



Durham
University

Durham University Library

Catalogue of the records of Durham University Observatory

Date range of material: 1839-1972

Durham University Library
December 2023

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Preface

Creation of catalogue

WP Handlist compiled by Dr. E. Fewster, 1991. Marked up in SGML RIH October 1996.

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[ark:/32150/s108612n525/PDF](http://nbn-resolving.org/urn:nbn:uk:32150-s108612n525-PDF)

Introduction

Collection title: Records of Durham University Observatory

Reference code: GB-0033-OBS

Dates of creation: 1839-1972

Extent: 12 metres.

Repository: Durham University Library, Archives and Special Collections

Creator: records, astronomical, meteorological, seismic and administrative, of the Observatory of Durham University, and related material acquired from other observatories with equipment, etc.

Language of material: English

Contents

I. ASTRONOMICAL RECORDS:

Volumes and notebooks (Observatory MSS V1-64)

Backhouse Journals (Observatory MSS V65-69)

Observers' papers (Observatory MSS 1-223)

Professor Sampson's papers on the Satellites of Jupiter (Observatory MSS J.S. O-XXXI, Ch. VI, VII, IX, Misc.1-2)

Rousdon papers (Observatory MSS R.P. 1-175)

II. METEOROLOGICAL RECORDS:

Volumes [retained at the Observatory] (Observatory MSS M1- 15, V.25)

Papers [with main Observatory collection in Palace Green Library] (Observatory MSS 224-268)

III. SEISMIC RECORDS

(Observatory MSS 269-273)

IV. ADMINISTRATIVE RECORDS, 1838-1937

(Observatory MSS V70-71, Observatory MSS 274-876)

V. ADMINISTRATIVE RECORDS, 1937-1953

Correspondence with officers of the University (Warden, Registrar, Secretary, Architect etc.) (Observatory MSS 877-904, V73, 905-1008)

Financial records (Observatory MSS V74, Observatory MSS 1009-1212)

Papers concerning the order, supply and repairs to equipment (Observatory MSS 1230-1318)

Correspondence with the Meteorological Office (Observatory MSS 1319-1484)

Correspondence concerning the seismographs (Observatory MSS 1485-1583)

Correspondence and papers concerning the Observatory Library (Observatory MSS V72, Observatory MSS 1584-1659)

Correspondence with solicitors, insurance companies etc., concerning claims arising from weather conditions (Observatory MSS 1727-1841)

Correspondence with students requiring information for theses etc. (Observatory MSS 1842-1915)

General correspondence concerning requests for meteorological and other information (Observatory MSS 1916-2097)

Correspondence concerning visits and talks (Observatory MSS 2098-2189)

Miscellaneous (Observatory MSS 2190-2245)

VI. PHOTOCOPIES

(Observatory MSS Fac.1-8)

VII. PHOTOGRAPHS

(Observatory MSS Phot.1-21)

VIII. PUBLICATIONS

Durham University Observatory

The University sanctioned the foundation of an observatory in Durham in 1839 after it had received an offer to purchase some astronomical instruments from an amateur astronomer, the Revd. T.J. Hussey of Hayes Court, Kent. Observations began towards the end of 1840 and were pursued with varying degrees of enthusiasm until about 1937. In 1843 the observers also began to take meteorological readings and these have been continued to the present day. The records of both the astronomical and meteorological observations are among the documents listed here. The astronomical records are now housed in the University Library at Palace Green while the meteorological records have been split between the Library and the Observatory where they are still needed for ongoing work and to answer queries. A seismograph was installed in 1930 and the Observatory collection includes correspondence concerning its installation and initial problems and a small number of readings taken from this instrument 1931-1939 and 1946-1957, with regular monthly bulletins 1963-1972. The original traces and current records, however, are in the care of the University's Geology Department and are not included in this list.

As well as volumes and papers produced by its own work, the Observatory's astronomical records include three additional collections: the Backhouse Journals, Professor Sampson's papers on Jupiter's Satellites and papers from Rousdon Observatory in Lyme Regis.

The Backhouse Journals comprise 36 volumes of observations made by Thomas William Backhouse of West Hendon House, Sunderland. He began his journal in 1858 while still a student and continued it to within a few weeks of his death in 1920.

R.A. Sampson, on the other hand, was Professor of Mathematics from 1896 and of Astronomy from 1908 until he left Durham to become Astronomer Royal for Scotland in 1911. While in Durham he developed his theory on the four great satellites of Jupiter which was eventually published in Vol. LXIII of the *Memoirs* of the Royal Astronomical Society, 1921, and for which he was awarded the Royal Astronomical Society's Gold Medal. Tables based on the theory had already been published by the University of Durham in 1910 (*Tables of the Four Great Satellites of Jupiter*) and the observer of the time, F.C.H. Carpenter, had been employed by Sampson to do most of the calculations involved in their construction. The papers include correspondence, notably with Professor E.C. Pickering of Harvard College Observatory in Cambridge, Massachusetts, studies of previous work on the subject and calculations.

The remaining additional collection is concerned with work carried out on variable stars at Rousdon Observatory in Lyme Regis by Sir Cuthbert Edgar Peek and his son Wilfrid from 1886. In 1921 the Honorary Director of Durham Observatory, Col. Grove-Hills, procured the Peek telescope on permanent loan so that this work could be continued in Durham. The Rousdon Papers came with the Peek telescope and consist mainly of star charts and diagrams, 1886-1924.

For most of its first hundred years the administration of the Observatory was in the day to day care of an observer, living on the premises, under the supervision of the Professor of Mathematics, occasionally designated Professor of Astronomy as well. He in turn was answerable to a Board of Curators composed principally of officers of the University. Only

three professors exercised this authority: Revd. Temple Chevallier 1838-1871, Professor Pearce 1871-1895, and Professor Sampson 1896-1910/11. After Professor Sampson's departure for Scotland an Honorary Director was appointed from outside the University, the first being Col. Grove-Hills 1912-1922, who was succeeded by Harold Thomson F.R.A.S. 1923-1930.

In contrast there were frequent changes of observer in the early years. This was partly due to the low salary which was offered and partly to the restriction that the observer should not be married. The position therefore tended to attract young men early in their career or, after the restriction on marriage was lifted in 1866, those with private means. The administrative records which survive are patchy, varying according to the temperament and efficiency of the individuals concerned and with substantial quantities of material on relatively few subjects.

There is a break in the correspondence between 1933 and 1937 and when it resumes it is concerned much more with the day to day running of the Observatory, with more material of a purely routine nature than previously. By this time astronomical work had ceased and the meteorological readings and correspondence were undertaken by junior members of the Physics and Chemistry departments or their wives.

The Observatory manuscripts have been augmented by the addition of photocopies of correspondence relating to Durham in the Cambridge Observatory Archives and in the archives of the Royal Astronomical Society as well as some items from the correspondence of Professor Paneth, Professor of Chemistry 1939-1953, who used the facilities of the Observatory for his research in the ozone content of the upper atmosphere during the war years.

Accession details

- Deposited with the University Library in 1953.

- The following items were transferred from the Observatory printed collection in Palace Green Library on 9 May 2005, Acc No Misc.2004/2005:55:

Mss V.70 and 71

J.S. XIII; XIV; XVIII; XIX; XX 1 a, b, o, 2, 3; XXV; XXVI; XXIX 2, 10-11; XXXII; Misc 3-4

R.P. 156A, 176-220

- The photographs were given by Dr Peter Hingley, Librarian of the Royal Astronomical Society, 12 August 2005, Acc No Misc.2005/2006:15 (1-20) and 6 September 2005, Acc No Misc.2005/2006:22 (21).

- Meteorological Observations 1966-1967 (267A-C and 268A) added 13 September 2006, found in the former desk of David Ramage, university librarian 1945-1967, in the gallery of the Cosin Library, Acc No Misc.2006/2007:8.

- Correspondence file of the Curators' secretary, Percy Heawood, 1930-1937, with a run of printed reports of the director and then the management committee 1923-1936 added 16 May 2008 from the records stored in the Old Shire Hall basement, Acc No Misc 2007/8:64.

- Monthly and Annual Meteorological Observations 1953-1972 and Monthly Seismological Bulletins 1963-1972 were extracted from the University Office Observatory files (UND/CB1/O1) deposited in August 2008, Acc No Misc 2008/9:6.

- Library sheaf and card catalogues c.1907 and c.1950s, transferred from PG Library 10 May 2011, Acc No Misc.2010/1:85.

Arrangement

The material is listed chronologically within the categories given above.

Form of citation

The form of citation should be GB-0033-OBS, or the collection title Records of Durham University Observatory, and the *reference number*.

To order items in the searchroom, use the collection reference code(s), derived by removing the repository code (GB-0033-), followed by the reference number. Citing the section of the finding aid is useful.

Bibliography

"Durham University Observatory", E.F. Baxter, *Weather* 11 (1956) 218-222.

"The Durham Meteorological Record, 1847-1940 ", Gordon Manley (*Quarterly Journal of the Royal Meteorological Society*, 67, (1941)).

"The History of Astronomy in the University of Durham from 1835-1939", G.D. Rochester (*Quarterly Journal of the Royal Astronomical Society*, 21, (1980), 369-378)

"The University Observatory", R.A. Sampson, *Proc. Univ. of Durham Philosophical Society* 2 (1900-1906), 1-7.

Related material (internal)

Add. MS. 1443.

Notebook of Prof. R. A. Sampson.

Add. MS. 837.

Correspondence of Revd. Temple Chevallier. 129 letters.

Add. MSS 852 - 853.

Meteorological register (Add. MS. 852) for Heighington, Co. Durham, and related papers (Add. MS. 853/1-9) of Revd. Charles Clinton Chevallier.

The seismic records are in the care of the Department of Geology.

Durham University Observatory Records

Astronomical Records

Volumes and Notebooks

V.1 December 1840 to February 1842

Observed Transits over the Meridian of Durham.

1 volume

V.2 October and November 1841

Distances on the Meridian of Durham.

1 volume

V.3/1-10 1842 - 1883

Observations with Transit.

10 volumes

V.3/1 13 February 1842 to 14 November 1842

V.3/2 30 November 1842 to 31 October 1843

V.3/3 2 November 1843 to 7 October 1844

V.3/4 7 October 1844 to 22 April 1845

V.3/5 23 April 1845 to 2 March 1846; 25 August 1848 to 26 January 1850

V.3/5/1 and 2 8-23 January 1846

Loose, 2 pieces

V.3/6 4 March 1846 to 24 July 1848

V.3/6/1

Paper with calculations inside back cover.

1 piece.

V.3/7 28 January 1850 to 19 February 1858

V.3/8 20 February 1858 to 28 July 1864

V.3/8/1 Dated 1867

Paper inside front cover containing:

Factors for Collimation, Level and Azimuth

Factors for Stars of the Nautical Almanac

1 piece.

V.3/9 9 February 1865 to 20 October 1873

V.3/9/1

Paper with calculations.

1 piece.

V.3/10 18 June 1874 to 23 October 1883

V.3/10/1

Paper inside front cover containing calculations.

1 piece.

V.3/10/2 11-21 December 1882
One loose page containing Observations.
1 piece.

V.4/1-4
Meridian Circle Observations.
4 volumes.

V.4/1 10 March 1842 to 15 September 1843

V.4/2 21 April 1845 to 4 May 1847

V.4/2/1 and 2
Two loose pages containing Observations 21 and 22 April 1845 and
21-28 April 1846.
2 pieces.

V.4/3 25 May 1847 to 29 March 1850

V.4/4 1 April 1850 to 21 November 1851

V.5/1-3
Level of Transit Books.
3 volumes.

V.5/1 1843
Provenance: (Transferred from archives of the Royal Observatory, Edinburgh,
3.10.1980)

V.5/2 1843 - 1853 and 1863 - 1869

V.5/3 1882 and 1883

V.6
Double Image Micrometer Observations, begun by R.A. Thompson: 6 February
- 26 July 1849, 5 March 1868 - 22 July 1873, 10 May 1878 - 23 September 1879
(?).
1 volume

V.7
Corrections of the Apparent Right Ascension of Stars (stars in the B.A.C. not
included) observed: August 1841, 1849 - 1853, 1865, 1867 - 1873 .
1 volume

V.8
Corrections of the Apparent North Polar Distance of Stars (stars in the B.A.C.
not included) observed: August 1841, 1849 - 1853, 1865, 1867 - 1873 .
1 volume

V.9
Corrections of B.A.C. stars to their Mean places: 1850 - 1853, 1865, 1868 -
1871 .
1 volume

V.10/1-3
Corrections for difference of Refraction in North Polar Distance and Right
Ascension.
3 volumes.

V.10/1 17 January 1850 - 21 September 1852

V.10/2 22 September 1852 - 4 April 1854

V.10/3 20 February 1865 - 9 December 1871

V.11/1-3 November 1849 - December 1869

Occultations.

3 volumes.

V.11/1

Form 1. Interpolation of the Moon's Semi-diameter, Equatoreal Horizontal Parallax, Right Ascension and North Polar Distance, from the Nautical Almanac.

V.11/2

Form 2. Calculation of the co-efficients of small variations of the Star's North Polar Distance, the Moon's apparent North Polar Distance and their difference of Right Ascension.

V.11/3

Form 3. Calculation of the co-efficients of the small errors, and the Final Equation.

V.12 May 1850 - March 1852

Right Ascensions observed with the Equatoreal.

1 volume

V.13 May 1850 - March 1852

North Polar Distances observed with the Equatoreal.

1 volume

V.14/1-3

Differential observations taken with the Fraunhofer Equatoreal.

3 volumes.

V.14/1 1852 - 1854

V.14/2 1865 - 1870

V.14/3 1870 - 1873

V.15

Star Ledger with details of stars and other objects: 23 September - 1 October 1879, 6 November 1881 - 7 September 1882.

1 volume

V.16/1-3

Instrumental Constants.

3 volumes.

V.16/1 23 April 1902 - 22 March 1904

V.16/1/1

Paper containing Rule for deriving residuals from Almucantar Equations.
1 piece.

V.16/1/2

Paper containing calculations.

1 piece.

V.16/2 27 March 1905 - 6 December 1907

V.16/3 5 March 1912 - 28 April 1914

V.17/1-3

Observed Means.

3 volumes.

V.17/1 23 April 1902 - 22 March 1905

V.17/2 27 March 1905 - 19 June 1911

V.17/3 1 April 1911 - 16 June 1914

V.18

Conversions of Durham Sidereal into Greenwich Mean Solar Time: 8 January 1850 - 20 May 1853, 1 April 1865, 6 November 1867 - 9 December 1871, 29 August - 7 September 1873, 14 March and 6 May 1878.

1 volume

V.18/1 26 April 1865

Printed slip recording discovery of a small planet.

1 piece.

V.18/2

Paper with calculations relating to Arcturus on the Ring Micrometer, 13 June _____.

1 piece.

V.19

Miscellaneous notes and calculations, including:

Observations for correcting position of the Equatoreal (telescope), 1840 and 1841.

Computation of Azimuthal deviation of Transit from high and low stars, 1841.

Measurement of intervals of new wires of Transit with Dynameter, 1841 and 1842.

To find the Collimation, 1842 - 1844.

Calculations of corrections to be applied to Imperfect Transits, 1845, etc.

V.19/1

Paper enclosure at p.69 containing calculations relating to the height of the Observatory above the River Wear.

1 piece.

V.20 1841 - 1846

Longitude by Lunar Transits and Moon-Culminating Stars, containing observations.

1 volume

V.21

Book labelled "Equatoreal", including:

Observations by Arthur Beanlands relating to the eclipses of Jupiter's Satellites, 17 August 1842 - 15 December 1845.

Observations by Mr. Le Jeune, March - May 1846

Observations by Robert Anchor Thompson: many of them relating to Neptune, 1 February 1846 - 28 December 1848.

1 volume

V.22

Calculations for Azimuth Error of Transit 1842 , and other calculations made in 1845 and 1846.

1 volume

V.23

Book of notes and calculations:

Corrections for Polaris and other polar stars

Longitude and latitude

Completion of Transits, 1844

Observation of Error of Runs in Transit Circle, May and September 1844

Clock errors and rates

Comparison of lunar observations with Greenwich and deduction of longitude etc.

1 volume

V.24

Book labelled "Clock Errors":

Record of clock errors, 11 January 1845 - 23 October 1883

Comparison of Cathedral Clock, 1 May 1869 - 16 May 1870

1 volume

V.25

Book labelled "Corrections for Lost Wires " :

Table of corrections for the several combinations of Lost Wires and their Logarithms; followed by calculations of values of the intervals for stars near the Pole, 13 January 1845 - 11 November 1853.

At the back: Extra Meteorological Records to test the accuracy of Glaisher's tables of diurnal range, 1 April 1864 - 31 December 1871.

1 volume

V.26

Book labelled "Collimation" :

Collimation error of Transit Instruments, 13 January 1845 - 23 May 1872.

1 volume

V.27

Book labelled "Azimuth" :

Astronomical observations and calculations, 16 January 1845 - 17 May 1853.

Tables showing calculations of Azimuth errors, 1867 - 1871.

1 volume

V.28 10 November 1845 - 5 January 1846

Observations.

In pencil. Small memorandum book.

V.29

Book entitled, "Eclipses, Occultations, Eclipses of Jupiter's Satellites etc."

Front of Book: Computations of Longitude by observations of the moon observed here and at Greenwich on the same day. Begun by R.A. Thompson, 4 February 1846, and continued by R.C. Carrington.

Back of Book: Calculations concerning the Transit of Mercury, 8 and 9 November 1848.

Middle of Book: Latin and Greek exercises and notes.

1 volume

V.29/1 and 2

Enclosure: Two papers containing extracts from Latin authors.

1 piece each

V.30

Corrections for Nutation to 1848.

Hard backed notebook

V.31

Book labelled "Miscellaneous Observations with Equatoreal" : Observations of Planets and comets with the Equatoreal, 28 August 1848 - 20 May 1853.

Begun by R.A. Thompson, continued by R.C. Carrington 1850- , for miscellaneous Equatoreal work and for scattered observations not entered on the regular forms for Equatoreal differential observations in Right Ascension and North Polar Distance.

1 volume

V.32

Book for Miscellaneous Calculations.

Begun by R.C. Carrington, November 1849, and continued by William Ellis.

Indexed.

Enclosures: *see below, Papers nos. 5, 319-322, 326.*

1 volume

V.33

Longitude of the Observatory of the University of Durham, as found by transmission of chronometers to and from Greenwich by railway in the months of January and February 1851.

Calculations and explanatory notes by Richard Carrington.

Enclosures: *see below, Papers nos. 316-318 .*

1 volume

V.34

Notes on astronomical subjects including:

The determination of elliptic orbits and positions in space etc.

Miscellaneous astronomical problems and problems of differential calculus.

Computation of approximate distance of Newcastle Time Gun from Durham

Transit Instruments, 25 January 1866.

1 hard backed notebook.

V.35

Book containing:

Calculations and observations for correcting instruments 1867 and 1868,
1878 and 1879.

Observations of Spectra, February - March 1869.

Calculations of Star Constants, 1870 and 1871.

Enclosures: *see below, Papers nos. 24 and 327.*

1 hard backed notebook.

V.36 1 October 1885 - 8 December 1885

Daily Observations relating to the Transit Clock, with tables showing wire intervals
by Time Stars.

1 hard backed notebook.

V.36/1

Enclosure: Paper containing calculations.

1 scrap.

V.37

Clock corrections, 3 October 1885 - 1 May 1886, 10 January - 3 September
1887 .

1 hard backed notebook.

V.38/1-5 9 December 1885 - 10 December 1895

Astronomical Observations.

1 hard backed notebook each. 5 volumes.

V.38/1 9 December 1885 - 30 November 1886

V.38/2 30 November 1886 - 23 September 1888

V.38/3 30 September 1888 - 25 March 1894

V.38/4 26 March 1894 - 7 April 1895

(name of H. Carpenter on flyleaf.)

V.38/5 9 April 1895 - 10 December 1895

(name of H. Carpenter on flyleaf.)

V.39 12 October 1886 - 21 July 1888

Observations with the Rain band spectroscope.

1 hard backed notebook.

V.39/1

Enclosure at 16 October 1886 :

Copy taken from Ångström's *Normal Solar Spectrum Atlas*, the part near
D.

1 piece.

V.39/2

Enclosure at 16 October 1886 :

Copy taken from map at the end of Ångström's *Normal Solar Spectrum
Atlas*.

1 piece.

V.40 16 October 1893 - 7 December 1895

Observations of Comparison Stars.

1 hard backed notebook.

V.41/1 and 2 1894 and 1895

Transit Circle Observations.

1 exercise book each.

V.42/1 and 2 1894 and 1895

Astronomical calculations.

1 hard backed notebook each.

V.43

Miscellaneous astronomical observations and calculations, including tables showing the sums of "Excesses of Longitude" from the Greenwich Lunar Reductions.

At back: observations of eclipses of Jupiter's satellites 1891 - 1895, with tables showing eclipses 1851 - 1861; miscellaneous observations and calculations, 1900 and 1901 .

1 volume

V.43/1

Enclosure: Table of corrections to Mean Wire (Almucantar Observations).

Another enclosure: *see below, Papers no. 31.*

1 piece.

V.44/1 and 2 1837 - 1900

Collected Observations of the Eclipses of Jupiter's Satellite I from various places.

1 hard backed notebook each. 2 volumes.

V.44/1 1837 - 1885

V.44/2 1886 - 1900

V.45

Star Book with one page for each star, January 1900.

With enclosures:

1 notebook.

V.45/1

Unidentified calculations.

2 pieces.

V.45/2

List of stars and their positions.

Paper 2ff.

V.45/3 and 4

Drafts for the above list.

2ff. and 4ff.

V.45/5

Short list of stars at p.60.

1 piece.

V.46 1900

Tables showing Almucantar Constants for Nautical Almanac Stars.
1 exercise book.

V.47/1-5

Tables for reduction of Almucantar Observations, compiled by F.C.H. Carpenter:
5 exercise books.

V.47/1-4 completed December 1899 - January 1900

V.47/5 completed 13 and 14 January 1902

V.48/1-3

Tables correlating declination at 1 minute intervals from 19.33 to 90.00 degrees with Right Ascension and columns headed D.A.L. and Z.
Checked by F.C.H. Carpenter 7 April 1900.
1 exercise book each. 3 volumes.

V.48/1

19.33 to 52.31 degrees with corrections and 14 loose pages.

V.48/2

52.31 and 77.50 degrees with corrections.

V.48/3

77.50 to 90.00 degrees with corrections.

V.49

Tables correlating declination at 10 minute intervals with Right Ascension and columns headed A.D.L. and Z., from 54.50 to 90.00 degrees and from 37.10 to 54.50 degrees.
1 exercise book.

V.50

Tables correlating declination at 5, 2 and 1 minute intervals with Right Ascension and Z.; and computation of A and Z.
1 exercise book.

V.50/1-3

3 enclosures with calculations.

1 piece each

V.51

Set of tables giving details of 319 stars, with numbers referring to two more sets of tables listing the same stars first in order of degrees West and secondly in order of degrees East.
1 exercise book.

V.52

Tables for determining corrections for curvature, correlating declination at 1 minute intervals, from 19.36 to 89.60 degrees, and Right Ascension 0 to 6 hours; with table showing wire intervals adopted August 1901.
1 volume

V.53

Clock Book containing:

Daily clock comparisons, errors and rates of Hardy, Kullberg, and Webster (the clocks in the Transit Circle Room, on the Equatoreal Pillar and in the Almucantar House respectively), November 1900 - August 1901 and December 1906 - April 1908.

Comparison of Cathedral Clock with Poole with errors of both, October 1900 - September 1901.

Comparisons of Poole, 9 August - 12 November 1909.

1 hardbacked exercise book.

V.53/1

Fluctuations in the rate of Kullberg enclosed at 1-16 August 1901.

Signed F.C.H. Carpenter.

1 piece.

V.54 October 1901 - April 1902

Book labelled "Transit Means".

Also contains tables showing the errors of the Poole and Cathedral Clocks, January and February 1902.

Enclosures inside front and back covers:

1 hardbacked exercise book.

V.54/1 and 2

Additional observations and calculations.

1 piece each

V.55 October 1901 - April 1902

Book labelled "Instrumental Constants".

1 hardbacked exercise book.

V.56 October 1901 - April 1904.

Book labelled "Transit Details".

1 hardbacked exercise book.

V.56/1

Enclosure inside front cover: miscellaneous calculations.

1 piece.

V.57 1901 and 1914

Star Ledger.

1 hardbacked exercise book.

V.58 21 September 1904 - 16 August 1905

Record of stars observed.

3 photographs enclosed: *see below, Papers nos. 221-223*.

1 exercise book.

V.59 1907

Book labelled "Almucantar Setting Book for 1907."

1 hardbacked exercise book.

V.60

[Almucantar (?)] Setting Book.

1 hardbacked exercise book.

V.61 14 September 1919 - 19 April 1939

Miscellaneous Observations.

1 volume

V.62 March 1920 - December 1923

Record of experiments with the Suspended Zenith Telescope.

See also Papers nos. 869 , 870 and 874 below.

1 exercise book.

V.62/1 18 May 1923

Enclosure: Copy letter from Sir F.W. Dyson of Greenwich Observatory to H. Thomson commenting on Sargent's results with the Zenith Telescope.

1 piece fixed.

V.63 14 September 1919 - 27 June 1929

Journal of Durham University Observatory:

Record of observations visits and meetings etc. with some annual reports, press cuttings, drawings and photographs.

1 volume

V.63/1

1 loose photograph at 20 May 1925.

V.64/1 and 2

Variable Stars Day Book 1921 - 1937.

2 volumes

V.64/1 6 September 1921 - 25 April 1927

V.64/2 26 April 1927 - 29 March 1937.

