 48. 36 with an exceeding good Reflector.’ Further observations were made with Herschel at Bath until May the 7th. The next page gives a measurement of the distances between the wires in ocular No. 2 of the treble object refractor; a further measurement of the angles between the wires is dated September 22nd at Frampton. This is followed by various undated notes: a list of authors on variable stars, a list of a few Variable Stars’ (taken from the Philosophical Transactions and Lalande), the situation (according to different observers) of some nebulae which Mr. Messier could not find, a catalogue of double stars, a note on the unreliability of Tycho’s observations for purposes of comparison. An example using a table attached to Maskelyne’s observations 1765-1774, ‘to find the annual Procession of Fomalhaut in R.A.’. Example for finding the intervals between the wires of the transit at different altitudes, using observations made in 1782 and 1783. Kensington, 1789 - ‘Account of a very singular Fireball’, and unusual appearance of the Aurora Borealis.
At the back of the book: ‘Ideas leading to Inventions or Discoveries / for the Time measurer at sea / construction of a powerfull Telescope’, list of catalogues of fixed stars, how to find the aberration and nutation of a star, to find the apparent time of an observation (example dated 1777), table showing the magnitudes of stars as given in different catalogues, and a table comparing the longitudes of fixed stars as given in Flamsteed’s and Bradley’s catalogues.
Summary and extracts have been provided by a volunteer.

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GPP/3/2	**Item - Astronomical journal** 1778-1801 1 volume *Scope and content*: Leather-bound volume, with some loose sheets. Includes an alphabetical index followed by 659 numbered pages. Contains astronomical observations and calculations, with some astronomical drawings and diagrams. Includes calculations on observations made by John Goodricke and Nathaniel Pigott. SUMMARY AND EXTRACTS: 'Journal 1778 Frampton'. Pages 1-23 contain transcripts of observations 1769 and 1773-1778, 'extracted from my Father Journal and my Astronomical, Meteorological etc. Book', (see note p.23). After a note on instruments used, the observations continue from June 1778. August 17th 1781, 'Herchell's Comet … is at an immense distance far beyond Saturn, and possibly may be a 7th Planet': this, referred to after as 'Herschels Comet, Star or Astre', was the planet later named Uranus. 3rd November, 'examined the stars in the Swans head & neck for near an hour, with one of Dollonds Opera Glass's […] Seeked for the Nova near the head, of 1670, but saw no star equal to the Alpha or Epsilon that could possibly be it'. November 14th 1781, 'at 9 o'clock p.m., I discovered a Comet near the neck of the Swan' (p.114) ; this is the comet referred to at the beginning of Goodricke's astronomical journal. From 1782 the observations are less of the place of stars and more of their magnitude : initially there are many notes on the variable stars in Cygnus. 'Algol / December 28th at 5½ h P.M. 1782 / this Star being discovered to by Variable, by Montanary & Maraldi, I began, on the 23d of October, to examine it (See page 164) & have continued ever since when I was not otherwise engaged - on the 12th of Novemr: Mr J Goodricke told me he had found it, the preceding night, only of the 3d Magde: (See the following article) every night since I have been constantly very attentive in examining it, and saw no alteration, not even on the 23d-24th & 26th but this night found it of about the 3 or 4th Mag:de having the same brightness and colour as Delta Persei, rather less bright than Gamma Persei and Beta Trianguli ; also of the same brightness as Rho Medusa tho of a whiter colour ; & less bright than Epsilon Persei - it seem'd to vary, sometimes appearing rather brighter & sometimes rather less bright than Rho Medusa [...]' (p. 171). The following article referred to was an extract from Goodricke's astronomical journal for 12th November. After January 2nd 1783, before the entry for January 8th, 'Algol /having, on further consideration, Stronger reasons to believe that what I wrote to Mr. J. Goodricke, on the 19th of Decemr. 1782 may possibly happen, induces me to make the following memorandom of it. - the opinion I suggested was, that the alteration of Algol's brightness, was maybe occasioned, by a Planet, of about half his size, revolving round him, and therefore does sometimes eclipse him partially ; which accounts also for the unequal time (if any) of the duration and Periods of this phenomenon - the various Systems attempting to account for the changes in all the other variable Stars, as Omicron Ceti Chi Cygni &c &c, are very difficient when applied to Algol, this Star being variable in a very particular manner - after having sent the above, I drew up a table, shewing on what days this ideal Planet might be Seen from the earth, supposing it to revolve round Algol in 23 or 46 Days, this last being the interval between the two observed eclipses, See Pages 171 & 172'. (p.175) From 1782 onwards, there are references first to comparing notes with Goodricke – an extract from Goodricke's journal is quoted - and later to collaborating with him on observations. 'November 19th 1783, discovered a comet in the Whale's head nearly between Alpha and Gamma Ceti'. The last York entry is in December 1785. The journal recommences with the observation from Louvain of the transit of Mercury over the sun on the 3rd May 1786 (p.299). In the latter half of 1787 he moved to London. A list made out in 1787 of stars 'which I have Strong suspicion of being Changeable', gives page references to this journal (p.311). There are remarks and queries concerning variable stars on pages 321 and 336. A note in 1790,'Having not proper Instruments nor convenience; intend to give up Astronomy for the present' ; observations recommence in April 1791. In November 1791, while living at College Street, Westminster, he records the Goodricke family's gift to him of John Goodricke's astronomical papers, 'Mr John Goodricke's Astron:l Journal. Novem:r 16th I received this book, with other Astron:l papers ; being a present from the G:e Family at York ; knowing the value I set on every thing that belong'd to my late most Worthy and intimate friend. The