Backhouse Journals

V.65 1 January 1858 - 10 February 1920.

Journal of Astronomy kept by Thomas William Backhouse of West Hendon House, Sunderland, from 1 January 1858 to 10 February 1920.

With drawings, diagrams and press cuttings.

36 volumes.

All but the last volume have an index at the back and most of them contain the index in draft form on two loose sheets of paper. This appears to have been kept from day to day concurrently with the Journal. Each of the sheets was folded into 4, making 8 sections and in many cases these have become detached. All loose pieces have been numbered and given a subsidiary stroke (/) number.

V.65/1 1 January 1858 to 5 November 1859

Vol. I.

V.65/2 6 November 1859 to 6 September 1860

Vol. II. V.65/2 1-13 Index.

V.65/3 7 September 1860 to 13 October 1861

Vol. III. (Journal starts on p.54 of the volume which also contains Lecture notes on a variety of scientific subjects, 1858 - 1859).

V.65/4 13 October 1861 to 22 February 1863

Vol. IV. V.65/4/1 and 2 Index.

- V.65/5 27 February 1863 to 22 June 1866
Vol. VV.65/5/1-4 Index.
- V.65/6 23 June 1866 to 16 December 1867
Vol. VI. V.65/6/1-8 Index.
- V.65/7 17 December 1867 to 11 November 1868
Vol. VII. V.65/7/1 and 2 Index.
- V.65/8 12 November 1868 to 15 December 1869
Vol. VIII. V.65/8/1 and 2 Index.
- V.65/9 16 December 1869 to 26 January 1871
Vol. IX. V.65/9/1 and 2 Index.
- V.65/10 27 January 1871 to 3 April 1872
Vol. XV. 65/10/1 and 2 Index.
- V.65/11 5 April 1872 to 23 April 1874
Vol. XI. V.65/11/1 and 2 Index.
- V.65/12 24 April 1874 to 7 December 1876
Vol. XII. V.65/12/1 and 2 Index.
- V.65/13 8 December 1876 to 19 November 1878
Vol. XIII.
- V.65/14 20 November 1878 to 4 February 1880
Vol. XIV. V.65/14/1 and 2 Index.
- V.65/15 5 February 1880 to 30 October 1881
Vol. XV. V.65/15/1-5 Index.
- V.65/16 31 October 1881 to 10 December 1882
Vol. XVI. V.65/16/1-5 Index.
- V.65/17 10 December 1882 to 21 December 1883
Vol. XVII. V.65/17/1-7 Index.
- V.65/18 21 December 1883 to 17 March 1885
Vol. XVIII. V.65/18/1-4 Index.
- V.65/19 17 March 1885 to 28 March 1886
Vol. XIX.
- V.65/20 29 March 1886 to 13 March 1887
Vol. XX. V.65/20/1-4 Index.
- V.65/21 14 March 1887 to 14 February 1888
Vol. XXI. V.65/21/1-6 Index.
- V.65/22 15 February 1888 to 28 March 1889
Vol. XXII.
- V.65/23 29 March 1889 to 11 September 1890
Vol. XXIII. V.65/23/1 and 2 Index.
- V.65/24 12 September 1890 to 10 January 1892
Vol. XXIV. V.65/24/1 and 2 Index.

V.65/25 10 January to 18 December 1892; 17 February to 2 May 1893
Vol. XXV. V.65/25/1 and 2 Index.

V.65/26 19 December 1892 to 16 February 1893; 3 May to 14 December 1893
Vol. XXVI. V.65/26/1-5 Index.

V.65/27 16 December 1893 to 7 August 1895
Vol. XXVII. V.65/27/1-3 Index.

V.65/28 7 August 1895 to 25 June 1896; 5 September 1896 to 4 March 1897
Vol. XXVIII. V.65/28/1-6 Index.

V.65/29 6 July to 16 August 1896; 28 March to 12 December 1897; 19 April to 21 November 1898
Vol. XXIX. V.65/29/1 and 2 Index.

V.65/30 13 December 1897 to 18 April 1898; 22 November 1898 to 6 July 1899; 10 to 15 August 1899
Vol. XXX. V.65/30/1-5 Index.

V.65/31 7 July to 9 August 1899; 16 August 1899 to 9 May 1900; 18 July 1900 to 17 January 1902
Vol. XXXI. V.65/31/1 and 2 Index.

V.65/32 22 May to 1 June 1900; 22 January 1902 to 8 July 1903; 22 August 1903 to 31 March 1904
Vol. XXXII. V.65/32/1-5 Index.

V.65/33 14 July to 21 August 1903; 3 April 1904 to 14 August 1905; 8 September 1905 to 23 March 1906
Vol. XXXIII. V.65/33/1-3 Index.

V.65/34 23 August to 7 September 1905; 24 March 1906 to 9 April 1909
Vol. XXXIV.

V.65/35 10 April 1909 to 20 March 1912; 17 May 1912 to 24 November 1914
Vol. XXXV.

V.65/36 1 to 23 April 1912; 26 November 1914 to 10 February 1920
Vol. XXXVI. (Thomas William Backhouse's Will was proved 23 June 1920. See the Register of Wills in the University of Durham Library Archives and Special Collections.).

V.66

Index to volumes I to XXVII of the above Journal of Astronomy by T.W. Backhouse.

1 volume

V.67 1886

Tabulae Caelestes continentes omnes stellas caeli borealis nec non australis nudis oculis conspicuas, by Richard Schurig. (Leipzig - Neustadt, 1886).

Given to C. Grover by W.G. Lettsom Esq. F.R.A.S. December 1886.

Used to trace paths of comets and for observations of Mars.

Rousdon Papers.

1 volume

V.68 Between 19 January 1889 and October 1919

Printed Papers and Reports of Variable Star Observations:

a collection of papers and newspaper cuttings, compiled at Rousdon Observatory; includes some observations of Halley's Comet, May 1910.

Rousdon Papers.

1 volume and 7 loose cuttings.

V.69

Theil des Himmels ..., für 1800, auf Veranlassung der Königlichen Akademie der Wissenschaften in Berlin.

A complete set of sections of the sky, pasted on card: each section being 1 hour between 15 degrees south and 15 degrees north.

One extra copy of Hour XVIII.

Printed. 25 items contained in wooden box.

V.70 1849 - 1852

Observations of stars 13 November 1849 - 27 November 1851

Stars rearranged in order of R.A.

Concluded catalogue of stars' mean places parts 1 and 2

Moon and moon culminations 28 October 1849 - 5 February 1852

Observations of planets November 1849 - May 1850

Occultations of stars by the moon 30 November 1849 - 27 February 1852

Paper booklet 22ff. of text

V.71

Note sur la Vitesse Radiale de l'étoile zeta Orion, M. Barbière, G. Courtès, C. Fehrenbach.

Paper, printed 2ff.

Observers' Papers

1

Table for finding the relation between the radius of a superior planet and the corresponding diurnal retrogradation in arc.

Signed: T. Chevallier.

No date

Paper 1f.

2 No date, (after 1 June 1846)

On a general method of determining the height of a Lunar Mountain.

Signed: T.C. (Temple Chevallier).

Paper 8ff.

3/1-39 4 March 1846 to 15 March 1848

Calculations of the Moon's Parallax and semi-diameter.

Calculations numbered 1-54, mostly on printed forms.

Paper 1f. each

4/1-3

Copies of Tables II, III, IV and V of the Admiralty Tide Tables 1839 expanded, showing correction for the Moon's Parallax.

3 items: 2ff., 1f. 1f.

5

Note of the radii of the Ring Micrometer.

Paper 2ff.

Ownership history: Found in V.32

6

Catalogue of Bessel's Zone Observations.

No date.

Paper 4ff.

7/1-4 April to June 1850

Notes on the irregularity of the cylindrical form of pivots of the Transit Circle.

4 items

8

Errors and rates of the Chronometers used for comparison of Longitude with Greenwich: note book containing the record of the experiment to establish the longitude of Durham by transporting clocks between Durham and Greenwich by rail, 6 January - 8 February 1851.

See also Nos. 316 and 317.

Notebook

9 1852

Clock rates of Hardy: notes by R.C. Carrington.

Paper 1f.

10/1-16 1849 - 1853

Tables written on card:

Most of these tables appear to have been compiled by Richard Carrington, observer 1849 - 1852, based on his own or his predecessors' observations. Some of them were later checked by William Ellis, observer 1852 - 1853.

10/1

Table for reducing Barometer readings at different temperatures, to the same at 32° Fahrenheit.

Calculated by Professor Chevallier in 1844.

1 card

10/2

Table of proportional parts, for Runs.

Proportional parts of a revolution of the screws of the the Transit Micrometer.

Both examined (by William Ellis).

1 card

10/3

Intervals of the Transit wires.

Intervals for certain Polar Stars, calculated 20 March 1850.

Logarithms of the divided sums of the intervals of the Transit wires.

1 card

10/4

Intervals of Transit wires as found in 1851 , by Mr. Carrington.

Initialed W.E. (William Ellis), April 1852.

Intervals for Polaris. Initialed J.P. (John Plummer), November 1867 .

Intervals of Transit wires found in 1867 , illuminated end East.

Initialed J.P. (John Plummer), February 1868.

Intervals of Transit wires found in 1869-70, illuminated end East.

Initialed J.P. (John Plummer), January 1870.

1 card

10/5

Table of the value of the Micrometer of the Transit circle.

Initialed W.E. (William Ellis), April 1852.

1 card

10/6

Table for turning seconds of an arc into seconds of time.

The ratio RA (in time): 24 h. in decimals, for convenience in applying clock rates.

1 card

10/7

Mean times of transit of Clock Stars in 1850 .

Approximate North Polar distances of fundamental Stars.

1 card

10/8

Table for converting the Right Ascension and North Polar Distance of the sun, moon, and planets, at Greenwich transit, to the same at Durham transit.

Table of proportional corrections, for change of declination, during the time of passage from the meridian to any wire, or intermediate interval.

1 card

10/9

Table of factors for varying Right Ascension with formula for the sun or a planet and formula for the moon.

1 card

10/10

Corrections of Polaris and of delta Ursa Minor, for curvature of path.

1 card

10/11

A rough table of mean Refractions.

1 card

10/12

Table for computing Refraction off the meridian at Durham.

Examined by W. Ellis, April 1852.

Refraction in Right Ascension and North Polar Distance.

Examined by W.E. (William Ellis), May 1852.

1 card

10/13

Auxiliary table for the calculation of refraction off the meridian, with explanation initialled T.C. (Temple Chevallier), 5 May 1852.

1 card

10/14

Table for computing Parallax off the meridian at Durham, with explanation.

Examined by W.E. (William Ellis), April 1852 .

1 card

10/15

A rough table of the moon's parallax at Durham.

Airey's correction to the moon's equatorial horizontal parallax, to be used when the parallax is applied to the limit.

1 card

10/16

Table for facilitating the reduction of clock comparisons.

temp. J. Plummer (observer 1867 - 1874)?

Paper 1f.

11

Particulars of the Meridian Circle made for Palermo, explaining how it differs from the one in the Berlin Observatory, by George Rümker (observer 1853-1855)(?).

No date.

Paper 2ff.

12

Tables: in columns headed January to December.

No date.

Paper 1f.

13

Paper by Mondeford R. Dolman on "New elements of Clio (84)", from observations at Bilk, Berlin and Durham, 25 August - 19 September (1865?).

Paper 2ff.

14 25 September 1865 - 1(?) January 1866

Calculations (by M.R. Dolman) relating to the planet "Io": including the computation of Ephemeris for Opposition 1865, the computation of correct orbit, and distances from Jupiter and Saturn.

32ff. (3 loose).

15

Calculations, (by M.R. Dolman) relating to 13-15 November 1865, 1 May and 13 November 1866 (and 1 May 1867?).

Paper 1f.

16 17 March 1868 - 15 March 1869

Observations of Time Guns.

Sent to Mr. Chevallier 20 April (1869?).

Paper 1f.

17

"Remarks on Mr. Joynson's paper of Occultations " Paper by J.I. Plummer for publication in *Monthly Notices*, Royal Astronomical Society vol. xxix, No.5.

Paper 2ff.

18

Draft of the above paper.

Paper 1f.

19 25 April 1871

"Equatorial Observations made at Durham Observatory", by J.I. Plummer.
6th Communication.

Published in *Astronomische Nachrichten* No. 1847, Vol. 77.

Paper 2ff.

20 4 June 1872

Equatorial Observations of Minor Planets made at Durham Observatory, by J.I. Plummer.

7th Communication.

Published in *Astronomische Nachrichten* No. 1893, Vol. 79.

Paper 2ff.

21 2 July 1872

"Equatorial Observations of Encke's Comet, made at Durham Observatory, 1871", by J.I. Plummer.

8th Communication.

Published in *Astronomische Nachrichten* No. 1897, Vol. 80.

Paper 2ff.

22

File containing copies of 4 papers by John I. Plummer:

"On the apparent projection of Stars upon the Moon's Disk in Occultation", dated 21 February 1873.

Read at the Royal Astronomical Society 14 March 1873.

"Reply to Mr. Proctor's Remarks upon the position of the lunar atmosphere when in a state of equilibrium", dated 5 May 1873.

Read at the Royal Astronomical Society 9 May 1873.

"Note on the figure and diameter of Venus ", dated 24 April 1873.

Read at the Royal Astronomical Society 9 May 1873.

"Measures of the Diameter of Venus", dated 13 August 1873.

For insertion in the supplementary number of the *Monthly Notices* , despatched 14 August.

3ff.; 2ff.; 2ff.; 5ff.

23 13 August 1873

"Measures of the Diameter of Venus".

Another copy of the paper by John Isaac Plummer.

Paper 6ff.

24

Star Observations.

No date (in John I. Plummer's handwriting?).

1 piece.

Ownership history: Found in V.35

25 No date. (c.1890?)

Catalogue of books on astronomical subjects. In pencil.

5 pieces.

26 28 February 1896

Draft report concerning the eclipse of the Moon.

H.J. Carpenter's signature crossed out.

Paper 1f.

27 27 November 1899

Observations of Leonids at the Observatory, Durham.

Paper communicated (to the *Monthly Notices*, Royal Astronomical Society?) by Professor R.A. Sampson.

Paper 3ff.

27A 1900

"Description of the Durham Almucantar", by Professor R.A. Sampson.

Reprint from the *Monthly Notices*, Royal Astronomical Society Vol. LX. No. 9. (1900).

Pamphlet.

28 5-18 June 1901

File headed: "Some experimental work with Almucantar Observations".

By Professor H.H. Turner.

Paper 10ff.

29 23 April to 8 May 1902

Chart showing Z as deduced from individual observations.

1 piece.

30 June 1902

Star Observations by F.C.H. Carpenter.

Paper 3ff.

31 March 1904

Observations of Polaris.

Paper 2ff.

Ownership history: Found in V.43

32

Note book belonging to F.C.H. Carpenter containing calculations based on observations with different astronomical instruments in connection with a course for B. Sc. degree; with certificate by R.A. Sampson that it is exclusively the work of F.C.H. Carpenter, dated 18 October 1907.

Exercise book.

33

To find Latitude by an ex meridian observation made with a sextant.

Paper by F.C.H. Carpenter.

Paper 5ff.

34/1-7

Calculations for computing the Azimuth of the Pole Star at Durham on 1 December.

By F.C.H. Carpenter.

7 pieces.

35 and 36

Notes and calculations by F.C.H. Carpenter.

Paper 1f. each

37 30 November 1908

Reductions of Occultations of T_1 and T_2 Aquarii by C (Chronograph?).

Paper 9ff.

38 For 1908-09

Programme of Honours, Advanced and Post-graduate courses.

University of London: University College, Departments of Pure and Applied Mathematics and Astronomy.

Printed. 4ff.

39

Examination Answer Paper for Applied Maths III.

(By F.C.H. Carpenter).

Paper 4ff.

40-43

Copies of two Durham University M.A. Examination Papers in Astronomy.

2 copies of each.

4 items, 1f. each.

44

Calculations headed: Godfray p.306.

By F.C.H. Carpenter.

4ff. (p.1 missing)

45

Notes on Attractions, and Gauss' Theorum.

Pencil. 5ff.

46

Brief note on Altona Observations by Ring Micrometer.

Paper 1f.

47 After 1904

Calculations relating to the Visual Measurement of Spherical Aberration, with bibliography.

By Professor Sampson?

File, 7ff.

48-61

Files and Papers relating to the errors of the Poole Chronometer as compared with Kullberg, at 21 hours:

48-51 11 March 1907 - 8 June 1907

Errors of the Chronometer as compared with Kullberg.

4 pieces 1f. each.

52 19 May 1908 - 2 January 1909

Errors and Rates of Poole: abstract.

Paper 1f.

53 30 November 1908 - 2 January 1909.

Errors of Poole.

Paper 1f.

54 4 February - 14 July 1909

Errors and Rates of Poole.

File, 9ff.

55 15 November 1909 - 10 May 1910

Errors and Rates of Poole.

File, 5ff.

56 22 May 1910 - 20 June 1911

Errors and Rates of Poole.

File, 10ff.

57-61 4 February 1909 - 15 June 1911

Errors and Rates of Poole (cleaned January 1909): abstract.

5 pieces, 1f. each.

62

Tables. Compiled by F.C.H. Carpenter.

File, 8ff.

63-82

Files and Papers relating to Minor Planet 1909 H.B. by F.C.H. Carpenter:

63-73

Calculations: some of the pages headed Minor Planet 1909 H.B.

11 items, 1f. each.

74 April 1909

Calculations headed: Minor Planet 1909 H.B. (pp.1-4).

Paper 4ff.

75 April 1909

Calculations headed: Minor Planet 1909 H.B.

File, 20ff.

76

File headed: Minor Planet H.B. 1909 (pp.1-13).

File, 15ff.

77

Calculations and collected results relating to Minor Planet H.B. 1909
(pp.1-44).
File, 44ff.

78-81

Transformation of co-ordinates and corrections to observed places:

78

pp.1-14

Paper 18ff.

79

pp.15-31

Paper 19ff.

80

pp.32-52

Paper 23ff.

81

pp.53-71

Paper 21ff.

82

Draft paper on the Minor Planets, by F.C.H. Carpenter.
Paper 21ff.

83 8 August 1910

Precept for making table of log. sin. to declination of a degree.
Paper 2ff.

84

Log. sin. tables for 27.00 to 30.50 degrees.
Paper 7ff.

85 11-26 August 1910

Account of time taken over the above computations.
Paper 1f.

86-89

Nadir Observations taken at Durham by F.C.H. Carpenter:

86 14/15 August 1911

Paper 2ff.

87 16/17 August 1911

Paper 2ff.

88 11/12 September 1911

Paper 2ff.

89

Charts for the same dates
Paper 2ff.

90-99

Position Angle of Proper Motion of Stars taken from Boss's Catalogue.

10 sets of tables, some arranged according to Declination:

39-41°; 44-46°; 49-51°; 59-61°; 69-71° and some blank forms.

By F.C.H. Carpenter?

10 items: some files and some single sheets.

100

. Observations and References to Halley's Comet from *Astronomische Nachrichten*, the *Monthly Notices*, and *Memoirs* of the Royal Astronomical Society.

Compiled by F.C.H. Carpenter.

Paper 4ff.

101

Number of Observations of Halley's Comet, 1835-36.

Compiled by F.C.H. Carpenter.

File, 4ff.

102

Observations of Halley's Comet from *Memoirs* and the *Monthly Notices*, 1835-6.

Compiled by F.C.H. Carpenter.

File, 30ff.

103

Observations of Halley's Comet taken from *Astronomische Nachrichten*, 1835-6

.
Compiled by F.C.H. Carpenter.

File, 34ff.

104-106

Collection of the Observations of Halley's Comet made in 1835-6.

Compiled by F.C.H. Carpenter:

104 August to September 1835

File, 21ff.

105 October to December 1835

File, 22ff.

106 January to May 1836

File, 23ff.

107

Note relating to an error in the Tables of Jupiter (by G.W. Hill)

(Communicated by Professor R.A. Sampson).

Signed: F.C.H. Carpenter.

Paper 1f.

[Correspondence between T. Cook and Sons Ltd. and F.C.H. Carpenter concerning modifications to the Almucantar and the problem of extracting air bubbles, 23 August 1911 - 31 January 1912.

See Correspondence and Administrative Records, Nos. 829-841]

108 November 1912

Notes on how to adjust level on the Almucantar and to find the inclination of wires of the Alumucantar.

Paper 4ff.

109

Notes on the Almucantar, relating to its displacement from pointing to the same horizontal circle.

Paper 7ff.

110-114

Notes, calculations and drawings: one page headed "To find the inclination of the wires of the almucantar".

Paper 1f. each

115 1912

Results of the observations made with the Almucantar at the University Observatory, Durham during 1912 by F.C.H. Carpenter.

(Communicated to the *Monthly Notices* of the Royal Astronomical Society by Major E.H. Hills F.R.S.).

Paper 21ff.

116 January - February 1913

Observations of level of almucantar float made by F.C.H. Carpenter.

Paper 9ff.

117A 7 November 1913

T[ransit] I[nstrument] observations by C[hronograph].

Paper 1f.

117B 1901 - 1913

Transit Circle Observations taken with the Chronograph by F.C.H. Carpenter. File, 31ff.

118 1913 or 1914.

Our Astronomical Columns: a refraction acting radially from the sun. Cutting from a scientific journal, with note of a reference to yearly Refraction period in *Beobachtung Königlichem Steinwarte*, no.15, 1913.

2 pieces

119

To find the time of sunrise and sunset at Durham: notes, calculations and tables for the period August 1912 - December 1914.

By F.C.H. Carpenter.

Paper 33ff.

120

Part of paper: "On the errors of almucantar observations", (by Col. Grove Hills). Based on the Durham almucantar observations made during 1912.

Paper 14ff.

121

Abstract of paper on "Observations with the Durham almucantar during 1912".

Paper 8ff.

122 16 February - 28 April 1914.

Almucantar Charts.

Paper 9ff.

123/1 2 July 1913

Drawing of the 8 inch Suspended Zenith Telescope by T. Cooke and Sons Ltd, Sketch No. 569, referred to in letter of the same date (see 865/6).

1 piece.

123/2 19 February 1914

Drawing of the 8 inch Suspended Zenith Telescope by T. Cooke and Sons Ltd., Drawing No. 2990. W, referred to in letter dated 23 February 1914 (see 865/17).

1 piece.

123/3

Undated sketch of the Suspended Zenith Telescope.

1 piece.

124

Description of model of the Suspended Zenith Telescope.

Paper 1f.

125/1-3

Translated extracts (paragraphs 1, 2, 5 and 7) from paper by Dr. Schwarzschild (of Potsdam Observatory) on the determination of latitude by means of photographs (?1911).

Col. Hills' handwriting.

3 items. 4, 5 and 4ff. respectively.

Correspondence with T. Cooke and Sons Ltd. concerning the design and installation of the Suspended Zenith Telescope, 24 June 1913 - 20 February 1920, see 865/1-36]

126 A and B

Suspended Zenith Telescope: Provisional programme of adjustment.

2 copies.

126A 26 March 1920

Signed E.H. Hills.

Paper 6ff.

126B

Initialed E.H.H., with note that a copy was sent to the observer on 26 March 1920.

Paper 4ff.

127

Notes on the aberration constant and the variation in latitude with a Suspended Zenith Telescope.

By Col. E.H. Hills.

Paper 2ff.

128

Graph showing temperature compared with correction to focal length.

By Col. E.H. Hills.

1 piece.

129

Calculations by Col. Hills relating to adjustments for error in respect of level of ring, inclination, eccentricity and orientation.

Connected with the experiments with the Zenith Telescope.

File, 8ff.

130/1

Reprint from *Monthly Notices* of the Royal Astronomical Society, Vol. LXXX No. 6 (April 1920):

"On the Suspended Zenith Telescope of Durham Observatory, pt. I", by Col. E.H. Hills F.R.S.

[Durham Observatory Publications New Series No. 4].

Pamphlet.

130/2

Draft of the above article "On the Suspended Zenith Telescope of Durham Observatory, pt. 1."

By Col. E.H. Hills.

Paper 17ff.

131 16 August 1920

Letter from F. Sargent (to Hills?) describing his attempts to photograph stars for the determination of latitude.

Paper 2ff.

132 No date

Part of letter (from Col. Grove Hills to Sargent?) concerning the experiment with photography.

1 piece (damaged)

133 1921

Letter from Sargent to Col. Hills saying that he is sending some results.

1f. damaged.

134-137

Star Corrections by Finlay's Tables and reductions in respect of Plate A taken 2 and 9 February 1921.

Paper 1f. each

138

Calculations relating to photographs of stars taken 19, 20 and 22 March 1921 (plates 20, 21, 23 and 24).

1 piece.

139A

Reductions in respect of Plates 22 and 25.

Paper 1f.

139B

Calculations relating to Plates 22 and 25; with note relating to S.Z.T., cubic content of the outer case.

Paper 2ff.

[25 March - 9 April 1921

Four letters from Sargent to Hills concerning results with the Suspended Zenith Telescope. See 172/6-10]

140

Reductions in respect of plates taken 12 and 14 April 1921.

Paper 1f.

141 20 April 1921

Part of letter (from Col. Grove Hills) to Sargent commenting on discrepancies in the results obtained from the plates.

Paper 1f.

142-145

Calculations relating to photographs of stars taken 13 and 17 July 1921.

4 items, 1 piece each.

146 19 July 1921

Letter from Sargent to Hills commenting on results obtained from the plates.

Paper 1f.

147

Apparent Declinations of Star Pairs, 1921 and 1922.

For the Upper Transit at Greenwich (pp.11-21).

By H. Kimura, February 1922.

Paper 12ff.

148 8 April 1922

Letter from F. Sargent to Col. Hills saying that he is sending the results from seven plates with the Zenith Telescope; and describing some abnormal "spot" movement on Jupiter that he has observed recently and his intention of writing a note on it.

Paper 1f.

149

Results of plates taken with the Zenith Telescope, 21 February - 4 April 1922.

Sent by Sargent to Hills with the above letter.

Paper 2ff.

150-192 May 1920 - November 1921; April and May 1922; April 1923.

Papers relating to Latitude Plates:

Reductions and Measures to derive Scale Value.

Files and loose sheets.

172/6 25 March 1921

Enclosed with 172:

Letter from Sargent to Col. Hills commenting on the results obtained from recent latitude plates; and asking for clarification of his right to control the petty cash in view of the fact that expenses incurred in travelling to Newcastle to give a lecture had been disallowed.

Paper 2ff.

172/7 27 March 1921

Letter from Sargent to Col. Hills commenting on results obtained from the "midnight" plate taken the previous night.

Paper 1f.

172/8 2 April 1921

Letter from Sargent to Hills concerning Messrs. Cooke's estimate for work on the Transit Instrument, and commenting on recent results obtained with the Zenith Telescope.

Paper 1f.

172/9 and 10 9 April 1921

Letter from Sargent to Hills concerning the use of the Almucantar for time determination, the most recent Zenith results and the eclipse; with graph showing barometric readings during the eclipse.

2 pieces.

193-196

Papers relating to Latitude Plates:

193 23 November - 18 December 1923

Collected results.

Paper 1f.

194 19 December 1923

Measures of Zenith Plate.

Paper 3ff.

195 3 January 1924

Measures of Latitude Place.

Paper 3ff.

196 23 November 1923 - 3 January 1924

Mean Zenith Distance of Scale Value Pairs.

Paper 1f.

197 18 June 1924

Letter from Herbert Hall Turner to [Harold] Thomson (Director of the Observatory) apologising for being unable to attend the meeting on 20 June and explaining that, owing to pressure of other work, he has not completed the examination of the results obtained with the Zenith Telescope, but is sending a provisional report.

Paper 1f.

198/1-5 8 October 1924

Results of exposure of Zenith Telescope Plate.

Paper 5ff.

199/1

Papers relating to the Zenith Plates for 8 and 14 October 1924.

Paper 9ff.

199/2

Papers relating to the Zenith Plates for 16 October 1924.

Paper 3ff.

200

Latitude of Zenithal Telescope from five pairs of stars, based on observations from June to August 1909 .

With pencil note that it was found among Gill's papers.

Paper 1f.

201/1-3 No date

Notes relating to Variable Stars?

Paper 1f. each

202

Miscellaneous calculations.

Paper 2ff.

203 18 January 1923

Mathematical Calculations.

1 piece.

Ownership history: Found in the Minute Book of the Curators (V.70).

204

New Zealand Astronomical Society, Variable Star Section, Circular No. 21: Observations July - December 1940.

Paper 3ff.

205

Part of Table pasted on board giving sets of figures for 32° - 72° .

2 pieces.

206

Part of Table for (one third tan. cubed theta) from 0° to 3° in seconds of arc, pasted on board.

In Sargent's handwriting?

1 piece.

207/1-126 22 May 1947 - 19 July 1952

Notes from the Royal Astronomical Association reporting observations of comets received by telegram from Copenhagen.

File of 126 items, 1 piece each.

208-210

Envelope containing:

Photograph and slide of an Almucantar.

Slide of chart of Almucantar constants for the latitude of Durham Observatory.

3 items

211 A and B

Two photographs, mounted on card, of an astronomical instrument: one top and one side view.

2 items

212-216

Five identical photographs of the Durham Almucantar (as printed in "Description of the Durham Almucantar" by Professor R.A. Sampson, above No. 27A).

Mounted on card.

5 items.

217

Photograph of a recording instrument.

1 item

218-220

Three photographs, mounted on card, of Hough's Printing Chronograph made by Edmund Kandler of Chicago, U.S.A: one side and two top views.

3 items

221

Photograph of the Nebula in Andromeda.

1 item

Ownership history: Found in Star Record Book 1904/1905 (V.58).

222 and 223 15 October and 16 November 1908

Two photographs of Comet c 1908 (Morehouse) taken by E.E. Barnard, Yerkes Observatory.

R.A.S. Ref. Nos.: - 194 and 195.

2 items

Ownership history: Found in Star Record Book 1904/1905: V.58.

Professor Sampson's Papers on the Satellites of Jupiter

This collection of papers was initially arranged at the beginning of 1900, presumably by Professor Sampson himself. Files of papers were numbered and grouped together according to subject matter. Each group or bundle was numbered in Roman numerals and a brief list of its contents was compiled in a small black notebook. Later material could then be slotted in as it accumulated. The following list preserves this arrangement although some of the papers listed in the notebook are now missing.

J.S. 0

Small black notebook containing list of papers relating to Jupiter's Satellites, started 19 January 1900.

J.S. I 1 17 March 1899

Letter from E.C. Pickering of Harvard College Observatory in Cambridge, Massachusetts, to Professor Sampson; with specimens of [Jupiter's Satellites] III and I.

Draft of reply, April 1899.

Paper 7ff.

J.S. I 2 19 May 1899

Letter from Pickering to Sampson with observations of [Jupiter's Satellite] IV.

Paper 10ff.

J.S. I 3 23 June 1899

Letter from Pickering to Sampson with additional observations of Jupiter's Satellite IV.

Paper 6ff.

J.S. I 4 15 December 1899

Draft letter from Sampson to Pickering with account and discussion of the Harvard observations of Jupiter IV.

Paper 19ff.

J.S. I 5 13 February 1900

Letter from Pickering to Sampson commenting on J.S. I 4 and offering to send a volume for discussion.

Paper 1f.

J.S. I 6 2 March 1900

Draft letter from Sampson to Pickering in reply to J.S. I 5.

Paper 1f.

J.S. I 7 14 January 1895 - 20 July 1899

Observations of the eclipses of Jupiter III, numbers 1-15.

Paper 6ff.

J.S. I 8 11 April 1900

Draft letter from Sampson to Pickering on the results of his observations of the 15 eclipses of Jupiter III.

Paper 4ff.

J.S. I 9 2 December 1895 - 11 April 1900

Observations of the eclipses of Jupiter III, numbers 16-21.

Paper 2ff.

J.S. I 10 16 June 1900

Letter from Pickering to Sampson with extra observations of the eclipses of Jupiter IV.

Paper 5ff.

J.S. I 11 16 October 1878 - 23 February 1885

Observations of the eclipses of Jupiter III, numbers 22-70.

Paper 11ff.

J.S. I 12 2 March 1885 - 27 October 1894

Observations of the eclipses of Jupiter III, numbers 71-117.

Paper 14ff.

J.S. I 13 August 1900 - May 1901

Correspondence with W. de Sitter of Groningen Astronomical Laboratory: 7 letters from de Sitter to Sampson and draft of one reply.

19 October 1903

Letter from Bryan Cookson to Sampson concerning results obtained with the calculator.

Paper 26ff.

J.S. I 14 November 1900

Calculation of de Sitter's corrections to [Jupiter's Satellites] III and IV expressed as corrections to Damoiseau in Professor Sampson's form, and some remarks on Marth's epochs.

Paper 10ff.

J.S. I 15 22 January 1901

Draft letter from Sampson to Pickering accepting the offer for the *Harvard Annals* to publish his discussions of the method of reducing the observations, deduction of corrections to elements etc.; answering questions as to the arrangements for printing; and describing investigations of Jupiter III.

Paper 12ff.

J.S. I 16 23 January 1878 - 26 September 1900

List of observations of the eclipses of Jupiter's satellites observed at H[arvard] C[ollege] O[bservatory].

Paper 10ff.

J.S. I 17 20 February 1901

Letter from Pickering to Sampson outlining a plan for publication.

5 April 1901

Draft of Sampson's reply.

Paper 5ff.

J.S. I 18 17 April 1901

Letter from Pickering to Sampson informing him of an error in the Nautical Almanac affecting Jupiter's satellites.

Enclosure:

22 November 1899

Copy of letter from A.M.W. Downing of the Nautical Almanac Office to Professor Harkness of the Naval Observatory, Washington, explaining the above mentioned error and the method of correction to be adopted in the Nautical Almanac for 1903.

Paper 2ff.

J.S. I 19 3 June 1902

Letter from Pickering to Sampson on the advantages of the Almucantar and on matters related to the printing of the work on Jupiter's satellites.

7 August 1902

Draft reply to accompany the manuscripts for Chapter II of Jupiter's Satellites.

Paper 2ff.

J.S. I 20 13 October 1902

Letter from Pickering to Sampson on matters relating to the printing of Chapter II.

Draft of reply sent 31 October 1902 .

Paper 3ff.

J.S. I 21 21 November 1902

Letter from Pickering to Sampson on matters related to the printing of Chapter II and concerning computations Sampson had requested from the United States Naval Observatory.

Paper 2ff.

J.S. I 22 19 August 1903

Letter from Pickering to Sampson answering queries on doubtful entries in Harvard manuscripts and promising to send observations of the eclipses which are being continued.

Paper 4ff.

J.S. I 23 January 1904

Calculations made by Bryan Cookson, comparing observations in 1901 and 1902.

Part of I 23? (found loose between the files).

11 August 1904

Letter from Cookson to Sampson discussing various calculations.

Paper 2ff.

J.S. I 24. 17 May 1904 and 7 April 1905

Two letters from Pickering to Sampson accompanying corrections to the Ephemeris for eclipses of Jupiter's satellites 1878 - 1905 ; and concerning the proofs.

Paper 13ff.

J.S. I A

Papers found loose between bundles I and II.

J.S. I A 1 2 July 1904

Letter from Pickering to Sampson concerning changes to the proofs.

Paper 1f.

J.S. I A 2 3 August 1904

Letter from Pickering to Sampson questioning conclusions based on some abnormal observations.

23 August 1904

Copy of reply explaining the same.

Paper 5ff.

J.S. I A 3 2 December 1904

Letter from Pickering to Sampson concerning the proofs.

Draft reply, 28 December 1904.

Paper 2ff.

J.S. I A 3a 11 January 1905

Letter from Pickering to Sampson with observations of Jupiter Satellite I.

Paper 7ff.

J.S. I A 4 12 March 1905

Letter from Professor Simon Newcomb to Sampson enquiring whether Damoiseau's tables would be sufficiently accurate to determine whether there are deviations in longitude of Jupiter I over long periods; and expressing interest in the work on Pickering's photometric observations of the eclipses.

Paper 1f.

J.S. I A 5 26 April 1905

Letter from Pickering to Sampson concerning errors in the results sent from Harvard.

Paper 1f.

J.S. I A 6 10 January 1906

Letter from Pickering to Sampson acknowledging receipt of the copy for the printer.

Paper 1f.

J.S. I A 7 16 February 1906

Letter from Pickering to Sampson informing him of an error he has just discovered in the corrections to the American Ephemeris in the times for all eclipses after 1 January 1899, due to the almanac switching from Washington Mean Time to the longitude of the Observatory; and deeply regretting the effect this will have on Professor Sampson's work; and enclosing some observations by Mr. Apple.

3ff. and envelope

J.S. I A 8 11 April 1906

Determinations of Constants of Satellites before Delambe's Tables of 1817 : List of references taken from Housseau *Vade Mecum* (in the library of the Royal Astronomical Society, Burlington House?).

Paper 4ff.

J.S. I A 9 23 April 1906

Letter from Thomas Lewis of the Royal Observatory, Greenwich, to Sampson concerning the calculation of Jupiter's diameter and sending conclusions of other astronomers as to the diameters of the satellites.

4ff. and envelope.

J.S. I A 10 1 January 1907

Letter from Pickering to Sampson concerning the proofs.

Paper 1f.

J.S. I A 11 and 12 8 October 1908 and 16 October 1909

Two letters from Pickering to Sampson on matters relating to the printing of his book.

2ff. and 1f.

J.S. II 1

List of publications containing observations of Jupiter's satellites.

Paper 3ff.

J.S. II 2 1898

Preliminary studies of Jupiter's satellites, including studies of Damoiseau's tables (pp. 1-6).

Paper 15ff.

J.S. II 3 1898

Preliminary studies on Damoiseau's tables (pp. 7-29).

Paper 23ff.

J.S. II 4 1898

Preliminary studies [on Damoiseau's Tables] (pp. 30-43).

Paper 15ff.

J.S. II 5 1898

Manner in which corrections to elements appear in eclipses.

Preliminary Studies (pp. 44-60).

Paper 17ff.

J.S. II 6 1898

Corrections of elements in eclipses continued: degree of precision to be sought.

Preliminary Studies (pp. 61-80).

Paper 20ff.

J.S. II 7 1898

Corrections to elements in eclipses and degree of precision continued.

Preliminary Studies pp. (81-100).

Paper 20ff.

J.S. II 8 1899

Degree of precision continued: fresh theory of eclipses.

Preliminary Studies pp. (101-118).

Paper 18ff.

J.S. II 9 1899

Fresh theory of eclipses continued:

Consideration of course to pursue in connection with old observations.

Preliminary Studies pp. (119-130).

Paper 12ff.

J.S. II 10 1899

Theory of illumination of a finite disc:

Computation for $D/R \ r/\chi = 2.514$

Preliminary Studies pp. (131-148).

Paper 18ff.

J.S. II 11 March 1899

Eclipse of Jupiter III (No. 542); theory of progress of eclipse; experimental calculations on the Harvard observations; drafts.

Preliminary Studies pp. (149-159a).

Paper 18ff.

J.S. II 12 March 1899

Value of k ; calculations of theory of eclipse with 5 terms.

Preliminary Studies pp. (160-173).

Paper 14ff.

J.S. II 13 April 1899

Repetition of foregoing (II 12);

Table of $\log (\Theta - \sin \Theta)$ with arg. k .

Preliminary Studies pp. (174-185).

Paper 12ff.

J.S. II 14 April 1899

Calculation of Illumination from theory:

7 terms for 2.5 and 2.25. Preliminary Studies pp. (186-195).

Paper 10ff.

J.S. II 15 April 1899

Calculation of Illumination from theory continued:

7 terms for 2.75; comparison of results for 2.5 and 2.25.

Preliminary Studies pp. (196-202).

Paper 7ff.

J.S. II 16 April 1899

Discussion of Eclipse III No. 542 by help of foregoing theories;
derivation of Pickering's adopted curve for the same.

Preliminary Studies pp. (203-210).

Paper 9ff.

J.S. II 17 April 1899

Rough charts relating to Pickering's curve.
4 pieces.

J.S. II 17a

Rough charts.

Part of II 17? (found loose between files).

6 pieces.

J.S. III 1

Nautical Almanac Time of 32 eclipses of Jupiter IV.

Paper 1f.

J.S. III 1a 1878 - 1900

List of eclipses of Jupiter's Satellites I, II and III, observed at Harvard College Observatory.

Paper 18ff.

J.S. III 2 June 1899

Geometrical theory of eclipses.

Paper 12ff.

J.S. III 3 June 1899

Geometrical theory of Jupiter's satellites suitable to the discussion of photometric observations. Fair copy (pp. 1-21).

Paper 21ff.

J.S. III 4 July 1899

Variation of k ; in course of eclipse in extreme latitudes with application to cases of Satellite IV in point.

(pages numbered 21(a-m)-24).

Paper 15ff.

J.S. III 5 July 1899

Illumination of a finite disc in any given configuration with Jupiter and the Sun.
(pages numbered 25-35).

Paper 15ff.

J.S. III 6 June 1899

Calculation of ζ and k ; for eclipses of Satellite IV.

(pages numbered 36-47).

Paper 20ff.

J.S. III 7 June 1899

Reduction of Harvard's observations of Satellite IV in terms of k .

1st half (pages numbered 47-61).

Paper 19ff.

J.S. III 8 July 1899

Reduction of Harvard's observations of Satellite IV in terms of k . 2nd half (pages numbered 62-65 (1-12)).

Paper 18ff.

J.S. III.9 July 1899

Calculation of templates for use of Satellite IV:

$D\sigma/\chi$ $k = 0.80 \dots 2.00$

(pages numbered 66-73 (1 and 2).

Paper 11ff.

J.S. III 10 August 1899

Calculations of templates continued.

(pages numbered 74-83).

Paper 21ff.

J.S. III 11 August 1899

First measure of charts of Jupiter IV:

template judged, high latitude excluded, nos. 1-16.

(pages numbered 84-96).

Paper 13ff.

J.S. III 11a summer 1899

First measure of charts of Jupiter IV:

template judged, high latitude excluded, nos. 17-32.

(pages numbered 97-117).

Paper 21ff.

J.S. III 12 August 1899

Second measure of charts of Jupiter IV:

templates by rule, high latitude excluded.

(pages numbered 118-132a).

Paper 16ff.

J.S. III 13 September 1899

Third measure of charts of Jupiter IV:

template judged, all included.

(pages numbered 133-141).

Paper 9ff.

J.S. III 14 December 1899

Fourth measure of charts of Jupiter IV:

templates by rule, all included.

(pages numbered 142-151).

Paper 11ff.

J.S. III 15 January 1900

Fifth measure of charts of Jupiter IV:

template judged, all included.

Results taken as near previous computed ones as allowable.

(pages numbered 152-159).

Paper 8ff.

J.S. III 16 October 1903

Adopted readings and weights for Jupiter Satellite IV.

Paper 6ff.

J.S. III 17 October 1903

Acceleration of k in extreme latitudes;
cases of Jupiter Satellites III and IV.

Paper 18ff.

J.S. IV 1 July 1899

Theory of effect of corrections to elements, and calculation of co-efficients for
equations of conditions for Jupiter Satellite IV.

(pages numbered 1-11a).

Paper 12ff.

J.S. IV 2 August 1899

Corrections to elements and residuals derived from reading 1.

(pages numbered 12-24).

Paper 16ff.

J.S. IV 3 September 1899

Corrections to elements from reading 2.

Comparison of 1st and 2nd [readings].

(pages numbered 25-29a).

Paper 6ff.

J.S. IV 4 September 1899

Calculation of latitude from high latitude observations alone.

(pages numbered 30-37).

Paper 8ff.

J.S. IV 5 September 1899

Inclusion of terms of high latitude and formation of revised equations of condition
for reading 3.

(pages numbered 38-45b).

Paper 10ff.

J.S. IV 6 October 1899

Formation of normal equations.

(pages numbered 46-69).

Paper 20ff.

J.S. IV 7 October 1899

Solution for 3rd readings.

Residuals for t and k ; discussion.

(pages numbered 70-87).

Paper 20ff.

J.S. IV 8 January 1900

Solution for 4th readings.

Residuals in k .

Comparison of 3rd and 4th readings, solutions, and residuals.

Remarks.

(pages numbered 87-101).

Paper 17ff.

J.S. IV 9 July 1903

Recalculation of $k \cdot \phi$ for Satellite IV.

Paper 2ff.

With J.S. IV 9 and 10

Precept for recalculation of $k \cdot \phi$ for Satellite IV.

Paper 1f.

J.S. IV 10 July 1903

Recalculation of $k \cdot \phi$ for Satellite IV.

Paper 18ff.

J.S. IV 10 A December 1904

Last eclipses of Satellite IV.

Paper 3ff.

J.S. IV 10 B December 1904

Last eclipses of Satellite IV.

Paper 3ff.

J.S. IV 11 July 1903

Co-efficients of equations of condition for Satellite IV: A.

Paper 45ff.

J.S. IV 12 July 1903

Computations of co-efficients of equations of condition for Satellite IV: B.

Paper 48ff.

J.S. IV 13 (first part) August 1903

Co-efficients of equations of condition for Satellite IV reduced for weight: A (1-20).

Paper 2ff.

J.S. IV 13 (second part) August 1903

Co-efficients of equations of condition for Satellite IV, reduced for weight: A (21-32, 3d, 19a, 33-40).

Paper 23ff.

J.S. IV 14 (first part) August 1903

Co-efficients of equations of condition of Satellite IV, reduced for weight: B. (1-20).

Paper 25ff.

IV 14 (second part) August 1903

Co-efficients of equations of condition for Satellite IV, reduced for weight: B (21-32, 3d, 19a, 33-40).

Paper 21ff.

J.S. IV 15 February 1906

Satellite IV Form IV (1-20).

Satellite IV Form IV (21-32, 3d, 19a, 33-40).

Satellite IV Form IV (an) etc.

5ff.; 5ff.; 4ff.

J.S. IV 16 November 1905

Satellite IV: simplification of applied corrections.

Paper 8ff.

J.S. IV 17 December 1905

Satellite IV: calculation of applied corrections, A.

Paper 9ff.

J.S. IV 18 December 1905

Satellite IV: calculation of applied corrections, B.

Paper 9ff.

J.S. V 1 March 1900

Formula and computation of k for Jupiter Satellite III based on eclipses between 14 January 1895 and 20 July 1899.

Paper 12ff.

J.S. V 2 March 1900

Jupiter Satellite III: eclipses 1-15 in terms of t , m , k .

Paper 5ff.

J.S. V 3 March 1900

Calculation of Templates for Satellite III when $D\sigma/nR = 3.00$, and comparison of results for 2.5, 2.75 and 3.0.

Paper 5ff.

J.S. V 4 April 1900

Satellite III: measures and corrections of charts 1-15.

(Based on erroneous charts owing to mistake in calculation of k discovered July 1900).

Paper 14ff.

J.S. V 5 June 1900

Satellite III: calculations of k for eclipses between 2 December 1895 and 11 April 1900.

Paper 3ff.

J.S. V 6 July 1900

Satellite III: eclipses from 2 December 1895 to 11 April 1900.

(i.e. Nos. 105, 108, 109, 115, 118, 119), in terms of t , m , k .

Paper 2ff.

J.S. V 7(a) and (b)

Satellite III: calculation of k for new numbers 1-51.

(22-71 old numbers).

11ff. and 15ff.

J.S. V 8(a) and (b) July 1900

Satellite III: calculation of k for new numbers 52-98.

(72-117 old numbers).

12ff. and 13ff.

J.S. V 9-11

Satellite III: numbers 22-117 in terms of t , m , k , with measures:

V 9

Numbers 22-52.

Paper 11ff.

V 10

Numbers 53-83.

Paper 11ff.

V 11

Numbers 84-117.

Paper 13ff.

J.S. V 12

Readings of the charts of Satellite III in terms of k , t , and $t \sqrt{1-\zeta}$

Paper 12ff.

J.S. V 13

Measures of Satellite III: certain eclipses.

Paper 6ff.

J.S. V 14

k_0 for Satellite III from new formula, 1878-1900.

Paper 7ff.

J.S. V 15(1)-(5)

Observations of Satellite III in terms of t , m , k in accordance with the formula in

J.S. V 14, in five parts:

V 15 (1)

Numbers 1-22.

Paper 11ff.

V 15 (2)

Numbers 23-44.

Paper 11ff.

V 15 (3)

Numbers 45-66.

Paper 11ff.

V 15 (4)

Numbers 67-93.

Paper 14ff.

V 15 (5)

Numbers 94-119.

Paper 13ff.

J.S. V 16

Readings of Satellite III from final charts as employed for adopted residuals:
template 2.75.

Paper 13ff.

J.S. V 17 November 1903

Satellite III: formation of n for equations of condition.

Paper 13ff.

J.S. V 18

Notes for Satellite III, Forms 1A and B, 1901-1903.

(continuation of J.S. V 14).

Paper 4ff.

J.S. VI? 1

Charts of Satellite IV:

Template (?)

Paper 1f.

Tracing of curve marked 1.50

Paper 1f.

Charts numbered 1-40, 1 September 1878 - 22 October 1903.

Paper 45ff.

5 tracings marked 1.50

Paper 1f. each

13 rejected charts

Paper 13ff.

2 charts marked IV 1 and IV 2.

Paper 2ff.

J.S. VI (?) 2

Charts of Satellite IV numbered 3 - 32 (no. 22 missing).

(Continuation of the series in the previous bundle)

Paper 29ff.

J.S. VII 1 April 1900

Satellites III and IV: consideration of allowances for different apertures.

Paper 4ff.

J.S. VII 2 April 1900

Consideration of the effect of variation of brightness on a satellite's disc upon the light curve of the eclipse.

General effect of an atmosphere on Jupiter.

Numbers for a disc brighter at the centre than at the edge.

Paper 4ff.

J.S. VII 3 January 1901

Discussion of ordinary observations of Satellite III, collection 1878 -1890.

(pages numbered 1-13).

Paper 13ff.

J.S. VII 4 January 1901

Collection of ordinary observations of Satellite III, 1891-97.

Corrections to conjunction and semi-duration, 1878-97 .

Equations of conditions.

Solution of normal equations.

(pages numbered 14-27).

Paper 15ff.

J.S. VII 5 January 1901

Consideration of certain cases of large discordance of the reading of Satellite III from the solutions of J.S. X 1 and 2. (See below).

Paper 9ff.

J.S. VII 6 January 1901

Collection of ordinary observations 1837-59.

Values of $\frac{1}{2} (D + R)$ and $\frac{1}{2} (D - R)$.

Paper 12ff.

J.S. VII 7 January 1901

Collection of ordinary observations 1859-78.

Values of $\frac{1}{2} (D + R)$, $\frac{1}{2} (D - R)$.

Paper 10ff.

J.S. VII 8 January 1901

Formation of normal equations for conjunctions from J.S. VII 6 and 7.

Normal equations for conjunctions 1837-97 .

Solution. Corrections to tables.

Paper 13ff.

J.S. VII 9 February 1901

Satellite III: Latitude ordinary observations.

Equations of conditions and normal equations, 1878-97 .

Paper 9ff.

J.S. VII 10 February 1901

Satellite III: Latitude ordinary observations.

Equations of condition and normal equations, 1859-78.