Journal is from 1781 to 1786; very similar to this of mine containing various remarks and Obser:ns on Planets, Comets & Stars; particularly many comparisons of the latter – the other papers, are, Problems; mathematical extracts; reductions of different times ; Meteorological journal (for only one year +) computations of Occultations Obserd. at York and Bruxelles – &c &c my Friend departed this World April 1786, an event I shall ever lament.'

Observations continue of variable stars, the comet discovered by Miss Herschel, and other phenomena. In 1792 he returned to York, where he continued to observe the variable in Hydra and made many observations of the comparative magnitudes of stars in Ursa Major; there are also notes on the design of a clock regulator, and 'an invention (probably a bad one) for measuring the difference of R.A. of the Stars'. The last entry for 1792 is in October, with a description of a luminous arch in the clouds. Entries begin again in January 1793 with a discovery away from the observatory, 'January 14th at 7h¼ being in the Street I discovered a Comet.' The next few pages contain only observations of the comet, then in April he looked for the variable in Hydra. More general observations follow but the York observations cease after June 13th – the next observations, on February 4th 1794, are from Rivers Street, Bath. A method is described to detect the atmosphere of Jupiter by the refraction of its light (p.378). The list of stars with some suspicion of being changeable continues on p.390, with page references to this journal. 'Further Considerations on Variable Stars' (pp.392-3). 2 sheets of remarks on the nature of the light of the fixed stars are inserted after p.399. There are many observations of variables in Corona Borealis, Sobieski's Shield and Leo. The last observation in this section is for 1801 (p.421). A sheet dated 1798, giving comparative magnitude of stars in Cassiopeia, Ursa Major, Pegasus, Cetus, Cygnus and Auriga, is inserted at this point.

There are observations on particular variable stars (the variable in Collo Cygni, Eta Antinoi, Delta Cephei, Beta Lyrae, Algol, Eta Antinoi) between 1782 and 1801 (pp.433-445), and remarks on some double stars (p.446). A sheet (dated 29th December 1782) with 2 predictions of the movement of Algol's satellite, depending on whether its period is 46 days or 23 days, is inserted after p.439. A comparison of Flamsteed's and Pardie's maps of the constellations is followed by a verification by observation of the differences between the two, dated October 1784 to May 1785, with a few entries for 1788 and 1793. Index to Flamsteed's '2nd Vol: Hist: Cael:'. A table of transit observations 1778-1781 (pp.471-533) is preceded by 4 pages of explanatory remarks. Unusually, an observation of Venus on October 17th 1778 has the remark, 'Observed by my brother'. Several sheets of notes are inserted after p.525: illustrated descriptions of 5 nebulas (dated 1777), the situation of 4 nebulas in 1778, reductions of the variable in Hydra 1788-1793. On p.538 is a list of stars that he suspects to have a proper motion of about half a second a year : the rest of pp. 534-552 are observations of particular variable stars. Notes of apparent errors in Flamsteed's and Bradley's star catalogues to be investigated (p.561).