Paper 6ff.

J.S. VII 11 February 1901

Satellite: Latitude ordinary observations.

Equations of condition and normal equations, 1837-58.

Collection of normal equations.

Paper 7ff.

J.S. VII 12 February 1901

Various solutions of equations in J.S. VII 9, 10, 11.

Paper 19ff.

J.S. VII 13

Discussion of the various latitude corrections obtained.

Paper 6ff.

J.S. VII 14

Ordinary observations:

Printed references to original discussions in the manuscripts of Delambre and Damoiseau.

Paper 4ff.

J.S. VII 15

Ancient observations of Satellite II from Delambre's list (2 copies).

56ff. and 50ff.

J.S. VII 16

Ancient observations of Satellite IV, from Delambre's list.

(2 copies).

26ff. and 23ff.

J.S. VII 17 4 October 1904

Note on the manuscript of Delambre (and Damoiseau) in the Bureau des Longitudes.

Copy of letter from Sampson to M. Tessier of the Bureau des Longitudes commenting on the manuscripts.

Paper 2ff.

J.S. VII 18

Longitude corrections for Delambre's observations.

Paper 5ff.

J.S. VII 19 July 1908

Investigation of Todd's error in respect to Bouvard's secular terms.

Ordinary observations of Satellite III.

Collection of the various solutions of corrections to conjunctions for Satellite III.

7ff.; 11ff.; 7ff.

J.S. VIII 1 April 1900

Formation of equations of condition for Satellite III.

Paper 13ff.

J.S. VIII 2-13 September and December 1900

Computations of co-efficients of equations of condition for Jupiter Satellite III.

First calculations:

VIII 2

Numbers 1-10.

Paper 11ff.

VIII 3

Numbers 11-20.

Paper 10ff.

VIII 4

Numbers 21-30.

Paper 10ff.

VIII 5

Numbers 31-40.

Paper 10ff.

VIII 6

Numbers 41-50.

Paper 10ff.

VIII 7

Numbers 51-60.

Paper 10ff.

VIII 8
Numbers 61-70.
Paper 10ff.

VIII 9
Numbers 71-80.
Paper 10ff.

VIII 10
Numbers 81-90.
Paper 10ff.

VIII 11
Numbers 91-100.
Paper 10ff.

VIII 12
Numbers 101-110.
Paper 10ff.

VIII 13
Numbers 111-119.
Paper 10ff.

J.S. VIII 14-17

Computations of co-efficients of equations of conditions for Jupiter Satellite III.
Second calculation:

VIII 14
Numbers 1-30.
Paper 31ff.

VIII 15
Numbers 31-60.
Paper 30ff.

VIII 16
Numbers 61-90.
Paper 30ff.

VIII 17
Numbers 91-119.
Paper 30ff.

J.S. VIII 18

Arguments and ζ for Jupiter Satellite III.
Paper 5ff.

[J.S. VIII 19 Transferred to X (Precepts 17).]

J.S. IX (?)

Charts of Satellite III, numbered 0, 0A, 1-125; and one tracing.
128 pieces.

J.S. X 0 October 1900

Preliminary consideration of corrections to Satellite III from mean of three readings with template 2.75.

Paper 8ff.

J.S. X 1 December 1900

Corrections to Satellite III from 20 chosen readings (pp. 1-16):

correction to time of conjunction.

Paper 16ff.

J.S. X 2 December 1900

Corrections to Satellite III from 20 chosen readings (pp. 17-33):

corrections to Latitude.

Paper 19ff.

J.S. X 3 February 1901

Corrected Theory of Duration of Eclipses.

1st draft.

Paper 11ff.

J.S. X 4 February 1901

Corrected Theory of Duration of Eclipses (time elapsing from a definite phase to conjunction).

2nd draft.

Paper 14ff.

J.S. X 5

Delambre's observations of Satellite II: schedule, date and corrections.

Paper 61ff.

J.S. X 6

Delambre's observations of Satellite IV: schedule, date and corrections.

Paper 46ff.

J.S. X 7

Delambre's observations of Satellite II: summary of corrections to be applied.

Paper 4ff.

J.S. X 7a

Reduction of Delambre's observations of Satellite II, with formula for the corrections to longitude.

(originally un-numbered)

Paper 1f.

J.S. X 7b

Dates of ancient observations of Satellites II and IV.

(originally un-numbered)

Paper 1f.

J.S. X 7c

Ancient observations of Satellite II: A.

(marked with bundle number only)

Paper 14ff.

J.S. X 7d

Ancient observations of Satellite II: B.

(marked with bundle number only)

Paper 14ff.

J.S. X 8

Missing.

J.S.X 9

Ancient observations of Satellite II: equations of condition, normal equations and solution.

Paper 15ff.

J.S. X 10

Ancient observations of Satellite IV: A and B.

Summary of Delambre's observations of Satellite IV (form IV) and solution.

A and B: 6ff. each; 3ff.

J.S. X (Precepts)

The papers in this section contain directions for making calculations relating to the satellites of Jupiter, for the use of an assistant (probably F.C.H. Carpenter). Some of this had been transferred from other bundles. A few were numbered and some dated but there is insufficient information to justify any re-arrangement on either basis. They have therefore been left in the order as found and numbered continuously in the form: J.S. X (Precepts 1 ... 50).

J.S. X (Precepts 1)

Stray sheet containing calculations.

Paper 1f.

J.S. X (Precepts 2)

(transferred from J.S. XXI)

Precept (originally precept 7) for calculating known corrections to Satellite II (?), relating to tables (g), (h) and (i).

Paper 2ff.

J.S. X (Precepts 3)

Precept for substitution in Form 2 Satellite IV, for residuals.

Paper 1f.

J.S. X (Precepts 4) 20 December 1905

Precept for completing Form 4 and normal equations for Satellite IV.

Paper 1f.

J.S. X (Precepts 5) 3 January 1906

Precept for forming residuals of Satellite III.

Paper 1f.

J.S. X (Precepts 6)

Precept for forming residuals of Satellite II.

Paper 1f.

J.S. X (Precepts 7)

(transferred from J.S. XXII)

Precept for known correction to Satellite II, relating to Form 1 B.

Originally numbered Precept 8, duplicate of 6.

Paper 1f.

J.S. X (Precepts 8)

Precept for completing form 2 A and B, Satellite II.

Paper 1f.

J.S. X (Precepts 9)

(transferred from J.S. XXXIII)

Revision: Precept for corrections, relating to Satellites I, II and III.

Paper 5ff.

J.S. X (Precepts 10)

Absolute terms associated with new calculations of h, i.

Paper 1f.

J.S. X (Precepts 11)

Satellite I: To compute argument C for motion in one synodic period.

Paper 1f.

J.S. X (Precepts 12) 29 October 1907

Precept for calculation hv, iv, etc. with new libration co-efficients h, i.

Paper 2ff.

J.S. X (Precepts 13) 17 May 1904

Precept for second solution: Satellite I.

Paper 2ff.

J.S. X (Precepts 14)

(transferred from J.S. XXIX)

Precept for forming co-efficients of normal equations.

Paper 2ff.

J.S. X (Precepts 15) 23 October 1903

(transferred from J.S. V)

Precept for corrections to be applied to Satellite III.

Paper 2ff.

J.S. X (Precepts 16)

Satellite III: continuation of third solution.

Paper 1f.

J.S. X (Precepts 17) June 1903

(transferred from J.S. VIII 19)

Precept for correcting the calculations of co-efficients of equations of condition of Satellite III, as derived in J.S. VIII 1-17.

Paper 3ff.

J.S. X (Precepts 18)

Directions for computing co-efficients of equations of condition for Satellite III.

Paper 1f.

J.S. X (Precepts 19)

Satellite III: scale for increasing terms in the equations of condition.

Paper 1f.

J.S. X (Precepts 20)

(transferred from J.S. XVII 2)

Precept (originally precept 3) for calculating known corrections relating to Form 1, Satellite I, A.

Paper 2ff.

J.S. X (Precepts 21) 2 October 1903

(transferred from J.S. XVII 2)

Instruction to make a table showing corrections to be applied to "O - C" for reduction and semiduration, with reference to J.S. XVI 9 p.52.

Paper 2ff.

J.S. X (Precepts 22)

(transferred from J.S. XVII 2)

Precept (originally precept 4) containing instructions for compiling tables.

Paper 4ff.

J.S. X (Precept 23)

(transferred from J.S. XVIII)

Satellite I, Form 2A: precept for entering $\sin A$, $\cos A$, $\sin B$, $\cos B$, $\sin C$ and $\cos C$ on the forms for co-efficients of equations of condition.

Paper 1f.

J.S. X (Precepts 24)

(transferred from J.S. XVIII)

Precept for the calculation of n , Satellite I.

Paper 1f.

J.S. X (Precepts 25) 18 June 1904

(transferred from J.S. XVIII)

Precept for forming v and σ on Form 2; relating to the second solution Satellite I.

Paper 1f.

J.S. X (Precepts 26)

(transferred from J.S. XIX)

Precept relating to Form 1, Satellite I, B.

Originally numbered "Precept 5 ... a duplication of precept 3" (see J.S. X (Precepts 20)).

Paper 1f.

J.S. X (Precepts 27)

Precept relating to Satellite I for forming

$$av_1 cv_1 \dots \sigma v_1$$

$$av_2 cv_2 \dots \sigma v_2$$

$$av_1^1 cv_1^1 \dots \sigma v_1^1$$

$$av_2^1 cv_2^1 \dots \sigma v_2^1$$

Paper 1f.

J.S. X (Precepts 28)
 (transferred from J.S. XXI)
 Precept originally Precept 6, relating to Satellite II Form 1 A.
 Paper 1f.

J.S. X (Precepts 29)
 (transferred from J.S. XXI)
 Precept for forming two new arguments D_1 and D_2 for Satellites I and II.
 Paper 2ff.

J.S. X (Precepts 30) 25 May 1904
 Precept for collecting numbers for second solution of Satellite II.
 Paper 1f.

J.S. X (Precepts 31) 25 June 1904
 Precept for forming $c v$, $e v \dots \sigma v$ for Satellite II.
 Paper 1f.

J.S. X (Precepts 32)
 Precepts for collection of equations of condition under D and R separately.
 Paper 2ff.

J.S. X (Precepts 33) 16 June 1904
 (transferred from J.S. XXIX)
 Precept to form $a v$, $c v \dots \sigma v$ for Satellite I, second solution.
 Paper 2ff.

J.S. X (Precepts 34) 1 May 1904
 Precept for new solution for Satellite III.
 Paper 2ff.

J.S. X (Precepts 35) 29 June 1903
 Precept for correcting and computing coefficients of equations of condition for Satellite III, Form B.
 Paper 2ff.

J.S. X (Precepts 36)
 (transferred from J.S. XXXI 6)
 Precept for forming coefficients of equations of condition for Satellite III weighted.
 Paper 1f.

J.S. X (Precepts 37) 9 January 1904
 Precept for completing Form 3, Satellite I.
 Paper 1f.

J.S. X (Precepts 38)
 (transferred from J.S. XXV)
 Precept for quantities to be extracted from N[autical] A[lmanac]; relating to Form 3, Satellites I, II and III, A.
 Paper 1f.

J.S. X (Precepts 39) 1 November 1903
 Precept to complete Form 3 for Satellite III, A.
 Paper 1f.

J.S. X (Precepts 40) 28 December 1903
(transferred from J.S. XXVII)
Precept for forming n for Satellite II.
Paper 1f.

J.S. X (Precepts 41) 17 December 1903
(transferred from J.S. XXVII)
Precept for completing Form 3, Satellite II, A.
Paper 1f.

J.S. X (Precepts 42) 3 November 1903
Precept for completing Form 3, Satellite III, B.
Paper 1f.

J.S. X (Precepts 43) 23 December 1903
Precept for the completion of Form 3, Satellite II, B.
Paper 1f.

J.S. X (Precepts 44) 28 January 1905
(transferred from J.S. XXXIV)
Reduction of Harvard observations.
Paper 1f.

J.S. X (Precepts 45) 5 March 1905
(transferred from J.S. XXXIV)
Precept for corrections to be applied to H - D.
Paper 1f.

J.S. X (Precepts 46) 8 March 1905
Precept for the effect of n_k in Satellites I, II and III.
Paper 1f.

J.S. X (Precepts 47) 31 May 1905
Precept to find the effect of dropping the terms h and i for Satellites I and II.
Paper 1f.

J.S. X (Precepts 48) 10 October 1905
Precept for D and R, collections, for Satellite I.
Paper 1f.

J.S. X (Precepts 49) 7 January 1904
Precept for substituting solutions of normal equations of III in equations of condition, relating to form 2A.
Paper 1f.

J.S. X (Precepts 50) 4 November 1905
Precept for forming residuals for Satellite I.
Paper 1f.

J.S. X A
Papers found at the end of bundle X:

J.S. X A 1

Part of a record relating to observations of Jupiter's satellites from 21 June 1885 to 24 December 1903.

Pages numbered 106-273 (p. 117 duplicated).

Paper 169ff.

J.S. X A 2

Comments on the above observations for 7 February 1901 to 14 September 1903.

Paper 2ff.

J.S. XI

Charts of Satellite II: numbered 1 to 181, with tracing between numbers 105 and 106.

182 pieces.

J.S. XII

Eclipses of Jupiter's satellites: manuscripts of Harvard observations complete with own residuals.

Paper 105ff.

J.S. XIII 29 June 1878 - 17 July 1888

Charts of Satellite I: numbered 1-198, with tracings and templates for 4.0, 4.25 and 4.5.

Paper 203 pieces

J.S. XIV 24 July 1888 - 30 October 1903

Charts of Satellite I: numbered 199-353.

Paper 155 pieces

J.S. XV 1 August 1901

Calculation of templates 4.00, 4.25, 4.50 for Satellite I.

Paper 11ff.

J.S. XV 2 August 1901

Tentative readings of the charts of Satellite I, using the template 4.50 (pp. 1-17).

Paper 17ff.

J.S. XV 3 August 1901

Continuation (pp. 18-29) of the readings in J.S. XV 2; collection of the mean results; chart; and list of observations not included in the solutions.

Paper 16ff.

J.S. XV 4 August 1901

Readings of Satellite II, using the template 2.50.

Paper 17ff.

J.S. XV 5 October 1903

Residual errors of charts for Satellite I.

Paper 24ff.

J.S. XV 6 October 1903

Residual errors of charts for Satellite II.

Paper 13ff.

J.S. XV 7 October 1903

Residual errors from charts for Satellite III.

Paper 10ff.

J.S. XV 8 October 1903

Residual errors from the charts for Satellite IV.

Paper 6ff.

J.S. XVI 1

Transferred to J.S. XV 4.

J.S. XVI 2 September 1902

Reduction of Hill's Expression for Jupiter's Heliocentric longitude to Bouvard's Form (comparison unfinished).

Paper 22ff.

J.S. XVI 3 August 1902

Duration of eclipse: complete theory. First Discussion.

Paper 43ff.

J.S. XVI 3a July 1902

Equations sent to Pickering and references to them.

Paper 5ff.

J.S. XVI 4 September 1902

Form of equations of condition for Satellites I and II as adopted for computing.

(p. 22) the same for Satellite III. March 1903 .

(p. 25) the same for Satellite IV. July 1903 .

Paper 29ff.

J.S. XVI 5 September 1902

Examination of terms in Damoiseau representing Jupiter's equation of centre and inequalities, and the equation of light.

Paper 29ff.

J.S. XVI 6 August 1902

Duration of eclipse: second discussion. Incomplete.

Paper 9ff.

J.S. XVI 7 October 1902

Theory of prediction of eclipses with help of calculations of Jupiter's place in the Nautical Almanac.

Addendum relating to an error in computing Jupiter's mean anomaly, October 1903.

Paper 21ff.

J.S. XVI 8 December 1902

Theory of correction of Ephemeris: containing discussion of terms arising from Jupiter's longitude, equation of light, and Satellite's longitude.

Paper 60ff.

J.S. XVI 9 March 1903

Errors due to latitude and faults in theory of semiduration; reduction of the expression for the corrections to Damoiseau from this source.

Paper 60ff.

J.S. XVII 1 (a)-(o)

Satellite I Form 1 A, Arguments, 1878-1900 :

- (a) 1878
Nos.1-20.
Paper 20ff.
- (b) 1879
Nos.21-41.
Paper 20ff.
- (c) 1880
Nos.43-65.
Paper 23ff.
- (d) 1881
Nos.66-85.
Paper 20ff.
- (e) 1882
Nos.86-100.
Paper 15ff.
- (f) 1883
Nos.101-127.
Paper 27ff.
- (g) 1884
Nos.128-147.
Paper 20ff.
- (h) 1885-1886
Nos.148-179.
Paper 32ff.
- (i) 1887-1888
Nos.180-199.
Paper 20ff.
- (j) 1889-1890
Nos.200-218
Paper 19ff.
- (k) 1891-1892
Nos.219-247
Paper 29ff.
- (l) 1893-1894
Nos.248-276
Paper 29ff.
- (m) 1895-1896
Nos.277-292
Paper 17ff.

(n) 1877-1898
Nos.293-312
Paper 20ff.

(o) 1899-1900
Nos.313-331
Paper 22ff.

J.S. XVII 2

Calculations to find the values of three new arguments: A, B, C, at the time of each observed eclipse of Satellite I (1878-1900).

Completed 1 October 1902. Initialled F.C.H.C[arpenter].

Paper 38ff.

J.S. XVII 3 (a)

Satellite I: tables for finding c, d, e, f, g, h.

Paper 9ff.

J.S. XVII 3 (b)

Satellite I: tables for finding P, Q, p, q, r.

Paper 4ff.

J.S. XVII 4

Satellite I, second solution: tables j, k, l, m for second corrections of $O - C$

Paper 5ff.

J.S. XVII 5 1901-1903

Satellite I Form 1 A: arguments and k.

Paper 8ff.

J.S. XVII 6 February 1904

Computations of argument 4 and co-efficient N for Satellites I, II, III 1901-1903, and for Satellites I, II, III and IV for 1903.

Paper 6ff.

J.S. XVII 7

Satellite I: computations of new argument C, with h i.

Paper 14ff.

J.S. XVII 8

New libration coefficients h , i ; collection of v , δv and s .

(Not catalogued in the black notebook).

Bundles XVIII and XIX missing.

Paper 14ff.

J.S. XVIII

Satellite I Form 2A, equations of condition

(a) 1878
Paper 20ff.

(b) 1879
Paper 22ff.

(c) 1880
Paper 23ff.

- (d) 1881
Paper 20ff.
- (e) 1882
Paper 15ff.
- (f) 1883
Paper 27ff.
- (g) 1884
Paper 20ff.
- (h) 1885-1886
Paper 32ff.
- (i) 1887-1888
Paper 20ff.
- (j) 1889-1890
Paper 19ff.
- (k) 1891-1892
Paper 29ff.
- (l) 1893-1894
Paper 28ff.
- (m) 1895-1896
Paper 16ff.
- (n) 1897-1898
Paper 20ff.
- (o) 1899-1900
Paper 19ff.

A 9 June 1878 - 27 April 1899

Satellite I, calculations involving V etc and $10s\sin/\cos D$ etc.

Paper 18ff.

J.S. XIX 1

Satellite I Form IB

- (a) 1878
Paper 21ff.
- (b) 1879
Paper 22ff.
- (c) 1880
Paper 23ff.
- (d) 1881
Paper 20ff.
- (e) 1882
Paper 15ff.
- (f) 1883
Paper 26ff.

(g) 1884

Paper 20ff.

(h) 1885 - 1886

Paper 32ff.

(i) 1887 - 1888

Paper 20ff.

(j) 1889 - 1890

Paper 19ff.

(k) 1891 - 1892

Paper 29ff.

(l) 1893 - 1894

Paper 29ff.

(m) 1895 - 1896

Paper 16ff.

(n) 1897 - 1898

Paper 20ff.

(o) 1899 - 1900

Paper 24ff.

J.S. XIX 2 1901 - 1903

Satellite I Form IB

Paper 8ff.

J.S. XIX 3 1901 - 1903

Computations of Arguments and Coefficients for Satellites I, II and III.

Paper 8ff.

J.S. XIX 4 25 February 1904

Precept for 3.

Paper 2ff.

J.S. XIX 5 11 - 17 October 1902

Satellite I computation of A, B and C for dates of eclipses 1878-1900 by F.C.H.C.

Paper 41ff.

J.S. XIX 6

Satellite I new libration coefficients L.i., collection of $V.\delta nR$ etc.

Paper 15ff.

J.S. XIX 7

Satellite I, computations of argument C for motion in one synodic period =

Oo.385245.

Paper 15ff.

J.S. XX 1

Satellite I Form 2B, equations of condition

(a) 1878

Paper 21ff.

(b) 1879
Paper 22ff.

(c) 1880
Paper 23ff.

(d) 1881
Paper 20ff.

(e) 1882
Paper 15ff.

(f) 1883
Paper 27ff.

(g) 1884
Paper 19ff.

(h) 1886
Paper 32ff.

(i) 1887-1888
Paper 20ff.

(j) 1889-1890
Paper 19ff.

(k) 1891-1892
Paper 29ff.

(l) 1893-1894
Paper 29ff.

(m) 1895-1896
Paper 16ff.

(n) 1897-1898
Paper 17ff.

(o) 1899-1900
Paper 21ff.

J.S. XX 2
Satellite I Computations of 'n'
Paper 11ff.

J.S. XX 3
Satellite I Form IB formation of $10s\sin/CosD1\&2$
Paper 18ff.

J.S. XXI 1 (a) - (g)
Satellite II Form 1 A, arguments and k , 1878-1900 :

(a) 1878-1880
Nos.1-30
Paper 32ff.

(b) 1881-1883
Nos.31-58
Paper 28ff.

(c) 1884-1886

Nos.59-83

Paper 25ff.

(d) 1887-1889

Nos.84-102

Paper 19ff.

(e) 1890-1893

Nos.103-125

Paper 23ff.

(f) 1894-1897

Nos.126-150

Paper 25ff.

(g) 1898-1900

Nos.151-169

Paper 20ff.

J.S. XXI 1 A

Satellite II Form 1 A: $k \cdot \phi$ for 1901-1903.

Paper 4ff.

J.S. XXI 2

Satellite II: additional arguments A , C and i , precepts and calculations.

Paper 23ff.

J.S. XXI 3 (a) - (g)

Satellite II Form 2 A, equations of condition, 1878-1900 :

(a) 1878-1880

Nos.1-30

Paper 32ff.

(b) 1881-1883

Nos.31-58

Paper 29ff.

(c) 1884-1886

Nos.59-83

Paper 26ff.

(d) 1887-1889

Nos.84-102

Paper 20ff.

(e) 1890-1893

Nos.103-125

Paper 24ff.

(f) 1894-1897

Nos.126-150

Paper 26ff.

(g) 1898-1900
Nos.151-169
Paper 21ff.

J.S. XXI 4
Satellite II: tables for finding c, d, e, f, g, h, i .
Paper 13ff.

J.S. XXI 5
Satellite II: tables p, q, r .
Paper 8ff.

J.S. XXI 6
Satellite II, 2nd solution: tables j, k, l, m for corrections applied to $O - C$.
Paper 2ff.

J.S. XXI 7
Satellite II [A]: new libration coefficient h, i ,
collection of $v, \delta n_r$
Paper 8ff.

J.S. XXI 8
Satellite II [B]: argument e , new h and i .
Paper 8ff.

J.S. XXI 9
Satellite III [A]: correction $\delta^1 n$ for evections.
Paper 2ff.

J.S. XXII 1(a) - (g)
Satellite II Form 2 B, equations of condition, 1878-1900 :

(a) 1878-1880
Nos.1-30
Paper 32ff.

(b) 1881-1883
Nos.31-58
Paper 29ff.

(c) 1884-1886
Nos.59-83
Paper 25ff.

(d) 1887-1889
Nos.84-102
Paper 20ff.

(e) 1890-1893
Nos.103-125
Paper 24ff.

(f) 1894-1897
Nos.126-150
Paper 27ff.

(g) 1898-1900
Nos.151-169
Paper 20ff.

J.S. XXII 2(a) - (g)
Satellite II Form 1 B, arguments, including *A* and *C*, 1878-1900 :

(a) 1878-1880
Nos.1-30
Paper 32ff.

(b) 1881-1883
Nos.31-58
Paper 28ff.

(c) 1884-1886
Nos.59-83
Paper 25ff.

(d) 1887-1889
Nos.84-102
Paper 19ff.

(e) 1890-1893
Nos.103-125
Paper 23ff.

(f) 1894-1897
Nos.126-150
Paper 25ff.

(g) 1898-1900
Nos.151-169
Paper 20ff.

J.S. XXII 3
Satellite II Form 1 B: $k \cdot \circ$ for 1901-1903.
Paper 4ff.

J.S. XXII 4
Satellite II [B]: precept for computing *A* and *C* with help of counter, and arguments 1878-1900.
Paper 22ff.

J.S. XXII 5
Satellite II [A]: argument *C*, new *h* and *i*.
Paper 8ff.

J.S. XXII 6
Satellite II [B]: new libration co-efficient *h* and *i*, collection of v , δn_R and *c*.
Paper 8ff.

J.S. XXII 7
Satellite II [B]: correction $\delta^1 n$ for evections.
Paper 2ff.

J.S. XXIII

Collection of adopted corrections *O* - *C*.

Bundle XXIV missing.

Paper 10ff.

J.S. XXV 1

Jupiter Satellite I Form 3 A: equation of light, Jupiter's inequalities and collected equations correcting Nautical Almanac,

Paper 19ff.

(a) 1878

Paper 15ff.

(b) 1879

Paper 22ff.

(c) 1880

Paper 23ff.

(d) 1881

Paper 20ff.

(e) 1882

Paper 15ff.