Pages 562-649 are blank.

At the back of the book (pp. 650-653): 'a Memorandum of my Publications; and also of some others where I am more or less concerned', numbered 1-34, (1769-1790 and undated), as follows:

1 my Observation of the Transit of Venus in 1769. See Phil: Trans: Vol: 60

2 Observations of [Moon] & [Jupiter]'s Sat: for determining the Longde of Namur Luxembourg, La Heese, Hoogstraeten Ostend in 1772 & 1773 Phil. Tran: Vol 66.

3 Observations of [Jupiter]'s Sat:s & Occultations of Stars and Saturn, for determining the Long:des of Bruxelles & Louvain in 1773-1774 & 1775 Phil: Trans: Vol: 68

4 Observations made at Wickhill & at Frampton in 1777-1778 & 1779 See my Fathers paper Phil: Trans: Vol: 71

5 an account of a Nebula which I discovered in 1779. Phil: Trans: Vol: 71

6 according to a letter from Monsr: Mechain dated 1783 he acquaints me that the Acad: of Sciences have ordered my Observations on Mercury, made in 1778 & 1779, to be printed in their Scavans Etrangers

7 Mons: de la Lande has printed part of my Memoir on the Planet Mercury (mentioned above) in his Ephemerid. de 8 Ans, depuis 1785 to 1792; my Observations are reduced and compared to his Tables

8 my Observations on Algol made in 1782 & 1783 are inserted in Mr Goodrickes paper on Algol ; Phil: Trans: Vol: 73

9 an account of a Comet I discovered in 1783 Phil: Trans: Vol: 74 Part: 1st

10 Observations on the above Comet; Phil: Trans: Vol: 74 Part 2d

11 Bernouilli in his recueil pour les Astronomes mentions me several times, particularly

12 the dissertation on the planet Mercury, printed in the London Magazine for Decemr: 1784, and Signed Eta Beta Algol, was written by me

13 My Observations on Beta Lyra made in 1784 are inserted in Mr Goodrickes paper on that Star; Phil: Trans: Vol. 75
14 the discovery I made in 1784 of the periodical variation of Eta Antinoi's brightness; and hints how to Observe the relative brightness of Stars : See Phil: Trans: Vol: 75
15 a double Star I sent to Mr Herschel. Phil: Trans: Vol: 75 Page 104
16 my Meridian Obser:ns of the Georgium Sidus, and Obser:ns of Eta Antinoi, printed by Monsr: Zach in the Ephemerides de [blank] for, I believe, the year 1786
17 my paper on Variable Stars, having for title, "Obser:ns & remarks on those Stars which the Astronomers of the last Century suspected to be changeable", is printed in Phil: Trans: Vol: 76 Part 1st
18 my Determination of the Longitude & Latitude of York with the improved method of finding the Difference of Meridians by Meridian Transits of the [Moon]'s Limb &c printed in Phil: Trans:ns Vol: 76 Part 2d
not yet printed perhaps in the Conn. d T for 1791 La reduction de mes operations Trigonometriques, d'ou sont conclus la Long:de et Latit:de de plusieurs Villes sur le bord de La Severn, dans Glamorganshire et vis-a-vis ; seront imprimés dans la Connos:
des Tems de 1790, a ceque Monsr: Mechain me mande
20 my Observations on Delta Cephei made in 1784 and 1785 are inserted in Mr Goodrickes paper on that Star; Phil: Trans: Vol 76 Part 1st
21 My Observation of the late Transit of Mercury over the Sun, made at Louvain May 3d - 1786 Phil: Trans: Vol: 76 Part 2d
22 Some of my Observations of the Comet I discovered in 1783; Observations of the Eclipse of the Moon Septr. 1783, & Occultations of Stars by the Moon; are inserted in Monsr: Messier's & Monsr: Mechain's Memoirs printed in the Mem: de l'Academie for 1783
23 the contents of a letter I wrote to Monsr: le Gentil, on the Zodiacal Signs, sculted on the portal of Walmgate Church, York, is printed in the Mem: de L Acad: of Paris for the year 1785 [refers to carvings on South porch of St. Margaret's, Walmgate]
24 in the Mem: de l'Acad: of Paris, Année 1785, Monsr: de la Lande has given my Obser:ns of the Inferior Conjunction of Venus, made in 1779 and 1782
25 Verses signed, P. printed in the Public Advertiser of Saturday Oct: 18-1788 which I sent to the printer With the expense only of a penny post letter
26 in Vince's Treatise on Practical Astronomy is an extract from my paper, printed in the Phil: Trans:n of 1786 ; being the Rule & example which I have given for determining the differences of Longitudes, by Meridian Obser:ns of the Moon
27 in Wollaston's Catalogue of Stars, the results of my Obser:ns on Changeable Stars (See Phil: Trans:ns Vol: 76) are inserted and also my determination of the Proper Motion of Beta Virginis - See Phil: Trans: Vol: 7 Part 2d -
28 in the Asiatick Researches, or Trans:ns of the Bengal Society, Vol: 1st Pages 112 & 113 are inserted some Obser:ns of Jupiters Sat:s taken from my paper printed in Phil: Trans:ns Vol: 76.
29 The Heliocentrick Longitudes of the Georgium Planet deduced from my observations; made at York in 1781 & 1782 printed in the "Memoires de l'Academie de Bruxelles Tom 5me 1788" "dans un memoire sur La Planete Ouranus par F. de Zach"
30 My "account of some Luminous Arches." in a Letter to Sr. H. Englefield; printed in the Phil: Trans:ns Vol [blank]
31 My "Determination of the Latit:des & Longit:des of some remarkable Places near the Severn" deduced from Trigonometrical measurements. Printed in Phil: Trans:ns Vol [blank]
32 in the Encyclopidea are very ample extract of my paper on Variable Stars - (No. 17 of this list)
33 in Herschel's paper on &c Phill T. 1796 I am mention'd
34 my Paper "on the Periodical changes of Brightness of two fixt Stars" printed in the Phil: Trans: Vol: [blank]
Summary and extracts have been provided by a volunteer.