(f) 1883

Paper 27ff.

(g) 1884

Paper 20ff.

(h) 1885-1886

Paper 30ff.

(i) 1887-1888

Paper 20ff.

(j) 1889-1890

Paper 19ff.

(k) 1891-1892

Paper 29ff.

(l) 1893-1894

Paper 29ff.

(m) 1895-1896

Paper 16ff.

(n) 1897-1898

Paper 20ff.

(o) 1899-1900

Paper 19ff.

(p) 29 June 1878 - 24 June 1900

Satellite I corrections N.A. reductions

Paper 12ff.

J.S. XXVI 1 (a) - (k)

Satellite I Form 3 B, equation of light, Jupiter's inequalities, and collected equations correcting Nautical Almanac, 1882 - 1900 :

- (a) 1878
Paper 15ff.
- (b) 1879
Paper 22ff.
- (c) 1880
Paper 23ff.
- (d) 1881
Paper 20ff.
- (e) 1882
Paper 15ff.
- (f) 1883
Paper 27ff.
- (g) 1884
Paper 20ff.
- (h) 1885-1886
Paper 32ff.
- (i) 1887-1888
Paper 20ff.
- (j) 1889-1890
Paper 20ff.
- (k) 1891-1892
Paper 28ff.
- (l) 1893-1894
Paper 29ff.
- (m) 1895-1896
Paper 16ff.
- (n) 1897-1898
Paper 32ff.
- (o) 1885-1886
Paper 18ff.

J.S. XXVII 1 (a) - (g) December 1902

Satellite II Form 3 A, equation of light, Jupiter's inequalities, and collected equations correcting Nautical Almanac, 1878-1900 :

- (a) 1878-1880
Paper 28ff.
- (b) 1881-1883
Paper 28ff.

(c) 1884-1886

Paper 25ff.

(d) 1887-1889

Paper 19ff.

(e) 1890-1893

Paper 23ff.

(f) 1894-1897

Paper 25ff.

(g) 1898-1900

Paper 19ff.

J.S. XXVII 2 (a) - (g)

Satellite III Form 3 A, equation of light, Jupiter's inequalities, and collected equations correcting Nautical Almanac, 1878-1900 :

(a) 1878-1880

Paper 16ff.

(b) 1881-1882

Paper 15ff.

(c) 1883-1884

Paper 18ff.

(d) 1885-1886

Paper 15ff.

(e) 1887-1890

Paper 17ff.

(f) 1891-1894

Paper 18ff.

(g) 1895-1900

Paper 23ff.

J.S. XXVII 3

Satellite II: computations of n .

Paper 7ff.

J.S. XXVII 4 July 1904

Satellite II [A]: calculation of δn , δn_2 .

Paper 8ff.

J.S. XXVIII 1 (a) - (g)

Satellite II Form 3 B, equation of light, Jupiter's inequalities, and collected equations correcting Nautical Almanac, 1878-1900 :

(a) 1878-1880

Paper 28ff.

(b) 1881-1883

Paper 25ff.

(c) 1884-1886

Paper 25ff.

(d) 1887-1889

Paper 19ff.

(e) 1890-1893

Paper 23ff.

(f) 1894-1897

Paper 25ff.

(g) 1898-1900

Paper 19ff.

J.S. XXVIII 2 (a) -(g)

Satellite III Form 3 B, equations of light, Jupiter's inequalities and collected equations correcting Nautical Almanac, 1878-1900 :

(a) 1878-1880

Paper 16ff.

(b) 1881-1882

Paper 15ff.

(c) 1883-1884

Paper 18ff.

(d) 1885-1886

Paper 15ff.

(e) 1887-1890

Paper 17ff.

(f) 1891-1894

Paper 18ff.

(g) 1895-1900

Paper 21ff.

J.S. XXVIII 3 July 1904

Satellite II [B]: calculation of δv_1 , δv_2

Paper 8ff.

J.S. XXIX 1 (a) - (n)

Satellite I Form 4

(a)

1-24

Paper 21ff.

(b)

25-48

Paper 20ff.

(c)

49-72

Paper 20ff.

(d)

73-96

Paper 20ff.

(e)
97-120
Paper 20ff.

(f)
121-144
Paper 20ff.

(g)
145-168
Paper 20ff.

(h)
169-192
Paper 20ff.

(i)
193-216
Paper 20ff.

(j)
217-240
Paper 20ff.

(k)
241-264
Paper 20ff.

(l)
265-288
Paper 20ff.

(m)
289-312
Paper 20ff.

(n)
313-331
Paper 20ff.

J.S. XXIX 2 1901
Satellite I Form 4: collected sums 1-288
Paper 16ff.

J.S. XXIX 3 Completed 15 July 1903
Satellite I Form 4: collected sums 289-331, 1-331.
Paper 16ff.

J.S. XXIX 4
Satellite I: collection of $an \dots sn$, omitting excluded observations, but with no corrections applied.
For experimental solution.
Paper 2ff.

J.S. XXIX 5
Satellite I Form 4: $an \dots sn$, Nos. 1-331, and collection.
Paper 32ff.

J.S. XXIX 6

Satellite I. Form 4:

collection of *aa*, *ac* ... *pp*, *pσ*, Nos. 1-331 less excluded observations.

collection of *av*, *cv* ... *pv*.; Nos. 1-331 less excluded observations.

Paper 14ff.

J.S. XXIX 7

Satellite I, 2nd solution: Form 4:

collection of *aa*, *ab* ... for excluded observations

subtraction of same from sums 1-331

formation of *aσ* etc. for revised unknowns.

Paper 18ff.

J.S. XXIX 8

Satellite I: collection *aa* ... *ak*, etc., *D* and *R*.

Paper 2ff.

J.S. XXIX 9 November 1905

Satellite I: collection *D* and *R* for *j k l m p n*, also *aj*, *ak*, *al*, *am*, *ap*.

Paper 28ff.

J.S. XXIX 10

Satellite I, 2nd solution, Form 4:

Formation of a delta v2, c delta v2 up to j delta v2 and collections

Excluded observations at end of packet

Paper 36ff.

J.S. XXIX 11

Satellite I, 2nd solution

Formation of a delta v2, c delta v2 up to j delta v2 and collection

Paper 35ff.

J.S. XXX 1 (a) - (g)

Satellite II Form 4:

(a)

Eclipses 1-24

Paper 21ff.

(b)

Eclipses 25-48

Paper 18ff.

(c)

Eclipses 49-72

Paper 18ff.

(d)

Eclipses 73-97

Paper 18ff.

(e)

Eclipses 98-121

Paper 18ff.

(f)
Eclipses 123-146
Paper 18ff.

(g)
Eclipses 146-169
Paper 18ff.

J.S. XXX 2 Finished and checked 29 June 1903
Satellite II Form 4: collected sums 1-169.
Paper 18ff.

J.S. XXX 3
Satellite II: calculation $c\delta v_2 \dots \sigma\delta v_2$.
Paper 18ff.

J.S. XXX 4
Satellite II Form 4: formation and collection of $a\delta n_R \dots s\delta n_R$ and $a\delta n_{Rn} \dots \sigma\delta n_{Rn}$
with excluded eclipses.
Paper 19ff.

J.S. XXX 5 July 1904
Satellite II second solution Form 4: $cv \dots pv, \sigma v$.
Paper 18ff.

J.S. XXX 6
Satellite II: calculation $c\delta v_1 \dots \sigma\delta v_1$.
Paper 18ff.

J.S. XXX 7
Satellite II: $c\delta^1 n \dots \sigma\delta^1 n$.
Paper 17ff.

J.S. XXX 8
Satellite II: $c\delta_k \dots \sigma\delta_k$.
Paper 18ff.

J.S. XXX 9
Satellite II Form 4: exclusion of certain eclipses for second solution.
Paper 18ff.

J.S. XXX 10
Satellite II Form 4: $an \dots pn$, eclipses 1-169, and collection.
Paper 16ff.

J.S. XXX 11
Satellite II: separate collection D and R of $cc \dots p\sigma$ and $cv \dots pv$.
Paper 15ff.

J.S. XXX 12
Satellite II: excluded eclipses removed, and $a b d q$ dropped but n not modified.
Paper 2ff.

J.S. XXXI 1 (a) - (e)
Satellite III Form 2 A:

(a)
Nos.1-24
Paper 24ff.

(b)
Nos.25-48
Paper 24ff.

(c)
Nos.49-72
Paper 24ff.

(d)
Nos.73-96
Paper 24ff.

(e)
Nos.97-120
Paper 24ff.

J.S. XXXI 2 (a) - (e)
Satellite III Form 2 B:

(a)
Nos.1-24
Paper 24ff.

(b)
Nos.25-48
Paper 24ff.

(c)
Nos.49-72
Paper 24ff.

(d)
Nos.73-96
Paper 24ff.

(e)
Nos.97-120
Paper 24ff.

J.S. XXXI 3 (a) - (e)
Satellite III Form 4:

(a)
Nos.1-24
Paper 10ff.

(b)
Nos.25-48
Paper 10ff.

(c)
Nos.49-72
Paper 10ff.

(d)
Nos.73-96
Paper 10ff.

(e)
Nos.97-120
Paper 10ff.

J.S. XXXI 3 (f)
Satellite III Form 4: collected sums 1-120.
Paper 10ff.

J.S. XXXI 3 (g)
Satellite III Form 4: calculation $a\delta n_R$, $c\delta n_R \dots \sigma\delta n_R$.
Paper 13ff.

J.S. XXXI 3 (h)
Satellite III Form 4:
Formation of $a\delta n_R$, $b\delta n_R$, ... $s\delta n_R$
Formation of $a\delta n_R$, $c\delta n_R \dots \sigma\delta n_R$.
Paper 13ff.

J.S. XXXI 3 (i)
Satellite III Form IV: an , bn ... sn , nn , Nos. 1-120.
Paper 12ff.

J.S. XXXI 4
Satellite III [A]: computations of i , c and $b = 1/500 \times A$.
Paper 4ff.

J.S. XXXI 5
Satellite III [B]: computation of i , and $b = 1/500 \times A$.
Paper 4ff.

J.S. XXXI 6. See above: J.S. X (Precepts 36)

J.S. XXXI 7
Satellite III: tables c e f g.
Paper 6ff.

J.S. XXXI 8
Satellite III: tables p q (precept with V 8).
[No more Bundles]
Paper 3ff.

J.S. XXXII 2 May 1904
Discussion of first solution for I, II, III
Paper 65ff.

J.S. XXXII 3 August - December 1904
Discussion of causes of difference between 1st and 2nd solutions, 3rd solutions,
I and II
Paper 45ff.

J.S. XXXII 6 May 1905

Further discussion

Discordance of latitude for I, II, III

Results from Harvard readings

Paper 25ff.

J.S. Ch VI, VII and IX

Jupiter's Satellites: Manuscript draft of chapters VI, VII and IX.

(parts of Bundles XXIII and XXXVI (?))

55ff. 64ff. and 98ff.

J.S. Miscellaneous Manuscripts 1

Unlabelled charts and tracings: 6 tracings and 2 charts.

8 pieces.

J.S. Miscellaneous Manuscripts 2

Remarks on charts of Satellites I, II, III and IV.

Paper 5ff.

J.S. Miscellaneous Manuscripts 3

Material for third solution III

Paper 2ff.

J.S. Miscellaneous Manuscript 4

Notes on calculations for Satellites I-IV

Paper 11ff.

Rousdon Papers

Papers from Rousdon Observatory, Lyme Regis, East Devon, which came to Durham with the Peek Telescope in 1921.

Two Volumes, *see above: V 67 and 68.*

P. Hingley, "A Peek at Rousdon Observatory, Dorset", *Astronomy & Geophysics* vol.43 issue 5 October 2002, p.5.7, (photocopy in R.P. 221).

R.P.1

"Variable Stars of Long Period", by Edward C. Pickering. *Annals of Harvard College Observatory* (1891).

Pamphlet 6 pp.

R.P.2

Prospectus for *Atlas der Himmelskunde auf Grundlage der Ergebnisse der coelestischen Photographie*, by Armand Freiherr v. Schweizer-Lerchenfeld, 1897.

2 pp.

R.P.3

All drawn by C.E. Peek of Rousdon Observatory.

5 pieces.

R.P.3/1-3 1890-1897

Printed diagrams showing the variations in magnitude of S Herculis and U Orionis superimposed.

R.P.3/4 and 5 1895 and 1896

Printed diagrams showing the variations in magnitude of S Cassiopeiae and S Ursae Majoris superimposed.

R.P.4

"Observations of Long-period Variable stars during the year 1910". Report of the Rousdon Observatory, East Devon (Sir Wilfrid Peek's) by C. Grover, Observer in Charge.

Reprint from the *Journal of the British Astronomical Association* , Feb. 1911, Vol. XXI, No. 5 pp. 234-238.

Pamphlet 2 copies. 2 pp. each

R.P.5 [1915]

"Observations of Long-period Variable Stars during the Year 1915." Report of the Rousdon Observatory, East Devon (Sir Wilfrid Peek's), by C. Grover, Observer in Charge.

Reprint from the *Journal of the British Astronomical Association* , Vol. XXVI, No. 3, pp. 116-122.

Paper 3ff.

R.P.6

"A Catalogue of 144 [...] Sidereal Objects Visible in the Northern Hemisphere, arranged under the months of the year when they are most conveniently placed for Observation" by C.E. Peek, Rousdon Observatory, Lyme Regis.

Paper 13ff.

R.P.7

Celestial Objects, October 14 to November 14.

(additional to the Catalogue above).

Paper 1f.

R.P.8 1891

Variable star observations.

12ff.

R.P.9 1892

Variable stars observed.

Paper 1f.

R.P.10 and 11 1893

Variable stars observed, with table showing the number of nights on which observations were made.

Paper 1f. each

R.P.12 and 13 1895

Variable stars observed, with table showing number of nights on which observations were made.

Paper 1f. each

R.P.14 and 15 1896

Variable stars observed, with table showing number of nights observations were made.

Paper 1f. each

R.P.16

List of variable star observations taken from the Astronomical Journal and Rousdon Observations.

Paper 1f.

R.P.17 1910

Phenomena of variable stars 1910.

Paper 1f.

R.P.18 1918

Variable stars 1918.

Taken from B.A.A. and Rousdon Observations.

Paper 1f.

R.P.19 Drawn 1888-1890.

Charts of 7 variable stars and their comparisons with notes (viz.):

T Cassiopea (2 charts)

U Orionis (2 charts)

R Ursa Major

S Bootis

R Draconis

R Cygni

χ Cygni

File, 9ff.

R.P.20 Compiled between 1891-1900.

Charts of 22 variable stars and their comparisons (viz.):

T Cassiopeiae

S Cassiopeiae

S Persei

R Aurigae

T Aurigae

U Orionis

R Lyncis

U Cancrī

R Ursae Majoris

T Ursae Majoris

S Ursae Majoris

S Bootis

R Camelopardi

S Coronae

R Ursae Minoris

R Draconis

S Herculis

T Draconis

R Cygni

χ Cygni

S Cygni

T Cephei

File, 22 ff.

R.P.21

Charts of 7 variable stars with their comparisons (viz.):

R Piscium
R Tauri
R Geminorum
V Cancrī
R Bootis
R Serpentis
R Pegasi

File, 7ff.

R.P.21A Compiled between 1889 and 1900.

Charts and notes on 26 variable stars and their comparisons.

The stars are the same as in R.P.20 with the addition of:

T Camelopardalis
S Camelopardi
S Cephei
R Cassiopea

File, 26ff.

R.P.22-35 1893-1908

Notes, diagrams and charts relating to variable star T Cassiopeiae.

With letter, dated 11 March 1908, concerning the abnormal brightness of the star on 25 February 1908, from C. Grover to Professor H.H. Turner and sent on to Professor Pickering (R.P.26).

14 pieces

R.P.36-42

Charts and notes relating to variable star S Cassiopeiae.

File, 7 items

R.P.43-47 1891-1895

Observations of variable star S Persei.

File, 5 items

R.P.48 and 49

2 charts relating to variable stars S and T Persei, one drawn in 1891.

Paper 1f. each

R.P.50 1889

Chart of variable star R Aurigae.

Paper 1f.

R.P.51-62 1889-1912

Diagrams showing the variations of R Aurigae.

12 items

R.P.63/1 and 2 1885-1895

Observations of variable star U Orionis.

File, 6ff. and 1f. detached

R.P.64 1886-1888

Notes relating to T Orionis.

Paper 1f.

R.P.65, 66/1 and 2 1891 and 1892

Charts, notes and table relating to variable star R Lyncis.

3 items, 1f. each

R.P.67-83 1886-1892

Notes, charts and diagrams relating to variable star S Ursae Majoris; including one item relating to Hinds Suspected Variable and one relating to U Orionis.

File, 17 items.

R.P.84 and 85 1886

Notes and chart relating to variable star S Cancr.

2 items, 2ff. each

R.P.86 and 87 Between 1886 and 1890

Notes and chart relating to V Cancr.

2 items, 1f. each

R.P.88-96 Between 1886 and 1894

Observations of T Ursae Majoris.

9 items

R.P.97-102 1889-1900

Diagrams showing the variations of R Camelopardi.

File, 6 items

R.P.103-105 1888

Charts and notes relating to variable star S Coronae.

3 items

R.P.106-111

Notes, charts and diagram relating to S Herculis.

6 items

R.P.112 and 113 1894

Charts relating to Espin's New Variable Star T Draconis.

2 pieces

R.P.114-117

Notes and chart relating to variable star R Cygni.

3 items

R.P.118 and 119 1898

Charts relating to variable star χ Cygni.

2 items

R.P.120-123 Between 1892 and 1894

Observations of variable star S Cygni.

File, 4 items

R.P.124 and 125

Chart relating to variable star T Cephei.

2 pieces

R.P.126 and 127

Charts of variable star S Cephei.

1 piece each

R.P.128-130

Charts and diagram of R Cassiopeiae.

1 piece each

R.P.131

Notes relating to R Geminorum.

Paper 1f.

R.P.132 and 133 1886

Chart and observations relating to R Aquila.

1 piece each

R.P.134 and 135

Charts of Hinds Suspected Variable.

Paper 1f. each

R.P.136 and 137

Charts of the planet Uranus.

Paper 1f. each

R.P.138-140 [c.1903]

Notes and charts relating to Borrelly's Comet.

File, 3 items

R.P.141-147 1892

Notes and chart relating to Nova Aurigae.

File, 5 items

R.P.148

Part of unidentified chart.

1 piece.

R.P.149

Chart of region following ϵ Orionis.

1 piece.

R.P.150 1904

Chart relating to Encke's Comet.

Paper 1f.

R.P.151

Chart relating to $\alpha^1 \alpha^2$ Capricorni.

Paper 1f.

R.P.152

Chart relating to β Orionis (Rigel).

Paper 1f.

R.P.153 and 154

Two unidentified charts, one possibly relating to the planet Uranus.

Paper 1f. each

R.P.155-173 1886-1924

Variable Star Atlas.

Files concerning diagrams showing the variations of long period variable stars.

R.P.155 1886-1890

Diagrams of 24 stars:

T Cassiopeiae
S Cassiopeiae
R Piscium
R Tauri
R Aurigae
U Orionis
R Geminorum
V Cancrī
R Ursae Majoris
T Ursae Majoris
S Ursae Majoris
S Bootis
R Camelopardi
R Bootis
S Coronae
R Serpentis
R Draconis
S Herculis
R Aquilae
R Cygni
χ Cygni
S Cephei
R Pegasi
R Cassiopeiae

With some charts and observations of R Piscium.

File, 50 items

R.P.156 1886-1890

Diagrams of 23 stars.

The list of stars is the same as in R.P.155 except that U Orionis is omitted.

File, 43 items

R.P.156A 1886-1894

Diagrams of 26 stars in a volume titled "Variable Star Atlas Vol. 2" :

R Tauri
R Aurigae
R Geminorum
V Cancrī
R Ursae Majoris
S Bootis
R Camelopardi
R Bootis
S Coronae
R Draconis
R Aquilae
R Cygni
X Cygni
S Cephei
R Pegasi
T Ursae Majoris
S Cassiopeiae
S Ursae Majoris
S Coronae
R Cassiopeiae
S Persei
R Lyncis
T Aurigae
R Ursae Minoris
S Cygni
T Cephei

With inserted: a chart of S Herculis
a list of variable star maxima and minima, comparisons of various
observers 1893
and notes of the space available in vol.I for the various stars.

Paper book, 101ff

R.P.157 1887-1895

Diagrams of 27 stars.

The list of stars is the same as in R.P.155, with the addition of:

S Persei
Nova T Auriga
R Ursae Minoris

Includes notes on χ Cygni (f.26).

File, 29 items

R.P.158 1895-1898

Diagrams of 23 stars:

T Cassiopeiae
S Cassiopeiae
S Persei
R Aurigae
T Aurigae
U Orionis
R Lyncis
R Ursae Majoris
T Ursae Majoris
S Ursae Majoris
S Bootis
R Camelopardi
S Coronae
R Ursae Minoris
R Draconis
S Herculis
T Draconis
R Cygni
S Cygni
χ Cygni
T Cephei
S Cephei
R Cassiopeiae

File, 23 items

R.P.159 1899 and 1900

Diagrams of 25 stars:

T Cassiopeiae

ES 968

U Cancr

S Cassiopeiae

S Persei

R Aurigae

T Aurigae

U Orionis

R Lyncis

R Ursae Majoris

T Ursae Majoris

S Ursae Majoris

S Bootis

R Camelopardi

S Coronae

R Ursae Minoris

R Draconis

S Herculis

T Draconis

R Cygni

X Cygni

S Cygni

T Cephei

S Cephei

R Cassiopeiae

File, 25 items

R.P.160 1901 and 1902

Diagrams of 18 stars:

S Bootis

Nova Persei 1901

R Cassiopeiae

R Cygni

R Ursa Major

R Draconis

T Cephei

S Cassiopeiae

T Camelopardi

R Aurigae

T Cassiopeiae

S Cygni

R Ursae Minoris

S Camelopardi

U Orionis

S Herculis

S Coronae

S Persei

Paper 18ff.

R.P.161 1903 and 1904

Diagrams of 25 stars:

T Cassiopeiae
S Cassiopeiae
S Persei
Nova Persei
T Camelopardi
R Aurigae
S Camelopardi
U Orionis
R Lyncis
R Ursae Majoris
T Ursae Majoris
S Ursae Majoris
S Bootis
R Camelopardi
S Coronae
R Ursae Minoris
R Draconis
T Draconis
R Cygni
S Herculis
X Cygni
S Cygni
T Cephei
S Cephei
R Cassiopeiae

File, 27 items

R.P.162 1905 and 1906

Diagrams of 25 stars.

The list of stars is the same as in R.P.161.

File, 26 items

R.P.163 1907 and 1908

Diagrams of 24 stars.

The list of stars is the same as in R.P.161, with the exception of Nova Persei.

File, 24 items

R.P.164 1909 and 1910

Diagrams of 24 stars.

The list of stars is the same as in R.P.161, with the exception of Nova Persei.

File, 25 items

R.P.165 1911-1916

Diagrams of 24 stars:

T Cassiopeiae
S Cassiopeiae
S Persei
T Camelopardi
R Aurigae
New Star in Gemini
U Orionis
R Lyncis
R Ursae Majoris
T Ursae Majoris
S Ursae Majoris
S Bootis
R Camelopardi
S Coronae
R Draconis
S Herculis
T Draconis
R Cygni
χ Cygni
Nova Tracerta
S Cygni
T Cephei
S Cephei
R Cassiopeiae

File, 66 items

R.P.166 1917-1920

Diagrams of 25 stars:

T Cassiopeiae
S Cassiopeiae
S Persei
T Camelopardi
R Aurigae
U Orionis
R Lyncis
R Ursae Majoris
T Ursae Majoris
S Ursae majoris
S Bootis
R Camelopardi
S Coronae
R Draconis
S Herculis
T Draconis
R Cygni
Es Binn 555
R T Cygni
χ Cygni
S Cygni
T Cephei
S Cephei
R Cassiopeiae
Nova Aquilae

File, 47 items

R.P.167 1921 and 1922

Diagrams of 25 stars:

T Cassiopeiae
S Cassiopeiae
S Persei
T Camelopardi
R Aurigae
U Orionis
R Lyncis
U Cancr
T Ursae Majoris
S Ursae Majoris
S Bootis
R Camelopardi
S Coronae
R Ursae Minoris
R Draconis
S Herculis
T Draconis
R Cygni
R T Cygni
χ Cygni
S Cygni
T Cephei
S Cephei
R Cassiopeiae
R Ursae Majoris

Includes chart of U Cancris (f.8)

File, 26 items

R.P.168 1923 and 1924

Diagrams of 24 stars, (observations carried out at Durham):

T Cassiopeiae
 W Cassiopeiae
 S Cassiopeiae
 O (Mira) Ceti
 S Persei
 T Camelopardi
 V Tauri
 R Aurigae
 U Orionis
 SS Aurigae
 R Lyncis
 U Geminorum
 T Ursae Majoris
 S Ursae Majoris
 S Bootis
 R Camelopardi
 R Ursae Minoris
 T Draconis
 RT Cygni
 X Cygni
 S Cygni
 S Cephei
 R Cassiopeiae
 SS Cygni

File, 24 items

R.P.169 1888-1895

Diagrams of T Ursae majoris.

Paper 5ff.

R.P.170 1917

Diagram of S Herculis.

Paper 1f.

R.P.171 1917

Diagram of S Coronae.

Paper 1f.

R.P.172 1918

Diagram of Nova Aquilae.

Paper 1f.

R.P.173 1886-1889

Unidentified diagrams.

1f. attached to card.

R.P.174 and 175 10 and 12 October 1885

2 Plans containing charts of 57 stars.

Drawn by C.E. Peek.