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GPP/3/3	**Item - Edward Pigott's Astronomical Journal'** 1781-1796 1 volume *Scope and content*: 372 numbered pages, with alphabetical index on pp.3-6. Title has been written on the outside cover of the volume on the wrong side. SUMMARY AND EXTRACTS: After the index the book is blank to p.19. Page 20 has a table headed 'Interval of the Wires for every Degree of Declination to the 45th'; this gives the difference in seconds between the cross-wires of the transit instrument. On pp.21-22 is a 'Description of the Observatory, Instruments and Observations'; 'Observatory it is situated at the end of our garden, about 200+- yards from the Street ; consists of two Octagon rooms over each other, 14+- feet diameter ; in the upper one is placed all the instruments ; the plan of the building is nearly like that of Mr. Aubert's, having 4 windows, a Slit in the ceiling for the Transit and two others to the North & South for the Quadrant, which open & shut with the greatest facility – the whole was completed in May 1781. Pillars The two Pillars which support the Transit & Quadrant are about 12 feet high 12 inches thick & 20 broad; each of them is composed only of two stones ; they were erected in September 1780 on a most solid foundation, made according to the directions from London, with mortar, bricks, soot &c the floors surrounded them without being in contact, so that the instruments did not appear to be affected by any motion, as jumpping or by carriages passing in the Street. Transit Instrument, it was made by Sisson in 1777, the axis is two feet & the Telescope three, being a double achromatic, the object glass of which is 2,0 inches, made by Dollond ; magnifys about 50+- times ; the whole is of Brass – in the focus are placed one horizontal & 5 perpendicular wires parallel to each other, and distant about 13" of time at the Equator (see Page 20) ; by means of a moveable eye piece the wires may always be made to appear in the center ; the instrument was ajusted by a good spirit level ; and the Altitude of objects shewn by a semi-circle & vernier which divides a degree into two minutes ; but a much greater exactness maybe obtained by taking stars on the same parallel & attending to the intermediate divisions ; at the end of the Telescope, was a kind of a diaphragm for when the Sun was Observed ; the plates that support the axis are fixed by the means of 4 screws, & the knobs which receive these screws were bored into the Pillars and melted lead poured round them ; the whole is perfectly tight & strong ; the instrument was always kept clean, screen'd from the Sun, & a little oil frequently put on its axis.' There are further notes on the meridian mark for the transit instrument (on an iron plate attached to the wall of a house 400 yards away), the adjustment of the transit instrument and manner of observing; 'the manner I observed was thus; I took the second of the Clock & continued reckoning them by hearing the beats, & could in the same time observe & write down the instant of the Star's crossing each wire, & afterwards look'd at the Clock to see if I was still right ; it hardly ever happened there was a mistake, but if so it was punctually noted down, as also every circumstance, Strictly, without making the least alteration '. 'Clock it is a Gridiron Pendulum made by Le Paute at Paris, about the year 1767 ; it was very steadily fixed against the wall ; the following journal & that at Frampton shew its rate of going ; it seems to have had no sudden change, tho' once or twice it altered its rate by two or three seconds in a few days, which is immaterial where there is a Transit Instrument. {all these memorandums are made in 1786.' Observations begin on p.23, at York on September 21st 1781. 10th January 1785, against observations of Delta and Rho Gemini, 'I was disturbed by Fop's barking violently at a Cat; nevertheless have not the least doubt but the Observations are very exact.' In July 1785, 'my Father having left open at night, the upper Slits, a heavy shower of rain completely soused both Transit and Quadrant – but did not I believe get into the Telescope so as to touch the glasses or wires.'(p.73) In 1786, 'as we propose staying abroad about two years; the instruments were all taken down, well cleaned, packed up and put in a dry Garret' (p.76). 'Returned to York Jany: 5th 1792 after an absence of

	six years and … months' (p.77) and between May and August some observations were made to verify the instrument. In August Edward's mother died. 'Since the above observations, I had the misfortune to lose the best of friends and the best of mothers, which took away the pleasure I ever had in Astronomical pursuits until revived again accidentally seeing a Comet'. Observations were made of the comet from the 15th to 22nd of January 1793. '… here concludes the Observations made in our Observatory at York; where for the future I do not mean to reside : besides my Father has parted with the lease of his House & consequently removed all his Instruments'. 'Septr:16-1793 came to Bath […] where the following Obserns: were made with a portable Transit Instt: made by Sisson, that I lately purchased of Sir W. Musgrave. the length of its axis is 8½ Inches ; resting on a frame, supported by a Steel pivot, all of brass well constructed & strongly put together. its telescope, a double achromt. focal length 18 Inches & the diameter of the Object Glass 1 7/8 Inches' (p.79). The description of the instrument is continued on p.88. Transit observations are from November 1793 (p.80) to June 1796 (p.121). There is a memorandum that preceding meridian marks were too much to the West, due to friction of the index on the circle of altitude (pp.115-116). Pages 122-372 are blank. 3 slips of paper bearing observations dated 1795 are inserted after p.120. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/4	**Item - Annotated Celestial atlas: 'Atlas céleste de Flamstéed'**	1776-1815	1 box (1 volume and 1 folder)
	Scope and content: 2nd edition edited by M.J. Fortin (Paris : Deschamps, 1776). Bookplate of Yorkshire Philosophical Society, Accession No. 2241, Class No. 524. SUMMARY AND EXTRACTS: Note facing title page (in handwriting of Edward Pigott) to say that stars marked in red are taken from Bayer's 'Uranometria etc. Ulma Sumptibus Gorlini' (1655) - he 'had not time to examine the whole; the following were particularly attended to Viz Ursa Minor, Draco, Andromeda, Ursa Major, Ophiucus, Serpents, Leo, Virgo, Libra, Scorpio, Capricornus, Aquarius, Cetus, Eridanus, Sirius, Procyon' – and green dots on the maps represent nebulae or star clusters, taken from the 'Connaisance des temps' of 1787. A handwritten table on the back of the first map : 'Periodical Rotations of some of the Variable Stars'. The charts are marked as described in the note above; also variables are marked, and positions of the comet observed in November to December 1783. On some maps there are pencilled notes, dated 1795-1807 and 1815, referring to magnitude of variables and to stars missing from Bayer's catalogue. The volume originally contains slips of paper bearing astronomical observations dated 1795-1815, referring chiefly to comparative magnitude of stars. These have been removed and placed in a separate folder, with their location marked. Between charts 29 and 30 ther was a dried pressed fungus or lichen, wrapped in a slip of paper marked 'Fontainebleau'; another piece of dried plant material was pressed in the fold of chart 30. These have also been removed and placed in the folder. Inside the back cover are notes, one dated 1784 giving right ascension and declination of stars in the Northern Crown, the other on the comparative magnitude of stars in Cassiopeia. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open		