1 piece each

R.P.176 and 177
S Cassiopeiae chart and table
Paper, 2f

R.P.178
X Cygni table
Paper, 1f

R.P.179
T Camelopardalis table
Paper, 1f

R.P.180 and 181
RT Cygni chart and table
Paper, 2f

R.P.182 and 183
V Vulpeculae chart and table
Paper, 2f

R.P.184 and 185
S Cygni chart and table
Paper, 2f

R.P.186
Small star near S Cassiopeiae chart
Paper, 1f

R.P.187 and 188
T Cassiopeiae chart and table
Paper, 2f

R.P.189 and 190
S Persei chart and table
Paper, 2f

R.P.191 and 192
U Orionis chart and table
Paper, 2f

R.P.193 and 194
R Aurigae chart and table
Paper, 2f

R.P.195
S Ursae Maioris chart
Paper, 1f

R.P.196 and 197
T Cephei chart and table
Paper, 2f

R.P.198 and 199
S Bootis chart and table
Paper, 2f

R.P.200 and 201

S Cephei chart and table

Paper, 2f

R.P.202-204

S Coronae chart with magnitudes of comparisons, chart and table

Paper, 3f

R.P.205 and 206

R Draconis chart and table

Paper, 2f

R.P.207

R Camelopardalis table

Paper, 1f

R.P.208 and 209

S Herculis chart and table

Paper, 2f

R.P.210 and 211

R Cassiopeiae chart and table

Paper, 2f

R.P.212

U Puppis chart

Paper, 1f

R.P.213 and 214

U Cancr chart and table

Paper, 2f

R.P.215 and 216

R Cygni chart and table

Paper, 2f

R.P.217 and 218

R Ursae Maioris chart and table

Paper, 2f

R.P.219

R Leonis chart

Paper, 1f

R.P.220 1890-1894

Chart of a variable star drawn 1890, with observations to 1894.

Paper, 1f

R.P.221 October 2002

Photocopy of Peter Hingley, "A Peek at the Rousdon Observatory, Dorset" *Astronomy & Geophysics* Vol.43 Issue 5 October 2002, p.5.7.

Paper, 1f

Meteorological Records

Volumes

Some of these volumes have been given numbers in the past in the form of a general classmark, M551.5 (428), and a subnumber, Du 1 They have now been renumbered but the old subnumber is included in square brackets with the present number.

M1 23 July 1843 - 31 December 1847

Meteorological Observations.

Observations from 28 September 1845 to 28 January 1846 are on paper sheets, folded and fixed in the back of the book (14ff.).

1 volume

M2 1 January 1848 - 30 April 1850

Meteorological Observations.

1 volume

Ownership history: [Old reference: Du 4]

M3 1850 - 1881

Monthly Summaries: tables and reports.

1 volume

Ownership history: [Old reference: Du 21]

M4 1850 and 1851

Quarterly Summaries.

1 volume

Ownership history: [Old reference: Du 5]

M5 1850 to the first quarter of 1852

Observations of the Barometer and Thermometer, exhibited in curves on 27 plates.

Presented by R.C. Carrington.

1 volume

M6/1-16 1850 - 1960

Meteorological Register:

16 volumes.

M6/1 1 Jan. 1850 - 31 March 1852

Ownership history: [Old reference: Du 22]

M6/2 1 April 1852 - 31 Dec. 1864

Ownership history: [Old reference: Du 6]

M6/3 1865

Ownership history: [Old reference: Du 7]

M6/4 January 1866 - April 1867

Ownership history: [Old reference: Du 8]

M6/5 May 1867 - December 1871

Ownership history: [Old reference: Du 9]

M6/6 January 1872 - January 1873

Ownership history: [Old reference: Du 10]

M6/7 January 1873 - December 1877

Ownership history: [Old reference: Du 11]

M6/8 January 1878 - August 1884

Ownership history: [Old reference: Du 12]

M6/9 [Du 13] September 1884 - April 1894

Ownership history: [Old reference: Du 13]

M6/10 May 1894 - April 1904

Ownership history: [Old reference: Du 14]

M6/11 May 1904 - April 1914

Ownership history: [Old reference: Du 15]

M6/12 May 1914 - April 1924

Ownership history: [Old reference: Du 16]

M6/13 May 1924 - April 1934

Ownership history: [Old reference: Du 17]

M6/14 May 1934 - October 1944

Ownership history: [Old reference: Du 18]

M6/15 November 1944 - August 1954

Ownership history: [Old reference: Du 19]

M6/16 September 1954 - December 1960

Ownership history: [Old reference: Du 20]

M7/1 and 2 1961

Daily Weather Observations, Vol. I.

Copies of monthly returns to the Meteorological Office, 1961.

2 copies.

1 volume each

M7/3 1962

Daily Weather Observations, Vol. II.

Copies of monthly returns to the Meteorological Office, 1962.

1 volume

M8/1-72

Pocket Register for Climatological Observations, 15 April 1923 - 1 September 1999.

Missing: 11 December 1938 - 30 December 1939, 1948, and 6 January 1951 - 5 January 1952.

72 volumes

M9 January 1963 - June 1976

Daily Weather Record.

Remarks and comments.

1 volume

M9a July 1976 - December 1997

Daily Weather Record.

Remarks and comments.

1 volume

Provenance: Accession Misc. 2007/8:5. Found in October 2007 and added to the sequence.

M10 1880-1885

Annual Summaries of Meteorological Results.

1 volume

M11

Table for finding Beaufort's scale for the wind when the velocity in miles is known.

1 card

M12

Table showing Glaisher's corrections for diurnal range.

1 card

Location: Not found May 2010

M13

Visitors' Book.

Begun February 1901.

1 volume

M14

Notes on the work at Durham Observatory, compiled by K.F. Chackett August 1951.

Instructions and advice mainly concerned with the meteorological readings and clock records.

1 exercise book

Ownership history: [Retained at the Observatory]

M15/1-11 1899 - 1934

Daily Weather Observations.

11 Volumes, each stamped: Durham County Council Health Department.

Ownership history: [Retained at the Observatory]

M16/1962-1979 1962 - 1979

Daily Meteorological Observations, comprising (1979) summary of meteorological readings, the year's weather, explanation of tables, tables 1-6 detailing: daily observations and weather, summary of autographic records of winds, summary of monthly maximum and minimum temperatures, summary of monthly temperature readings, summary of monthly weather observations, analysis of deposited matter. Years present: 1962-1964, 1966, 1968-1976, 1978, 1979.

15 printed paper booklets

Ownership history: Formerly: Per Local DUR

See also V.25

Extra Meteorological Records to test the accuracy of Glaisher's tables of diurnal range for this locality, 1 April 1868 - 31 December 1871. Written at the back of book entitled "Corrections for Lost Wires".

Papers

224

Correction tables (?) for the barometer and thermometer, and factors for multiplying the difference of readings of the dry and wet bulbs of Mason's hygrometer.

No date, in Carrington's handwriting?

Paper 1f.

225

Abstract from Meteorological Observations, June to September 1858.

Signed A. Marth.

Stamped by the Board of Trade Meteorological Department, 23 October 1858.

Paper 5ff.

226 5 June - 17 August 1866

Comparison of the registered velocities by the Royal Observatory and Durham Observatory anemometers.

Paper 1f.

227

Table showing the mean monthly temperatures and monthly rainfall observed at Durham Observatory, 1856-1879, compared with the average of 25 years.

Paper 2ff.

228

Table of corrections to be applied each month for the mean of North Shed, the Glaisher Stand, and Greenwich.

Calculated from observations 1869-79.

Signed: G.A. Goldney.

1 piece.

229 July 1898

Certificate of Examination from Kew Observatory in respect of Negretti Zambra thermometers B.1.5688 to 5693.

1 piece on card

230 1 November 1899 - 30 November 1900

Comparison of thermometers on Glaisher's screen with similar ones in Stevenson's.

Pencil note on front: "This is kept inside the fly leaf of the 1894-1904 volume of records G[ordon] M[anley] 1938".

Paper 15ff.

231

Comparison of the amount of cloudy weather at dates separated by an interval: 1865-71 and 1906 - 1912.

Paper 1f.

232

Comparison of the monthly mean temperature for the years 1865-71 and 1906-12 ; with graph.

Paper 1f.

233

Extracts from the records relating to rainfall with months arranged according to the amount of rainfall.

Compiled after 1927.

Paper 1f.

234

Duration of rainfall 1937: table comparing the duration of rainfall at Durham with Billingham, Catterick and Felixkirk (Mount St. John).

Paper 1f.

235

Average monthly rainfall at Durham Observatory from 1931-1939, compared with the average for 1881-1915.

Paper 1f.

236

Mean temperatures at Durham Observatory from 1931-1939, compared with the average for 1881 - 1915.

Paper 1f.

237 and 238

Wearhead Records for Burnhope Reservoir: monthly mean temperatures 1931 - 1939 and monthly rainfall record for the same period.

Sent by R.H. Hall, headmaster of St. John's Chapel Council School, 23 January 1940.

Paper 1f. each

239 5 February 1940

Copy of letter (from Beecroft) to R.H. Hall at West House, Wearhead concerning the averages of rainfall and mean temperatures at Wearhead and Durham.

Paper 1f.

240 15 March 1944

Letter from Thomas Vint, headmaster of Blackhall Mill Council School, commenting on the similarity between his own temperature records and those of Durham; and offering an explanation for the damp cold nights experienced at Blackhall Mill.

Paper 1f.

241-243 March, May and June 1944

Weather reports from Blackhall Mill Council School.

Sent by T. Vint, headmaster, to Beecroft.

Paper 1f. each

244 January 1945

Weather Report from Blackhall Mill Council School.

Sent by T. Vint, headmaster, to Beecroft.

Paper 1f.

245-258 November 1945 - December 1946

Weather Report from Blackhall Mill Council School.

Sent by the headmaster, T. Vint.

14 items, 1f. each

[Article on the weather in Durham in 1947 by E.F. Baxter, written for the Durham County Advertiser. Filed with correspondence No. 906]

[Weather Report from Houghall for January 1948. Filed with correspondence No. 909].

259-262

Monthly Summaries of the Meteorological Readings at Durham University Observatory:

Ownership history: (found among the Readings from Seismograms)

Related material in other DUL collections: *Daily Meteorological Observations* produced annually by the Dept of Geography are available in Durham University Library (for 1962 to 2001) <http://library.dur.ac.uk/record=b1446045~S1>.

259 January 1949
2f

260 January, July, August 1950, June 1952, January 1953 - December 1959
Paper file

261 January 1960 - December 1969
Paper file

262 January 1970 - November 1972
Paper file

263 1953 - 1961, 1971

Annual Summaries of the Meteorological Readings at Durham University Observatory
Paper file

264-267
Cancelled

268

Durham University Observatory, Res Faciendae:

List of daily routine procedures connected with the meteorological readings and the seismograph.

No date.

Paper 1f.

Seismic Records

269/1-16

Readings from seismograms January 1931 to June 1939:

269/1 January to June 1931
Paper 3ff.

269/2 July 1931 to June 1932
Paper 5ff.

269/3 July to December 1932
Paper 3ff.

269/4 January to June 1933
Paper 3ff.

269/5 July to December 1933
Paper 3ff.

269/6 January to June 1934
Paper 2ff.

269/7 July to December 1934
Paper 3ff.

269/8 January to June 1935
Paper 3ff.

269/9 July to December 1935
Paper 4ff.

269/10 January to June 1936
Paper 3ff.

269/11 July to December 1936
Paper 2ff.

269/12 January to June 1937
Paper 2ff.

269/13 July to December 1937
Paper 5ff.

269/14 January to June 1938
Paper 7ff.

269/15 July to December 1938
Paper 7ff.

269/16 January to June 1939
Paper 5ff.

270/1-126

Readings from Seismograms, January 1946 - March 1957:

270/1 January to June 1946
Paper 3ff.

270/2 July to December 1946
Paper 2ff.

270/3 January to June 1947
Paper 2ff.

270/4 July to December 1947
Paper 2ff.

270/5 January 1948
Paper 1f.

270/6 February 1948
Paper 1f.

270/7 March 1948
Paper 1f.

270/8 March 1948

Later and improved readings.

Paper 1f.

270/9 April 1948

Paper 1f.

270/10 May 1948

Paper 1f.

270/11 May 1948

Later and improved readings with two additional readings to the April list.

Paper 2ff.

270/12 June 1948

Paper 1f.

270/13 July 1948

Paper 1f.

270/14 August 1948

Paper 1f.

270/15 September 1948

Paper 1f.

270/16 October 1948

Paper 1f.

270/17 November 1948

Paper 1f.

270/18 December 1948

Paper 1f.

270/19 January 1949

Paper 1f.

270/20 February 1949

Paper 1f.

270/21 March 1949

Paper 1f.

270/22 April 1949

Paper 1f.

270/23 May 1949

Paper 1f.

270/24 June 1949

Paper 1f.

270/25 July 1949

Paper 2ff.

270/26 August 1949

Paper 1f.

270/27 September 1949
Paper 2ff.

270/28 October 1949
Paper 1f.

270/29 November 1949
Paper 1f.

270/30 December 1949
Paper 1f.

270/31 February 1950
Paper 1f.

270/32 March 1950
Paper 1f.

270/33 April 1950
Paper 1f.

270/34 May 1950
Paper 1f.

270/35 June 1950
Paper 1f.

270/36 July 1950
Paper 2ff.

270/37 August 1950
Paper 4ff.

270/38 September 1950
Paper 2ff.

270/39 October 1950
Paper 1f.

270/40 November 1950
Paper 2ff.

270/41 December 1950
Paper 2ff.

270/42 January 1951
Paper 1f.

270/43 February 1951
Paper 1f.

270/44 March 1951
Paper 1f.

270/45 April 1951
Paper 1f.

270/46 May 1951
Paper 2ff.

270/47 June 1951
Paper 1f.

270/48 July 1951
Paper 1f.

270/49 August 1951
Paper 1f.

270/50 September 1951
Paper 1f.

270/51 October 1951
Paper 2ff.

270/52 November 1951
Paper 2ff.

270/53
Revised readings for November 1951.
Paper 2ff.

270/54 December 1951
Paper 1f.

270/55 January 1952
Paper 1f.

270/56 February 1952
Paper 1f.

270/57 March 1952
Paper 2ff.

270/58 April 1952
Paper 1f.

270/59 May 1952
Paper 2ff.

270/60 June 1952
Paper 2ff.

270/61 July 1952
Paper 1f.

270/62 August 1952
Paper 1f.

270/63 September 1952
Paper 1f.

270/64 October 1953
Paper 1f.

270/65 November 1952
Paper 1f.

270/66 December 1952
Paper 1f.

270/67 January 1953
Paper 1f.

270/68 February 1953
Paper 1f.

270/69 March 1953
Paper 1f.

270/70 April 1953
Paper 1f.

270/71 May 1953
Paper 1f.

270/72 June 1953
Paper 1f.

270/73 July 1953
Paper 2ff.

270/74 1-12 August 1953
Paper 1f.

270/75 12-29 August 1953
Paper 1f.

270/76 1-14 Sept 1953
Paper 1f.

270/77 16-30 Sept 1953
Paper 1f.

270/78 October 1953
Paper 2ff.

270/79 November 1953
Paper 2ff.

270/80 December 1953
Paper 2ff.

270/81 January 1954
Paper 1f.

270/82 February 1954
Paper 1f.

270/83 March 1954
Paper 1f.

270/84 April 1954
Paper 1f.

270/85 May 1954
Paper 1f.

270/86 June 1954
Paper 1f.

270/87 July 1954

Paper 2ff.

270/88 August 1954

Paper 2ff.

270/89 September 1954

Paper 2ff.

270/90 October 1954

Paper 1f.

270/91

S. Yorkshire Earthquake of 23 October 1954 .

(issued 5 July 1955)

Paper 1f.

270/92 November 1954

Paper 1f.

270/93 December 1954

Paper 1f.

270/94 January 1955

Paper 1f.

270/95 February 1955

Paper 1f.

270/96 1-27 March 1955

Paper 1f.

270/97 27-31 March 1955

Paper 1f.

270/98 April 1955

Paper 2ff.

270/99 May 1955

Paper 3ff.

270/100 June 1955

Paper 1f.

270/101

Additional readings for June 1955.

Paper 1f.

270/102 July 1955

Paper 2ff.

270/103 August 1955

Paper 1f.

270/104 September 1955

Paper 2ff.

270/105

Corrections and additions to April, August and September lists.

Paper 1f.

- 270/106 October 1955
Paper 1f.
- 270/107 November 1955
Paper 1f.
- 270/108 December 1955
Paper 1f.
- 270/109 January 1956
Paper 1f.
- 270/110 February 1956
Paper 1f.
- 270/111 10 January 1956
Leicestershire-Derbyshire Earthquake.
Paper 1f.
- 270/112 March 1956
Paper 1f.
- 270/113 April 1956
Paper 1f.
- 270/114 May 1956
Paper 1f.
- 270/115 June 1956
Paper 1f.
- 270/116 1-18 July 1956
Paper 1f.
- 270/117 21-30 July 1956
Paper 1f.
- 270/118 Issued 2 August 1956
Corrections and additions to earlier lists in 1956
Paper 1f.
- 270/119 August 1956
Paper 2ff.
- 270/120 Part August and September 1956
Paper 2ff.
- 270/121 October 1956
Paper 3ff.
- 270/122 November 1956
Paper 2ff.
- 270/123 December 1956
Paper 2ff.
- 270/124 January 1957
Paper 2ff.

270/125 February 1957

Paper 2ff.

270/126 March 1957

Paper 4ff.

270A 1963 - 1972

Monthly Seismological Bulletins for Durham University Observatory

270A/1 June 1963 - December 1969

270A/2 January 1970 - March 1972

271

Service Seismologique de l'Observatoire Royal de Belgique:

Liste des Stations seismologiques.

Lists of the seismological stations which replied to a questionnaire of 27 May 1948 and of those which have not yet replied.

Paper 8ff.

272 29 March 1957

Memorandum on the international symbolism used in seismological reports by E.F. Baxter.

Paper 5ff.

273

Instructions regarding the Metol-Hydroquinone Developer.

Paper 1f.

Administrative Records, 1838-1937

V.70

Minute Book of the Curators of the Observatory, 16 June 1840 - June 1852, 8 June 1909 - 12 July 1937.

3 enclosures: *see nos. 203, 875 and 876.*

1 volume

Related material in other DUL collections: For later minutes 1938-1961, see DUL ASC UND/BC6.

V.71 26 November 1930 - 26 November 1937

Minute Book of the Management Committee of the Observatory.

1 volume

274 31 December 1838

Letter from the Revd. Thomas John Hussey of Hayes Court, Kent, to the Bishop of Durham offering his astronomical instruments to the University of Durham for £800; with draft of reply from Temple Chevallier, dated 7 January 1839 requesting more information about the instruments and enquiring whether, as the University's means were limited, he would be willing to sell items separately.

2ff. damaged

275 11 January 1839

Letter from Revd. T.J. Hussey to Prof. Chevallier describing his instruments in detail and suggesting how they could be moved but refusing to part with any items separately.

Paper 4ff.

276 4 February 1839

Letter from Viscount Dungannon (M.P. for Durham) donating £25 towards the purchase of Dr. Hussey's observatory.

Paper 2ff.

277 7 February 1839

Letter from H.J. Spearman of Newton Hall to Chevallier donating £25 to the Observatory and offering a further contribution later in the year if they have difficulty raising the necessary sum.

Paper 2ff.

278 8 February 1839

Letter from Revd. G.S. Faber, Master of Sherburn Hospital, donating £10 to the Observatory and suggesting he contacts the "three Yorkshire Leviathans": Mr. Lawrence, Lord Fitzwilliam and Lord Harewood.

Paper 2ff.

279 8 February (1839)

Letter from Edward Shipperdson of the South Bailey to Chevallier refusing to contribute towards the Observatory.

Paper 2ff.

280 11 February 1839

Letter from Revd. H. Douglas (Rector) of Whickham (canon of Durham Cathedral) to Chevallier promising £10 now and £10 later if he is able; adding that "Mr. Arnold's terms are £105 a year" plus extras. List of subscribers with the amounts subscribed and some additional names and addresses on the back of the letter.

Paper 2ff.

281 11 February 1839

Letter from Revd. T(homas) Gisborne of Yoxall Lodge (Staffs.) (prebendary of Durham Cathedral) to Chevallier donating £50 to the Observatory; expressing satisfaction at Chevallier's approval of "the little book" and mentioning his wife's health.

Paper 2ff.

282 12 February 1839

Letter from the Hon. H.T. Liddell (M.P. for North Durham) to Chevallier donating £10 to the purchase of instruments.

Paper 2ff.

283 12 February 1839

Letter from the Bishop of Chester (John Bird Sumner) donating £20 to the Observatory and saying he would be glad to become acquainted with Mr. Rose if he is ever in London.

Paper 2ff.

284 12 February 1839

Letter from the Bishop of Exeter (Henry Philpotts) to Chevallier wishing success to the proposal to establish an Observatory at Durham but saying that there are too many demands on him in his own diocese to be able to contribute.

Paper 2ff.

285 13 February 1839

Letter from John Pemberton (of Sherburn Hall?) to Chevallier donating £20 to the purchase of Dr. Hussey's astronomical instruments.

Paper 2ff.

286 15 February 1839

Letter from Philip Anderson (ordained deacon at Durham 1839) to Chevallier donating £5 to the Observatory.

Paper 2ff.

287 16 February 1839

Letter from (Charles 2nd) Earl Grey donating £25 towards the purchase of astronomical instruments.

Paper 2ff.

288 16 February 1839

Letter from Robert Ingham of 13, King's Bench Walk (M.P. for South Shields) donating £10 to the Observatory.

Paper 2ff.

289 18 February 1839

Letter from N.J. Hollingsworth, Rector of Boldon, to Chevallier apologising for being unable to contribute to the Observatory.

Paper 2ff.

290 (Received 18 February 1839)

Letter from Revd. T.J. Hussey to Chevallier suggesting that the instruments should be conveyed by collier from the Thames to Sunderland and that he would supervise the packing and travel with them; with advice as to how they should be remounted at Durham.

Paper 2ff.

291 18 February 1839

Letter from the Archbishop of York (Edward Venables Vernon) to Chevallier acknowledging the receipt of the prospectus for the proposed Observatory.

Paper 2ff.

292 20 February 1839

Letter from Sir Matthew White Ridley of Blagdon to Chevallier donating 10 guineas to the Observatory.

Paper 2ff.

293 21 February 1839

Letter from Robert Ingham saying that Dr. Winterbottom of Weston will contribute £10 to the Observatory and hopes that young sailors will be allowed to attend for short periods to gain a more accurate use of such instruments.

Paper 2ff.

294 21 February 1839

Letter from Dr. R(ichard) Prosser of Belmont House (prebendary of Durham Cathedral) to Chevallier donating £50 to the purchase of astronomical instruments.

Paper 2ff.

295 22 February 1839

Letter from Revd. N.J. Hollingsworth (Rector of Boldon) to Chevallier donating £10 to the Observatory.

Paper 2ff.

296 23 February 1839 (post mark)

Letter from R.H. Williamson from Darlington to Chevallier donating £10 to the Observatory.

1½ff.

297 24 February 1839

Letter from H[enry] T[homas] Maire Witham of Lartington to Chevallier sending a donation for the Observatory.

Paper 2ff.

298 25 February 1839

Letter from Matthew Bell from Wimpole St. (M.P. for Northumberland, southern division) to Chevallier saying that there are so many subscriptions in the County which he represents that he is unable to contribute to the Observatory.

Paper 1f.

299 25 February 1839

Letter from Revd. T.J. Hussey to Chevallier urging him to dismiss the architect and employ a good builder and workmen instead; and suggesting that he should come to Durham in March to advise on the arrangement of the instruments and accompany them in April to fix and set them going.

Paper 2ff.

300 25 February 1839

Letter from Sir J.E. Swinburne of Capheaton to Chevallier sending a donation for the scientific objects.

Paper 2ff.

301 26 February 1839

Letter from Revd. Thomas Baker (Rector of) Whitburn to Chevallier concerning a petition to be presented to the House of Commons and donating £5 to the Observatory.

Paper 2ff.

302 27 February 1839

Letter from C(hristopher) Blackett from 30 Pall Mall (M.P. for Northumberland, southern division) to Chevallier saying that his means oblige him to limit his subscriptions to the southern division of Northumberland.

Paper 2ff.

303 27 February 1839

Letter from William Thomas Salvin of Croxdale to Chevallier donating £10 to the Observatory.

Paper 2ff.

304 4 March 1839

Letter from Revd. T.J. Hussey to Chevallier expressing surprise at the restrictions imposed on Chevallier, sending a plan of his own Observatory with measurements, requesting permission to pack the instruments as his family needs the extra space and hoping that the financial details will be settled by the beginning of June.

Paper 2ff.

305 5 March 1839

Letter from Thomas Gibson secretary to the Corporation of Trinity House, Newcastle, to Chevallier informing him that the Board have ordered a donation of 20 guineas to the Observatory.

Paper 1f.

306 8 March 1839

Letter from A.J. Cresswell Baker of Cresswell subscribing £10 towards the Observatory.

Paper 1f.

307 12 March 1839

Letter from the Hon. Sir Charles Edward Grey from 22 Albermarle St. to Chevallier donating £10 to the Observatory.

Paper 2ff.

308 13 March 1839

Letter from George Burdon of Felton Park to Chevallier donating £10 to the Observatory.

Paper 2ff.

309 15 March 1839

Letter from J. Herbert of Trinity House London, to Robert Ingham informing him that the Elder Brethren do not feel that the Corporation's funds can be properly applied to the establishment of an observatory at Durham, but that they wish to contribute £30 from their private funds as the subscription of the "Merchant Elder Brethren of the Trinity House, London".