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GPP/3/5	**Item - Printed copies of letter written by Edward Pigott read before the Royal Society**	1779-1815	1 folder (1 volume)
	Scope and content: Bound volume of printed letters written by Edward Pigott and read before the Royal Society, 1779-1797, concerning: - Account of a nebula in Coma Berenices. Dated September 1779. - Discovery of a comet. Dated and read November 1783. - Observations of the comet of 1783. Dated December 1783, read June 1784. - Observations of a new variable star [Eta Antinoi]. Dated and read December 1784. - Observations and remarks on those stars which the astronomers of the last century suspected to be changeable. Read February 1786. - Observation of the late transit of Mercury over the sun. Dated May 1786, read June 1786. - The latitude and longitude of York, determined from a variety of astronomical observations; together with a recommendation of the method of determining the longitude of places by observations of the moon's transit over the meridian. Dated March 1786, read June 1786. Pencil note, ' See also May 1790'. - An account of some luminous arches. Dated April 1789, read November 1789. - Determination of the longitudes and latitudes of several remarkable places near the Severn. Read May 1790. - 'Aux éphémérides', p.97: sheet from a French work on astronomy (probably de Lalande's Ephemerides), giving observations of Mercury made by Pigott at Frampton House in 1778 and 1779. The following page has a handwritten transcript of a letter from M. de Lalande of June 1786, thanking Pigott for the account of his observations of Mercury. - On the periodical changes of brightness of two fixed stars [in Sobieski's Shield and the Northern Crown]. Dated August 1796, read January 1797. Pencil note, '& a Second Paper in Phil. Trans. for 1805 part 1st'. Followed by handwritten notes on further observations of the variable in Sobieski's Shield, up to 1801. Infolded:- Notes and calculations of Edward Pigott, dated 1799-1815, referring to comparative magnitude of stars and to comets of 1799 and 1807. Includes some observations made from Fontainebleau in 1803. At the back is inserted a note from Lady Elizabeth Nash, thanking Mr. Pigott for the loan of the book and mentioning her sighting of the luminous arches referred to above. Summary and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/6	**File - Astronomical notes and observations**	[c1780s-1800s]	1 folder
	Scope and content: Contains sheets of astronomical and mathematical calculations, principally concerning observations of variable stars and comets. It is possible that Nathaniel Pigott may have contributed to some of the earlier notes. Also includes corrections for an astronomical catalogue, and sheet titled 'The following remarks		