Paper 2ff.

310 No date

Letter from Robert Ingham (to Chevallier) enclosing the above letter from Mr. Herbert; and explaining the distinction between the funds of Trinity House Corporation, which are intended for destitute seamen and their families, and the private fund which is made up from voluntary contributions and donations.

Paper 2ff.

311 16 March 1839

Letter from Joseph Pease (M.P. for South Durham) to Chevallier saying that, while he approves of the establishment of the Observatory at Durham, the University has placed so many obstacles in his way that his interest in its success has been "neutralised if not destroyed".

Paper 2ff.

312 20 March 1839

Draft reply from Chevallier to Joseph Pease saying that his understanding of the University's Constitution is mistaken; explaining that all persons admitted to an academical degree should be members of the Established Church but that no religious test is imposed on the admission of students or the taking of examinations and that the occasional student can avail himself of courses of lectures citing the example of a student from Ushaw who attends his mathematical lectures.

Paper 4ff.

313 May 1839?

Letter from Revd. T.J. Hussey (to Chevallier) expressing the hope that their friendship will continue and satisfaction that the apparatus has arrived safely; advising him again to employ a builder instead of an architect; thanking him for the payment that has been made and saying that the remainder can be made in any convenient way before 1 June.

Paper 2ff.

314 No date

Specification for building an observatory near Durham, by Anthony Salvin, architect.

Paper 8ff.

315 June 1840

Draft Account relating to the establishment of the Observatory.

Paper 1f.

*[Items relating to Durham Observatory in the Cambridge Observatory Archives (1840-1858) and the Archives of the Royal Astronomical Society (1843-1869)
See Photographs and Photocopies, Fac. 4-6]*

316 15 February 1851

Letter from Robert Main of Greenwich Observatory to R.C. Carrington commenting on the results relating to clock errors.

Paper 2ff.

Ownership history: Found in V.38.

317

Results concerning Clock Errors 18 January - 6 February 1851, supplied to Carrington by Greenwich Observatory.

Paper 1f.

Ownership history: Found in V.33.

318 13 March 1851

Letter from W[illiam] Yolland of the Ordnance Map Office at Southampton to Sir F[rancis] Beaufort concerning the latitude and longitude of Durham Observatory and the Cathedral.

Found in V.33.

Paper 2ff.

319 13 November 1851

Letter from Sir George Airy of Greenwich Observatory to Chevallier giving advice on mounting the telescopes in the German manner.

Found in V.32.

Paper 2ff.

320 13 December 1851

Letter from William Simms of 138, Fleet Street, London, to Chevallier reporting on the condition of the Fraunhofer telescope, and making recommendations for its improvement.

Found in V.32.

Paper 1f.

321 16 December 1852

Draft report of the Observer, William Ellis, to the Curators of the Observatory for the period since April 1852.

Found in V.32.

Paper 6ff.

322 27 May 1853

Report of the Observer, William Ellis, to the Curators of the Observatory.

Found in V.32.

Paper 2ff.

323 23 March 1854

Draft minutes taken at a meeting of the Curators of the Observatory when it was reported that several newly discovered planets had been observed at Durham and that enquiries had been made regarding the acquisition of a new Transit Circle.

Paper 2ff.

324 13 November 1855

Letter from Henry James, Lt. Colonel of the Royal Engineers, from the Ordnance Map Office, Southampton, to Chevallier sending the final results as to the latitude and longitude of the Durham Observatory, and requesting a plan of the Observatory.

Paper 2ff.

325 10 December 1855

Letter from R.C. Carrington at Redhill Observatory, Reigate, to Professor Chevallier concerning his work on the Polar Stars.

Paper 2ff.

326 14 March 1857

Draft Report by the Observer (Albert Marth).

Found in V.32

Paper 1f.

327 (Between September 1873 and March 1874)

Draft letter from John I. Plummer, Observer of Durham Observatory to M. Le Verrier, Director of Paris Observatory, concerning his observations of Comet IV 1873 from Durham between 29 August and 12 September.

Found in V.35.

Paper 2ff.

328 11 May 1874

Letter from Robert Main of the Radcliffe Observatory, Oxford, to Professor Pearce saying that he will mention the vacancy in the position of Observer to one of his assistants.

Paper 2ff.

329 (May 1874)

Letter from F. Bellamy to Pearce applying for the position of Observer at Durham.
Paper 2ff.

330 (May 1874)

Letter from Bellamy to Pearce saying that he could leave his present appointment on 30 June.

Paper 1f.

331 11 May 1874

Letter from W.H.M. Christie of the Royal Observatory, Greenwich, to Professor Pearce recommending Mr. Goldney for the post of Observer at Durham.

Paper 1f.

332 15 May 1874

Letter from Gabriel A. Goldney, applying for the post of Observer at Durham.

Paper 2ff.

333 15 May 1874

Testimonial by Sir George Airy of the Royal Observatory Greenwich recommending Gabriel Goldney for the post of Observer at Durham.

Paper 1f.

334 22 June 1875

Draft Report of the Observer, Gabriel Goldney, to the Curators of the Observatory.

Paper 2ff.

335 December 1880

Circular letter from G.J. Symons of 62 Camden Square requesting a copy of rainfall observations for British Rainfall, 1880 together with order form for publications.

Paper 2ff.

336 8 April 1885

Part of letter from Dr. Scott (formerly head master of Westminster School) to W.C. Lake, Dean of Durham, saying that his brother Robert H. Scott at the Meteorological Office has asked him to write concerning the failure of the Observer at Durham to return an instrument lent to him by the Meteorological Office.

Paper 1f.

337 15 April 1885

Letter from Dean Lake to Professor Pearce enclosing the above letter and saying that the Meteorological Office had better have their instrument back.

Paper 2ff.

338 18 April 1885

Letter from Robert H. Scott of the Meteorological Office, London, to Professor Pearce, complaining of Goldney's negligence: saying that he has sent no sunshine records since July 1883 and that he has failed to return the sunshine recorder lent for this purpose and which they now desire to place elsewhere.

Paper 3ff.

339 25 April (1885?)

Letter from Goldney (to Pearce?) apologising for not having called that morning and saying he will see him early in the week.

Paper 1f.

340 28 April 1885

Copies of two letters from Pearce to Goldney:

- a) a formal letter dismissing him from the post of Observer as from 28 July.
- b) a personal letter urging him to make the best use of the remainder of his time in Durham "so that by regularity and attention you may regain a little of the position you have forfeited by your neglect of duty".

Paper 1f.

341 29 April 1885

Letter from Scott to Pearce saying that the sunshine recorder may remain at Durham if it is attended to, and that he does not know of anyone to recommend for the post of Observer.

Paper 2ff.

342 30 April 1885

Letter from H.J. Carpenter at the Radcliffe Observatory, Oxford, to Professor Pearce requesting details about the position of Observer and commenting on the small salary that is being offered.

Paper 2ff.

343 8 May 1885

Letter from H.J. Carpenter to Professor Pearce applying for the post at Durham with details as to his experience, requesting more information about the house and enquiring whether there would be any objection to a married man.

Paper 2ff.

344 16 May 1885

Letter from Thomas William Backhouse to Professor Pearce, asking permission to consult the *Atlas des nördlichen gestirnten Himmels* by Argelander and its accompanying catalogue if the Observatory has a copy.

Paper 2ff.

345 18 May 1885

Letter from E.J. Stone of the Radcliffe Observatory, Oxford recommending Mr. Carpenter for the post of Observer at Durham and suggesting work which would be suitable for the instruments at Durham.

Paper 2ff.

346 22 May 1885

Letter from H.J. Carpenter to Professor Pearce, concerning his application, commenting on the inadequacy of the instruments at Durham and saying he would not be able to leave his present position until he had completed his work on the reduction of the Transit of Venus observations.

Paper 2ff.

347 29 May 1885

Letter from Carpenter to Pearce accepting the appointment to Durham Observatory and saying that his work at Oxford will be complete by the end of August but that as he had formerly worked with the present Observer at Greenwich he would in the circumstances prefer to delay his arrival in Durham until the other had left.

Paper 2ff.

348 14 July 1885

Letter from Carpenter to Pearce saying he will reply fully to his letter shortly but that he will be glad to keep the housekeeper's services and all other existing arrangements for the time being.

Paper 2ff.

349 17 July 1885

Letter from Goldney to Pearce pledging himself to discharge his duties in "a most scrupulously careful manner" for the remainder of his time at Durham.

Paper 2ff.

350 20 July 1885

Letter from Carpenter to Pearce explaining why he will be unable to come to Durham before the end of September and saying that he is not contemplating marriage at the moment but that he has a family of boys by his first wife, who died 5 or 6 years previously, and that he will be bringing the two eldest to Durham so that he can give more attention to their needs and education.

Paper 4ff.

351 31 August 1885

Letter from Carpenter to Pearce saying he still does not know when he will be able to come to Durham.

Paper 1f.

352 8 September 1885

Letter from Carpenter to Pearce saying that he will be coming on 24 September 1885.

Paper 2ff.

353 22 September 1885

Letter from Carpenter to Pearce confirming his intentions to travel to Durham on 24th September and asking that the housekeeper should be instructed to have a meal ready for him and his two boys.

Paper 2ff.

354 23 September 1885

Letter from Carpenter to Pearce acknowledging that he should go to University College on his arrival.

Paper 2ff.

355 12 October 1885

Letter from Carpenter to Pearce asking how many meteorological forms should be printed.

Paper 2ff.

356 21 December 1885

Letter from Carpenter to Pearce requesting permission to go away for a few days in January and saying he could get Mr. Bellamy of Radcliff Observatory to take charge during his absence.

Paper 2ff.

357 23 March 1886

Letter from Carpenter to Pearce concerning out of pocket expenses, advising that the Northumberland Equatoreal should be dismantled and requesting a letter box as at present the letters are put in the coal cellar and he is afraid one will be lost.
Paper 2ff.

358 22 April 1886

Letter from Carpenter to Pearce proposing to dismantle the Northumberland Equatoreal and store it somewhere dry as it is seldom used.
Paper 1f.

359 23 April 1886

Letter from Carpenter to Pearce saying that he has restored the anemometer to working order and advocating regular cleaning.
Paper 1f.

360 30 April 1886

Letter from T.W. Backhouse to Pearce requesting permission for his assistant to call at the Observatory on 4 May to consult Argelander's charts and catalogues.
Paper 2ff.

361 3 May 1886

Letter from Carpenter to Pearce saying he will give all the assistance he can to Mr. Backhouse's secretary and enquiring about the possibility of an undergraduate taking the readings so that he may go away for a short time.
Paper 1f.

362 5 May 1886

Letter from Carpenter to Pearce commenting on the visit of Mr. Backhouse's assistant, Mr. Keating, whom he had known at Greenwich, and on Keating's request to use the Observatory Library while he is away; expressing satisfaction with the work of the undergraduate who will do the readings while he is away.
Paper 2ff.

363 17 August 1886

Letter from Carpenter to Pearce requesting permission to leave Mr. Bellamy in charge again while he goes away to attend to the affairs of his sister who died recently, and reporting on the state of the instruments.
Paper 2ff.

364 26 August ----

Letter from Mary Ashley of Bath to Professor H.W. Watkins describing in detail the instruments she advertised in the *Pall Mall Gazette*.
Paper 4ff.

365 14 October ----

Letter from Mary Ashley suggesting that Carpenter should come to see her Equatoreal and expressing the hope that Durham will take the instruments as she would like them to go to a public institution where they would be in constant use.
Paper 2ff.

366 23 October ----

Letter from Mary Ashley to accompany a photograph of the telescope and describing some of its features.
Paper 2ff.

367 6 November ----

Letter from Mary Ashley expressing regret that Durham cannot take her telescope, saying that she has written to Haileybury as suggested, and thanking them for their advice.

Paper 2ff.

368 16 March 1889

Letter from Revd. T.E. Espin, Vicar of Tow Law, (to Pearce?) commenting on the efforts to revive the study of astronomy at Durham University, offering to bequeath his instruments at Wolsingham Observatory to the University, and proposing the affiliation of Wolsingham Observatory to the University.

Paper 2ff.

369-371

Envelope containing 3 photographs (of Espin's Observatory at Tow Law?).

1 piece each and envelope

372 12 April 1889

Letter from Espin (to Pearce) saying that he has written to Dr. Plummer about his offer which will be put before Senate on 7 May, reiterating his desire to help in the revival of astronomy at Durham and praising the situation of his Observatory at Tow Law.

Paper 2ff.

373 15 May 1889

Letter from Espin to Professor Pearce, commenting on the proposal to make him an Honorary Observer.

Paper 2ff.

374 15 July 1889

Letter from Espin (to Pearce) requesting an interview with Senate.

Paper 2ff.

375 1890

Report on the condition of the instruments at Durham Observatory, by Sir Howard Grubb?

Paper 6ff.

376 14 February 1890

Estimate from Howard Grubb, Astronomical Instrument Maker, for supplying and fitting instruments to Durham Observatory.

Paper 2ff.

377 15 February 1890

Letter from Sir Howard Grubb to Professor Pearce to accompany his report on the Observatory at Durham and the estimates for replacements.

Paper 1f.

378 25 February 1890

Comments by Espin on the report and estimate of Sir H. Grubb relating to the instruments at Durham Observatory.

Paper 2ff.

379 25 February 1890

Letter from Espin (to Pearce) to accompany his comments on Sir Howard Grubb's report.

Paper 2ff.

380 30 April 1890

Letter from Grubb to Pearce explaining why it was not worth attempting to regrind the object glass and recommending that the telescope be sold as it has a genuine "Dollond" object glass and should fetch a fair price.

Paper 1f.

381 10 May 1890

Letter from Espin (to Pearce) agreeing with Sir Howard Grubb's opinion on the object glass and offering to find a buyer.

Paper 2ff.

382 28 May 1890

Letter from Grubb to Pearce, arguing that little would be saved by retaining the old tube (of the telescope) as its special size would make the fitting of new parts more difficult, and, in any case, he believes it to be in very bad condition.

Paper 1f.

383 28 August 1890

Letter from Grubb to Pearce saying that the object glass is nearly ready and that he is sending his foreman mechanic to Durham to give instructions for packing the mechanical parts of the telescope which are needed at the works to fit the new tube to the Equatoreal.

Paper 1f.

384 16 October 1890

Letter from Carpenter (to Pearce) explaining that an attack of rheumatism prevents him coming to Palace Green but that any instructions he may have will be attended to.

Paper 2ff.

385 20 October 1890

Letter from Carpenter to Pearce to arrange a meeting the next day.

Paper 1f.

386 21 October 1890

Certificate of Dr. J.W. Barron of 10, Old Elvet that Carpenter is suffering from debility following an attack of sub acute rheumatism and is in need of a change of air and rest.

Paper 1f.

387 21 October 1890

Letter from Carpenter (to Pearce) commenting on the enclosed medical certificate.

Paper 1f.

388 22 October 1890

Letter from C.L. Tweedale (to Pearce) saying that he is willing to take the readings for Carpenter while he is away provided his tutor and one of his lecturers are told of the situation.

Paper 1f.

389 12 January 1891

Letter from Carpenter (to Pearce) concerning measurements wanted by Sir Howard Grubb.

Paper 1f.

390 3 June 1891

Letter from Grubb to Pearce concerning the advisability of fitting electric light for the illumination of the telescope rather than the "old oil lamp arrangement".

Paper 2ff.

391 8 June 1891

Letter from Grubb to Pearce confirming the telegram sent the same day recommending that Carpenter should try the old illuminations first and that electric illumination can be fitted at any time.

Paper 1f.

392 13 June 1891

Letter from Grubb to Pearce to accompany account for work done at the Observatory.
1 piece.

393 29 June 1891

Letter from F.E. Ladd (Sir Howard Grubb's secretary) to Professor Pearce saying that in the absence of Sir Howard he has given instructions to have a cover made for the Equatorial.

1 piece.

394 1 July 1891

Letter from Carpenter (to Pearce) expressing satisfaction with the new object glass although it is not possible to test it properly while the nights are so light and asking whether he should write to Sir Howard for a cover for the "Castle" telescope.

Paper 1f.

395 4 July 1891

Letter from Carpenter (to Pearce) saying that the new object glass gives very good definition in the centre but not towards the edge, and that he will try re-centring it as soon as the nights are dark enough.

Paper 2ff.

396 8 July 1891

Letter from Grubb to Pearce concerning adjustments to the object glass.

Paper 1f.

397

"The Construction of Telescopic Object-Glasses for the International Photographic Survey of the Heavens." By Sir Howard Grubb, M.A.I., F.R.S., Hon. Sec., Royal Dublin Society.

The Scientific Transactions of the Royal Dublin Society, Vol. IV (series II) part 8, June 1891.

Inscribed: "With the Author's Compliments".

Pamphlet 6ff.

398 10 July 1891

Letter from Carpenter (to Pearce) informing him of the arrival of a parcel from Dublin which he believes to be the cover for the Northumberland Equatoreal and saying that there is little to report on the instruments.

Paper 1f.

399 13 July 1891

Letter from Carpenter (to Pearce) commenting on Sir Howard's letter (of 8 July 1891) and repeating that he cannot give a definite opinion on the glass until he has been able to test it on a dark night with a steady atmosphere.

Paper 2ff.

400 14 July 1891

Letter from Grubb to Pearce expressing satisfaction that the object glass is giving better results after having been adjusted.

Paper 1f.

401 16 July 1891

Letter from Carpenter (to Pearce) requesting permission to go away for a holiday saying that he will be back before the nights are dark enough to test the object glass, asking what price they would ask for the old telescope and suggesting that the lack of definition may be due to vapour from the varnish used inside the tube.

Paper 2ff.

402 24 July 1891

Letter from Carpenter (to Pearce) saying that he and Mr. Heawood have fitted the cover to the Castle telescope and mounted it.

Paper 1f.

403 28 July 1891

Letter from Carpenter (to Pearce) reporting that the driving clock is now satisfactory and that the object glass showed the companion to Polaris clearly, but that he has doubts as to the stability of the tube.

Paper 1f.

404 12 October 1891

Letter from Grubb to Pearce explaining why the object glass is out of focus at the edges and saying this could only be avoided by having a different type of object glass.

Paper 1f.

405 22 October 1891

Letter from Espin (to Pearce) suggesting several procedures which might improve the performance of the object glass and saying he will be in Durham for Quarter Sessions on Friday and could meet (Professor Pearce?) or Mr. Carpenter for a short time afterwards to discuss the matter.

Paper 2ff.

406 26 October 1891

Letter from Espin (to Pearce) offering to come to Durham next Thursday to look at the object glass.

Paper 2ff.

407 30 October 1891

Letter from Espin to Pearce expressing the opinion, based on information from Carpenter, that the object glass is practically useless and should not be kept.
Paper 2ff.

408 4 December 1891

Letter from Espin to Pearce saying that he will be dining at the College on 15 December and if the night is fine they can look through the telescope afterwards.
Paper 2ff.

409 7 December 1891

Letter from Grubb to Pearce explaining in greater detail the impossibility of modifying the object glass to improve the focal field, emphasising that this type of object glass is the one most widely adopted for the purpose, and saying that it is unfair that this matter, which is out of his control, should hold up the payment of his bill.
Paper 2ff.

410 30 December 1891

Letter from Grubb to Pearce telling him to return the object glass together with the finder tube, and asking Carpenter to measure the focal distance in the tube before removing the glass.
Paper 1f.

411 11 January 1892

Letter from Carpenter (to Pearce) saying that he is enclosing a voucher for the carriage of goods from Dublin, returning Sir Howard Grubb's letter (of 30 December 1891) with comments and mentioning the use of lead to balance the new telescope.
Paper 1f.

412 13 January 1892

Letter from Grubb to Carpenter acknowledging receipt of the measurements of the telescope and asking whether the object glass has been despatched.
Paper 1f.

413 19 January 1892

Letter from Carpenter (to Pearce) saying that he has sent the object glass as requested by Sir Howard Grubb in the enclosed letter (of 13 January 1892) and sending the remaining vouchers for carriage.
Paper 1f.

414 10 February 1892

Letter from Grubb to Pearce re-affirming that the object glass he supplied is exactly the same as all modern object glasses, but that he has discovered that the object glass formerly in use was extremely unusual in that it had been corrected for field in the same way that photographic object glasses had recently been corrected. He believes this to be unique and says he can supply one of the same type but will be obliged to charge for it.
Paper 2ff.

415 13 February 1892

Letter from Carpenter to Espin commenting on the above letter (of 10 February 1892) from Sir Howard Grubb to Professor Pearce; saying that they have a right to expect Sir Howard to supply a better glass and that he has never encountered such a defect in other telescopes.

Paper 2ff.

416 18 February 1892

Letter from Espin to Carpenter agreeing with his view of the object glass, saying that he will shortly be leaving for the south of France and that the spectrum of the Nova is "truly wonderful".

Paper 1f.

417 20 February 1892

Letter from Carpenter (to Pearce) returning the above letters from Sir Howard Grubb and Mr. Espin.

Paper 1f.

418 26 February 1892

Letter from Espin to Pearce saying that he had discussed the object glass with an expert at the Royal Astronomical Society who said that "he had never heard of such a thing" and that Sir Howard should put it right without further expense.

Paper 1f.

419 9 March 1892

Letter from Grubb to Pearce saying that he will be pleased to supply a specially corrected glass but that he will not do so until Professor Pearce withdraws the statement that the one originally supplied was defective, and stating in detail his reasons for believing it was equal to the very best object glasses supplied by any maker.

Paper 3ff.

420 1 April 1892

Letter from Grubb to Pearce saying tht he has examined the three eyepieces sent by Carpenter and finds them very inferior to modern eyepieces; and offering to return the object glass with some modern eyepieces for them to test.

Paper 1f.

421 2 May 1892

Letter from Carpenter (to Pearce) agreeing that there is greatly improved definition with Sir Howard's modern eyepieces but that he has not yet been able to test them fully.

Paper 2ff.

422 19 May 1892

Letter from Espin to Carpenter saying that after having discussed the matter with friends in London he is of the opinion that the curvature of the object glass is such that no eyepiece could correct it, and agreeing that they should have a third opinion.

Paper 2ff.

423 7 June 1892

Letter from Grubb to Pearce saying that he has given instructions for a specially corrected object glass to be made, but that he wishes the other to be referred to some well known astronomer for his opinion.

Paper 1f.

424 17 October 1892

Letter from Grubb to Pearce to say that the new object glass is nearly ready.

Paper 1f.

425 21 November 1892

Letter from Grubb to Carpenter asking him to send the cell from the tube so that the new object glass can be fitted to it.

Paper 1f.

426 29 November 1892

Letter from Carpenter (to Pearce) saying that he has sent the object glass as requested in Sir Howard's letter (of 21 November 1892), mentioning that the stairs (at the Observatory) need planing, and reporting damage to the stand of the Solar Radiation Thermometer caused by the gale of the previous night when the anemometer recorded a wind speed of 75 m.p.h.

Paper 2ff.

427 1 February 1893

Letter from Carpenter (to Pearce) on matters concerning the eyepieces and repairs to the anemometer.

Paper 2ff.

428 4 April 1893

Letter from Carpenter (to Pearce) reporting on the work of the Observatory (viz.): meteorological observations, observations with the new object glass, attending to visitors and correspondence.

Paper 2ff.

429 8 March 1895

Letter from Carpenter (to Pearce) commenting on his report on observations with the Transit Circle in 1894 for the Curators.

Paper 2ff.

430/1-28

Bundle of bills and receipts for 1891/92 : for rates, repairs, salaries and wages, gas, carriage by rail etc.

28 items

431/1-12

Bundle of bills and receipts for 1892 :
for rates, repairs, salaries and wages, books etc.

12 items

432/1-20

Bundle of bills and receipts for 1892/93 :
for rates, repairs, salary and wages, books etc.

Including:

20 items

432/6 19 December 1892

Bill from Negretti and Zambra, opticians and instrument makers of Holborn Viaduct, London, for repairs to Robinson's Anemometer and supplying a new cog and worm wheel.

433/1-25

Bundle of bills and receipts for 1893 :

for rates, repairs, coal, salary and wages, gas, books etc..

Including:

433/25 6 March 1893

Receipt, by Sir Howard Grubb for £37.19.0d.

25 items

434/1-18

Bundle of bills and receipts for 1893/94 :

for rates, repairs, salary and wages, coal, gas, books etc..

Including:

18 items

434/3 27 January 1894

Bill from Negretti and Zambra for a black bulb solar radiation thermometer.

435/1-11

Bundle of bills and receipts for 1894 :

for rates, books, salary and wages etc.

11 items

436/1-16

Bundle of bills and receipts for 1894/95 : for rates, repairs, salary and wages, books, coal, gas etc.

16 items

437 9 January 1896

Letter from Sir Gainsford Bruce to Professor Pearce informing him that Carpenter is very anxious to have a new Transit Circle telescope so that the Observatory might join in the international undertaking to produce an accurate star chart; and suggesting that the sum of £500 could be raised by a public appeal.

Paper 2ff.

438 21 January 1896

Letter from Professor Pearce (now Vicar of Bedlington) to Professor Sampson enclosing the above letter from Sir Gainsford Bruce and hoping that Sampson will be able to take up its suggestions after satisfying himself as to both the enthusiasm and the competence of the Observer to use a new instrument; enclosing two cheques and reminding him that Mr. Beanlands has to pay £35 every 6 months.

Paper 4ff.

439 4 February 1896

Letter from Professor Herbert Hall Turner of the University Observatory, Oxford, to Professor Sampson suggesting several areas of research which could be carried out at Durham without the expense of purchasing new instruments, and congratulating him on his marriage.

Paper 3ff.

440 9 February 1896

Letter from Turner to Sampson recommending that he make the most of the opportunity to increase the instruments at Durham by acquiring an Almucantar and outlining its advantages.