	are to be written on the blank sheets at the end of my collection of astronomical printed papers as an appendix' [possibly refers to GPP/3/6]. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/7	**Item - Copy letter written by Edward Pigott relating to observations of Mercury**	1781	1 item
	Scope and content: Loose pages sewn together. Memoir sent to the Royal Society by Edward Pigott in January 1781, concerning meridian observations of Mercury 1778-1779. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/8	**Item - 'Transit Observations of Herchell's Planet reduced'**	1781-1782	1 item
	Scope and content: Observations of Uranus, believed at the time of observation to be a comet, from December 1781 to February 1782. On the back cover the title 'Transit Observations of Herschel's Starry Comet' has been deleted. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/9	**File - 'Observations - Drawings - Letters etc. of the Comet of 1811'**	1781-1811	1 folder
	Scope and content: Folder of papers containing observations, drawings, and letters on comets. Contents: (a) Drawings and observations of the comet of 1811: (i) Sketch Sep. 8-10, (ii) Sketch Sep. 8-10, observations Sep. 1-10, (iii) Pencil sketch Oct. 9-10, (iv) Pencil sketch undated, (v) Observations Oct. 8 and sketch, (vi) Sketch Oct. 9-10. (b) Permit (in French) for Pigott to use a French institute's library (addressed to Pigott at Hotel de Nantes, Paris). Undated. The reference to 'institut' may refer to L'Institut national des sciences et des arts, which would date it after 1795, presumably to Pigott's stay in France after the Peace of Amiens.		

	(c) Observations of a comet made in April 1781, commencing 'April 3d R.A. 84º 23'½ Declin. 23º 34' N.'. (d) Draft of a letter of June 1792 from Pigott to M. Cassini of the French Academie Royale de Sciences (in French), thanking him for sending the continuation of 'L'extrait des observations astronomiques', noting that he had just returned after a six-year absence to their observatory and intended to recommence his 'amusements Astronomiques', and offering to make astronomical observations from York. An explanatory footnote (in English) refers to M. Mechain, 'whose correspondence I first did neglect; but who soon after, printed in the Connais: d. Tems [Connaissance des Temps], the proper motion of Beta [Virginis] without mentioning me – as also my improved method of determining diff. of Merid:ns by the Meridian [Moon] & not a word of me – also the Long: & Lat. of York without my name to it -'. Summary of contents and extracts have been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/10	**Item - Calculations on the declination of Venus** *Scope and content*: Made 1782 and 1786 from observations taken in 1779 and 1782. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.	1782-1786	1 item
GPP/3/11	**Item - 'Results on the observations on Herchell's Planet'** *Scope and content*: Observations of Uranus taken from December 1782 to March 1783, with calculations to find the right ascension and declination of the planet and to find the apparent time of observation, and a table of results. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.	1782-1783	1 item
GPP/3/12	**File - 'Declinations and Right Ascensions of Stars Observed by me, particularly variable ones; Catalogue of Stars by Halley; Latitude of York reduced.'** *Scope and content*:	1782-1785	1 folder

	Folder of loose papers consisting of: (21a) Catalogue of remarkable fixed stars, according to Halley (1720), as given in R. Heath's 'Astronomia accurata' (1760). Pigott notes that comparisons lead him to suspect that a great part of this catalogue is reduced from Flamsteed's observations. (21b) Mean Right Ascension of fixed stars observed and computed by E. Pigott – reduced to January 1st 1784. Several of these are variable stars. (21c) Reduction to find the Right Ascension of the variable stars in Cygnus' Breast, in Cygnus' Neck, Flamsteed's No.17 Cygni, and Eta Cygni; calculations dated 1782-1783. (21d) Reduction of the R.A. of the variable in Hydra; calculations dated 1784. (21e) Reductions for the declinations: for the variable stars in Cygnus' Breast and in Cygnus' Neck, the variable star in Hydra, and Flamsteed's 17th Cygni ; calculations dated 1782-1785. (21f) Reduction of the R.A. of the stars occulted by the Moon when eclipsed 10th September 1783 ; calculations dated 1784. (21g) Astronomical observations 1782-1785 to determine the position of the observatory at York. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.
GPP/3/13	**File - 'Reductions of the Georgium Sidus'** 1783-1784 2 items *Scope and content*: Two notes books containing observations in 1783 and 1784, and in 1785. Notebooks include observations of Uranus taken from December 1783 to January 1784, and in January 1785, with calculations to find the right ascension and declination of the planet and to find the apparent time of observation. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.
GPP/3/14	**File - Reductions of the Right Ascension and Declination of my [Pigott's] comet; Reductions of Moon and Stars on Meridian for the Longitude of York'** 1781-1785 1 folder *Scope and content*: Folder containing: (a) Loose sheets with calculations of the R.A. of the comet of November 1783.

	(b) Sewn sheets; meridian observations of the moon and stars, taken 1781-1785, compared to similar observations made at Greenwich to establish the difference in the meridians. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/3/15	**Item - Copy letter written by Edward Pigott concerning his observations of a comet in 1807**	No date [c1807-1812]	1 item
	Scope and content: SUMMARY AND CONTENTS: Copy letter from Edward Pigott, to the 'Institute' (in French). Undated [1812?] As he had sent them a drawing of the comet of 1807, he was sending them another of 'the comet which appears now', in recognition of this illustrious body which had condescended to interest itself on his behalf with His Majesty the Emperor, and to renew his thanks to the recipient and to M. Cuvier. The observations were taken with the same instrument as those of 1807, a 2 ½ foot Dollond telescope ['a trois pied' deleted]. Observations from September 1st to December 23rd [these confirm the identity of this comet with that of 1811, illustrated in 18a above]. He had intended to send these at once but had been forced to postpone this due to a nervous illness. Inserted: scraps of paper, bearing the original notes of the observations. Summary of contents has been provided by a volunteer. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		

Series GPP/4: Publications

Date: 1760-1788 (creation)

Scope and content: Contains printed scientific pamphlets and reports. Some of the items are marked as having been sent by the author. These items were probably collected by Edward Pigott.

Physical description: 1 folder

Language of the material:

- English

Restrictions on access: Open
Material is available subject to the usual terms and conditions of access to Archives and Local History collections.

Conditions governing use: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.

Publication status:

Published

File / item list

Reference code	Title	Dates	Physical description
GPP/4/1	**Item - 'Observations des hauteurs faites avec le Baromètre, au mois d'Aoust 1751 sur une partie des Alpes', by Mr Needham, 1760**	1760	1 item
	Scope and content: By Mr Needham of the Royal Society (Berne: Societe Litteraire, 1760). Bottom of title page stamped 'Mr: Pigott'.		
	Restrictions on access: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections.		
	Conditions governing use: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/4/2	**Item - 'Further observations upon lightning together with some experiments', by Benjamin Wilson, 1774**	1774	1 item
	Scope and content: Pamphlet by Benjamin Wilson F.R.S. (London: L. Davis, 1774). Communicated to the Royal Society 24th February 1774, and rejected by the Committee.		
	Restrictions on access: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections.		
	Conditions governing use: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.		
GPP/4/3	**Item - Description of a method of taking the differences of Right Ascension and Declination with the Reticule Rhomboide of Dr Bradley without placing the instrument in the plane of the equator', by HE**	1784	1 item
	Scope and content: Pamphlet by (Sir Henry Englefield) (Printed by R. Cruttwell of Bath, n.d., [1784?]). Handwritten note on cover, 'Received Novem: 23d 1784 from the Author, Sir H. Englefield'.		
	Restrictions on access: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections.		

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GPP/4/4	**Item - 'Tables of the apparent places of the comet of 1661, whose return is expected in 1789', by Sir Henry Englefield, 1788.** *Scope and content*: (London: P.Elmsly, 1788). Handwritten note on cover, 'From The Author'. *Restrictions on access*: Open Material is available subject to the usual terms and conditions of access to Archives and Local History collections. *Conditions governing use*: Images are supplied for private research only at the Archivist's discretion. Please note that material may be unsuitable for copying on conservation grounds. Researchers who wish to publish material must seek copyright permission from the copyright owner.	1788	1 item