Paper 2ff.

441 14 February 1896

Copy of letter from Professor Sampson to Sir Gainsford Bruce inviting him to join the Board for raising money for the new instrument, and describing the advantages of the almucantar.

Paper 4ff.

442 19 February 1896

Letter from W.T. Jones, architect in the University Office of Works, to Sampson, estimating the cost of repairing and painting the Observatory at between £12 and £15.

Paper 2ff.

443 20 February 1896

Letter from Sir Gainsford Bruce to Sampson expressing confidence in Turner's advice concerning the almucantar and in the ability of Sampson and Espin to come to the right decision; declining the invitation to join the Board as he would seldom be able to attend meetings; recommending Cook of York as maker in preference to Sir Howard Grubb, and assuring him that he need not return the 17th volume of the *Harvard Annals* to the library of the R.A.S. as he has acquired a copy elsewhere.

Paper 4ff.

444 25 February (1896)

Letter from Andrew Ainslie Common of 63, Eaton Rise, Ealing, to Professor Sampson recommending that he should acquire an Almucantar for Durham Observatory.

Paper 2ff.

445-447 4 March 1896

Letter from Common to Turner saying that he does not like the sketch of the modification suggested by Chandler but has made one of his own; and asking him to send them on to Sampson.

Attached: 2 sketches for an Almucantar.

3 pieces

448 4 March (1896)

Letter from Common to Sampson saying they can discuss the new form of Almucantar with Sir Gainsford Bruce at the R.A.S. Club on the 13th, that he does not like (Chandler's) sketch but has made another and sent both to Turner for his opinion.

Paper 2ff.

449 5 March 1896

Letter from Turner to Sampson praising Common's version of the Almucantar and suggesting they should meet with Sir Gainsford Bruce and Common at the R.A.S. Club on 13 March.

Paper 1f.

450 5 March 1896

Estimate from the Mathematical Instrument Works, Charlton, for a Transit Circle with 6" object glass.

Paper 6ff.

451 13 April 1896

Letter from Wilbur V. Brown, Professor of Mathematics and Astronomy, De Pauw University, McKim Observatory (Indiana, U.S.A.), to Sampson, giving detailed advice on the construction of an Almucantar based on his own experience with Dr. Chandler's instrument; with envelope.

Paper 3ff.

452 14 April 1896

Letter from Charles H. Rockwell of Tarrington, New York, to Sampson, praising the Almucantar which he has been using since 1884 and enclosing some of the results obtained with it; with envelope.

Paper 3ff.

453 22 August 1896

Letter from Sir Gainsford Bruce to Sampson informing him that Lord Armstrong will not subscribe to the Almucantar but that he believes the High Sheriffs of Northumberland and Durham will both contribute and suggesting that Sampson should write to them.

Paper 2ff.

454 No date

Copy of letter from Sampson (to a subscriber) thanking him for the promise of £10 towards the cost of the Almucantar.

Paper 1f.

455 28 October 1896

Letter from Bryan Cookson of Oakwood, Wylam, Northumberland, to Sampson saying he cannot send a donation until the end of the year as he has just left Oxford and has many bills to pay; expressing pleasure at the scheme to obtain an Almucantar.

Paper 2ff.

456 1 November 1896

Letter from Andrew Ainslie Common to Sampson saying he will make a mirror as his contribution to the instrument.

Paper 2ff.

457 8 November 1896

Letter from George William Kitchin, Dean of Durham, to Sampson saying that the Chapter have recommended a vote of £50 towards the Almucantar.

1 piece.

458 20 November 1896

Letter from Dean Kitchin to Sampson informing him that the Chapter have confirmed the vote of £50 towards the Almucantar and promising £10 from himself.

Paper 2ff.

459 23 November 1896

Letter from Professor Pearce to Sampson expressing regrets that he is unable to contribute to the new telescope now that his income is much diminished, but wishing him every success.

Paper 2ff.

460 4 December 1896

Letter from Dr. George Hare Philipson, of 7, Eldon Square, Newcastle, to Sampson promising £5 towards the telescope.

Paper 2ff.

461 6 December 1896

Letter from Sir Gainsford Bruce to Sampson concerning the subscription list and hoping that by February they will have been able to start on the manufacture of the instrument.

Paper 1f.

462 25 January (1897?)

Letter from Mary Newall to Sampson promising him £10 for the telescope and enquiring after his wife and children.

Paper 2ff.

463 30 January 1897

Card from T.W. Backhouse of West Hendon House, Sunderland, contributing £3.3.0. to the telescope.

1 post card

464 28 April 1897

Letter from W. Greenwell (Rev. Dr. William Greenwell, rector of St. Mary's in the S. Bailey) suggesting that the degree of Master of Science should be conferred on the Observer in recognition of his long service to the Observatory.

Paper 2ff.

465 7 May 1897

Letter from Sir Gainsford Bruce to Sampson recommending that the instrument should be ordered as there are bound to be delays in its construction and saying he will be unable to come to Durham for some time.

Paper 2ff.

466 31 May 1897

Letter from Carpenter to Professor Sampson giving details as to his work and experience prior to coming to Durham.

Paper 2ff.

467 12 October 1897

Report by H.J. Carpenter concerning problems with the water supply since 29 June.

Paper 1f.

468 2 December 1897

Letter from David Drummond of 6 Saville Place, Newcastle, to Sampson contributing £5 to the telescope.

Paper 1f.

469 17 December 1897

Letter from John Theodore Merz of The Quarries, Newcastle, to Sampson enclosing his contribution of £50 to the Almucantar.

Paper 1f.

470 24 December 1897

Letter from B. Noble of Westmorland House, Low Fell, Gateshead to W. Charlton Esq. enclosing £5 for the telescope.

Paper 1f.

471 29 January 1898

Letter from Col. Lancelot Allgood Gregson of Burdon Hall, Sunderland, declaring his intention of donating £10 to the telescope on condition that the University makes an effort to provide the remaining sum.

Paper 2ff.

472 and 473 5 October 1898

Estimate by T. Cooke and Sons Ltd. of York for supplying a 6" Telescope for the Transit Instrument; sent with covering letter by Alfred Taylor, Managing Director, to Sampson.

2ff. and 1f.

474 5 October 1898

Tracing of Proposed Transit Apparatus by T. Cooke and Sons Ltd.

1 piece.

475 8 October 1898

Letter from Alfred Taylor of T. Cooke and Sons, Ltd., to Sampson to enclose a drawing of a dividing-engine stand; with comments on its construction.

Paper 2ff.

476

Tracing of proposed telescope base (preliminary sketch).

1 piece.

477

"View looking on underside of Trough": drawing similar to the above tracing.

1 piece.

478 25 October 1898

Letter from Alfred Taylor to Sampson saying that, in addition to the parts specified in the estimate of 5 October, T. Cooke and Sons Ltd. could supply the float, trough and stand as shown in the drawing for £110.

Paper 1f.

479 1 November 1898

Letter from R. Watt of Elswick Shipyard to Sampson recommending that he should employ Cooke and Sons, although their price is high and they should be asked to reduce it.

Paper 1f.

480 11 November 1898

Letter from Alfred Taylor of T. Cooke and Sons, Ltd., to Sampson concerning measurements of the float.

Paper 1f.

481 18 November 1898

Letter from Horace Darwin, of the Cambridge Scientific Instrument Co., to Sampson concerning the possibility of making a Printing Chronograph.

Paper 1f.

482 30 December 1898

Letter from T. Cooke of Cooke and Sons Ltd. to Sampson regretting that they are unable to obtain iridium and suggesting that they use best hardened steel instead.

Paper 1f.

483 11 January 1899

Letter from Horace Darwin of the Cambridge Scientific Instrument Company, Ltd., to Sampson to arrange a meeting for discussing the Chronograph.

Paper 1f.

484 11 January 1899

Letter from Horace Darwin to Sampson suggesting that the Cambridge Instrument Co. should order the Chronograph for him from Mr. Kandler of Chicago; this would enable them to examine the instrument and then make others for the English market if they are required.

Paper 1f.

485 11 January 1899

Letter from Bryan Cookson of Oakwood House, Wylam, Northumberland, to Sampson concerning the price of mercury and saying that his father can supply it in 75 lb iron pots.

Paper 2ff.

486 13 January 1899

Letter from Horace Darwin of the Cambridge Scientific Instrument Company, Ltd., to Sampson informing him that they are writing to Mr. Kandler about the Chronograph.

Paper 1f.

487 9 February 1899

Letter from Robert S. Whipple of the Cambridge Scientific Instrument Company Ltd. to Sampson informing him that Mr. Kandler can supply the Hough's Chronograph for £93.15.0 excluding carriage; and enquiring whether he has any questions about the apparatus before he communicates with Kandler again.

Paper 1f.

488 15 February 1899

Letter from the Cambridge Scientific Instrument Company, Ltd., to Sampson informing him that they have asked Mr. Kandler how long it will take him to deliver the instrument.

Paper 1f.

489 20 February 1899

Letter from Horace Darwin of Cambridge Scientific Instrument Company, Ltd., to Sampson concerning the finish on Kandler's version of Hough's Chronograph and his standing as an instrument maker; quoting from Kandler's letter of 27 January and their reply of 15 February.

Paper 2ff.

490 22 February 1899

Letter from Professor Hubert Hall Turner of the University Observatory, Oxford, to Sampson wishing him well in the work on Jupiter's Satellites, recommending a Kullberg clock but suggesting he should contact Mr. T. Lewis, superintendant of the Time department, through the Astronomer Royal for more details; and advising that an Observer should be required to work a set number of hours to a regular pattern regardless of the weather, with a description of the observing routine at Greenwich. Paper 3ff.

491 28 February 1899

Letter from Horace Darwin of The Cambridge Scientific Instrument Company, Ltd., to Sampson informing him that Kandler can complete the Chronograph in eight weeks and enquiring whether they should wire him to proceed.

Paper 1f.

492 4 March 1899

Letter from V. Kullberg chronometer and watch manufacturer of London, to Sampson informing him that he can supply a sidereal regulator and a clock in one year for £90 and £50 respectively.

Paper 1f.

493 March (1899)

Letter from V. Kullberg to Sampson with further details about the clocks.

Paper 1f.

494 14 March 1899

Letter from Andrew Ainslie Common to Sampson advising him on the construction of a sliding roof.

Paper 1f.

495 16 March 1899

Letter from Alfred Taylor, managing director of T. Cooke and Sons, Ltd., of York, to Sampson asking for particulars of the cell for the mirror of the Almucantar.

Paper 1f.

496 17 March 1899

Letter from Professor Hubert Hall Turner of the University Observatory, Oxford, to Sampson concerning Carpenter's resignation and strongly recommending the appointment of Carpenter's son, at present working for Turner, in preference to someone from Greenwich.

Paper 6ff.

497 22 March 1899

Letter from Andrew Ainslie Common to Sampson enquiring about the size of the cell for the float.

Paper 1f.

498 6 April 1899

Letter from V. Kullberg to Sampson accepting his order for a best quality Sidereal Clock.

Paper 1f.

499 18 April 1899

Letter from Alfred Taylor of T. Cooke and Sons to Sampson saying that he is enclosing a sun-print of the proposed cell for the mirror and asking how far apart the spider lines should be.

Paper 1f.

500 20 April 1899

Letter from Alfred Taylor of T. Cooke and Sons to Sampson concerning the field of view and lateral support for the mirror.

Paper 1f.

501 28 April 1899

Letter from Andrew Ainslie Common to Sampson asking whether Cooke could use a round mirror instead of a square one which would be very difficult to work.

Paper 1f.

502 6 May 1899

Letter from T. Cooke, of T. Cooke and Sons, to Sampson saying that they have not yet made any castings and suggesting how the designs can be altered to suit a circular mirror.

Paper 1f.

503 May 1899

Drawing of mounting for object glass and mirror on the Almucantar by T. Cooke and Sons Ltd.

1 piece.

504 12 June 1899

Letter from Alfred Taylor of T. Cooke and Sons, Ltd., to Sampson pointing out that they cannot proceed any further with the Almucantar until he has decided on the mounting for the mirror.

Paper 1f.

505 13 June 1899

Letter from Professor Hubert Hall Turner of the University Observatory, Oxford, to Sampson making several suggestions for improving the eyepiece of the Almucantar and mentioning the marriage of H.A.L. Fisher.

Paper 2ff.

506 16 June 1899

Letter from Andrew Ainslie Common to Sampson agreeing to Cooke's suggestions.

Paper 1f.

507 20 June 1899

Letter from Alfred Taylor of T. Cooke and Sons Ltd., to Sampson informing him that they are proceeding with the mirror cell.

Paper 1f.

508-513

"Description of the Durham Almucantar", by Professor R.A. Sampson
Monthly Notices of the Royal Astronomical Society, Vol. LX. No.9. (June 1900).

6 copies. (Another copy: see 27A)

pamphlets 6

514-520

File relating to building and repair work at the Observatory:

514

Summary of accounts

Paper 1f.

515-519

5 certificates by the architect W.T. Jones, dated 7 August 1900, as to payments due for work on the erection of the small observatory (Almucantar House) to J. Askew joiner, J.G. Pearson, Messrs. Caldcleugh Bros., William Hodgson and Laidler and son.

1 piece each

520

Summary of Accounts, dated 7 August 1900.

Paper 2ff.

521-524

4 Accounts by John Askew joiner of 44, North Bailey, Durham, for work at the old Observatory from September 1899 to February 1900.

All settled 12 November 1900.

1 piece each

525-527

3 Accounts by John Askew for work at the new Observatory (Almucantar House) from June 1899 to February 1900.

All settled 12 November 1900.

1 piece each

528

Account of W.T. Blakey, slater, for work done on the old Observatory roof, October 1899.

Settled 12 November 1900.

1 piece.

529-533

4 Accounts and 1 receipt by Caldcleugh Bros., ironmongers, for work on both Observatories between August 1899 and March 1900.

All settled 12 November 1900 .

1 piece each

534

Account by Frances Gibson, mason and builder for work on the Observatory September 1899.

Settled 15 November 1900.

1 piece.

535-537

2 Accounts by William Hodgson for work at the old Observatory, October 1899.

Settled 12 November 1900.

1 piece each

538-540

3 Accounts by William Hodgson for work on the new Observatory between September 1899 and March 1900.

Settled 12 November 1900.

Paper 1f. each

541 and 542

2 Accounts by James Laidler for work at the old Observatory, between July and October 1899.

Settled 12 November 1900.

1 piece each

543 and 544

2 Accounts by James Laidler, plumber, for work on the new Observatory, June to November 1899.

Settled 12 November 1900.

1 piece each

545-547

3 Accounts by J.G. Pearson, Whitesmith and Cutler, of 20, Silver St., for work on the new Observatory, August 1899 - February 1900.

Settled 12 November 1900 .

1 piece each

548-550

3 Accounts by J.G. Pearson for work on both Observatories, September 1899 to August 1900.

Settled 12 November 1900.

1 piece each

551 31 October 1899

Bill for a Solar Thermometer from the Meteorological office.

Settled 12 November 1900.

Paper 1f.

552 12 November 1900

Receipt by W.T. Jones for £9.6.0 for professional charges for Plans etc. for the new Observatory.

1 piece.

553

Observatory Gas Bill for quarter ending 30 September 1900.

Settled 12 November 1900.

1 piece.

554

Observatory Account for year ending 30 June 1903 .

Paper 1f.

555 and 556

Observatory Account for the year ending 30 June 1903.

Printed 2 copies. 1f. each

557 and 558

Observatory Account for the year ending 30 June 1904.

Printed 2 copies. 1f. each

559-566

File of papers relating to Professor Sampson's deposit account with the University,
22 October 1902 - 22 June 1904 :

3 receipts and 3 letters from the Treasurer F.W. Kitson.

Account for year ending June 1904.

Draft account in respect of a grant for £100, December 1903.

8 items, 1 piece each

567-575

3 Receipts in respect of computing done on Jupiter's satellites by B. Callendar and
his assistant Crelle, dated 28 December 1903, 16 March 1904, and 25 June 1904
; with accounts of hours worked.

3 files containing 3, 4 and 2 items respectively

576

Observatory Account for the year ending 30 June 1905.

Paper 2ff.

577 and 578

Observatory Account for the year ending 30 June 1905.

Printed 2 copies. 1f. each

579-588

File of ten receipts by F.C.H. Carpenter for payments made by Professor Sampson
in respect of computations on Jupiter's satellites between December 1903 and
October 1905.

Paper 1f. each

589-592

File of four receipts by F.C.H. Carpenter for payments made by Professor Sampson
in respect of computations on Jupiter's satellites between January and June 1905.

Paper 1f. each

593 16 November 1905

Letter from Evan MacGregor of the Admiralty to Professor Sampson thanking him
for his assistance to the Astronomer Royal which contributed to the success of the
Expedition to observe the recent solar eclipse.

Paper 2ff.

594 7 January 1906

Draft Report to the Grant Committee on progress in the work preparatory to
constructing tables of Jupiter's Satellites, saying that the calculating machine
purchased from the previous year's grant has been indispensable.

Paper 1f.

595

Observatory Account for year ending 30 June 1906 .

Paper 1f.

596 and 597

Observatory Account for the year ending 30 June 1906.

Printed 2 copies. 1f. each

598 and 599

Observatory Account for the year ending 30 June 1907.

Printed 2 copies. 1f. each

600 and 601

Observatory Account for the year ending 30 June 1908.

Printed 2 copies. 1f. each

602 and 603

Observatory Account for the year ending 30 June 1909.

Printed 2 copies. 1f. each

604 14 January 1910

Letter from the Clerk to the Government Grant Committee at the Royal Society to Professor Sampson agreeing that the calculating machine should be retained by the University of Durham Observatory.

Paper 1f.

605 and 606

Observatory Account for the year ending 30 June 1910.

2 copies. 1f. each

607

Receipt by F.C.H. Carpenter in respect of computations on Jupiter's Satellites between April and June 1910 .

Paper 1f.

608 17 October 1910

Letter from Frederick Kitson, University Treasurer, to Sampson giving a statement of the Observatory Account for the year ending 30 June 1910.

Paper 1f.

609

Slip of paper containing two addresses for J.E. Gore Esq.:

Beltra, Ballisodare, Sligo, Ireland.

Heileybury College, Hartford.

1 piece.

610 and 611 No date

Part of letter from Sampson requesting advice as to the number of tallies necessary; with drawing.

Paper 1f. each

612-667 September 1910 - July 1911

Letters acknowledging the receipt of copies of *Tables of the Four Great Satellites of Jupiter* and *Note on an erroneous formula employed in the Tables ...* by Professor R.A. Sampson:

612 7 September 1910

Warsaw Observatory

1 card

- 613 10 September 1910
Leiden Observatory
1 card
- 614 21 September 1910
John Theo. Merzletter
Paper 4ff.
- 615 21 September 1910
University Library, Aberdeen
Paper 1f.
- 616 21 September 1910
Armstrong College, Newcastle
Paper 1f.
- 617 21 September 1910
Imperial College, London
Paper 1f.
- 618 23 September 1910
Royal Society, London
Card
- 619 24 September 1910
Manchester University
2 pieces
- 620 26 September 1910
Leiden
Card
- 621 26 September 1910
Pic du Midi Observatory, France
Card
- 622 29 September 1910
Herzogliche Sternwarte, Gotha
Paper 2ff.
- 623 3 October 1910
Madrid Observatory
Card
- 624 7 October 1910
Royal Dublin Society
Paper 2ff.
- 625 11 October 1910
University Observatory, Kristiania, Norway
Card
- 626 11 October 1910
Bureau des Longitudes, Paris
Paper 1f.

- 627 13 October 1910
British Astronomical Association
Card
- 628 15 October 1910
Lowell Observatory, Arizona
Card
- 629 17 October 1910
Kasan Observatory, Russia (request for a copy)
Card
- 630 18 October 1910
Paris Observatory
Card
- 631 30 November 1910
Windsor Observatory, New South Wales
Paper 1f.
- 632 9 February 1911
Imperial College, London
Card
- 633 9 February 1911
Glasgow University Library
Paper 1f.
- 634 10 February 1911
Radcliffe Observatory, Oxford
Card
- 635 10 February 1911
Central bureau der Internationalen Erdmessung, Potsdam
Card
- 636 11 February 1911
Leyden Observatory
Card
- 637 11 February 1911
Jena University Observatory
Card
- 638 11 February 1911
Royal Observatory, Belgium
Paper 1f.
- 639 12 February 1911
Nice Observatory, University of Paris
Paper 1f.
- 640 31 January/13 February 1911
Imperial Academy, St. Petersburg
Card

- 641 13 February 1911
Upsala Observatory
Paper 2ff.
- 642 14 February 1911
Stonghurst College, Blackburn
Card
- 643 16 February 1911
Vatican Observatory
Paper 2ff.
- 644 19 February 1911
Leander McCormick Observatory, U.S.A.
Paper 1f.
- 645 19 February 1911
K.K. Sternwarte, Prague
Card
- 646 19 February 1911
Dearborn Observatory, Evanston, U.S.A.
Card
- 647 20 February 1911
Yerkes Observatory, Chicago University
Card
- 648 and 649 20 February 1911
Harvard Observatory, Cambridge, Mass.
2ff each.
- 650 21 February 1911
K.K. Maritimes Observatory, Trieste
Card
- 651 23 February 1911
National Observatory, Mexico
Card
- 652 23 February 1911
University Observatory, Kristiania, Norway
Card
- 653 6 March 1911
McGill University Library, Montreal
Card
- 654 6 March 1911
National Observatory, La Plata
Paper 1f.
- 655 10 March 1911
Allegheny Observatory, Pittsburgh, Pennsylvania, U.S.A.
Card

656 13 March 1911
Tokyo Astronomical Observatory
Card

657 14 March 1911
Princeton University Observatory
Card

658 23 March 1911
Melbourne Observatory, Australia
Paper 1f.

659 30 March 1911
Lund Observatory, Sweden
Card

660 1 April 1911
Students' Observatory, University of California
Card

661 8 April 1911
Laws Observatory, University of Missouri
Paper 1f.

662 14 April 1911
Yerkes Observatory, University of Chicago
letter

663 15 April 1911
Observatory of Catania, Italy
Card

664 25 April 1911
Windsor, N.S. Wales
Card

665 29 April 1911
Königstuhl-Sternwarte, Heidelberg
Card

666 21 July 1911
Adelaide Observatory, S. Australia
Card

667 No date
Astronomical Observatory, Madrid
letter

668-826 1910 and 1911
Letters acknowledging the receipt of copies of the *Tables of the Four Great Satellites of Jupiter* on printed forms which were numbered and sent with the publication.

668 13 October 1910
No. 2. Allegheny Observatory.
Paper 1f.

- 669 17 October 1910
3. Amherst College Observatory.
Paper 1f.
- 670 12 October 1910
5. John Hopkins University, Baltimore.
Paper 1f.
- 671 16 October 1910
6. Students' Observatory, University of Californi.
Paper 1f.
- 672 18 October 1910
7. Indiana University Library for Kirkwood Observator.
Paper 1f.
- 673 19 October 1910
8. Harvard College Observatory.
Paper 1f.
- 674 14 October 1910
9. Leander McCormick Observatory.
Paper 1f.
- 675 13 October 1910
10. Case Observatory, Cleveland, Ohio.
Paper 1f.
- 676 27 October 1910
11. Western Reserve University, Cleveland, Ohio.
Paper 1f.
- 677 29 October 1910
12. Laws Observatory, Columbia, Missouri.
Paper 1f.
- 678 15 October 1910
13. Chamberlin Observatory, Colorado.
Paper 1f.
- 679 13 October 1910
14. Dearborn Observatory, Evanston, Ill., U.S.A.,.
Paper 1f.
- 680 17 November 1910
15. Lowell Observatory, Flagstaff, Arizona.
Paper 1f.
- 681 14 October 1910
16. Washborn Observatory, University of Wisconsin,.
Paper 1f.
- 682 15 October 1910
17. Naval Observatory, Mare Island, California,.
Paper 1f.

- 683 20 February 1910
18. University of Minnesota Observatory.
Paper 1f.
- 684 16 October 1910
19. Lick Observatory.
Paper 1f.
- 685 14 October 1910
20. Cincinnati Observatory.
Paper 1f.
- 686 17 October 1910
21. Mount Wilson Solar Observatory, Pasadena, California.
Paper 1f.
- 687 2 January 1911
22. Yale University Observatory.
Paper 1f.
- 688 no date
23. Astronomical Observatory, Columbia, N. York.
Paper 1f.
- 689 12 October 1910
No.25. Vassar College Observatory.
Paper 1f.
- 690 17 October 1910
26. Princeton University Observatory.
Paper 1f.
- 691 1 December 1910
27. U.S. Naval Observatory, Washington D.C..
Paper 1f.
- 692 17 October 1910
28. Smithsonian Institution, Astrophysical Observatory, Washington.
Paper 1f.
- 693 13 October 1910
29. Yerkes Observatory, University of Chicago.
Paper 1f.
- 694 9 December 1910
30. Observatory, Adelaide S.A..
Paper 1f.
- 695 10 October 1910
31. Observatory of Algeria.
Paper 1f.
- 696 6 October 1910
32. Osservatorio Arcetri, Florence.
Paper 1f.

- 697 24 September 1910
33. Observatory, Armagh.
Paper 1f.
- 698 13 October 1910
34. Observatoire Fabra, Barcelona.
Paper 1f.
- 699 28 September 1910
35. Königlichen Sternwarte, Berlin.
Paper 1f.
- 700 30 September 1910
36. Astronomisches Rechen-Institut, Berlin.
Paper 1f.
- 701 26 September 1910
37. Observatoire, Besançon.
Paper 1f.
- 702 17 December 1910
38. National Observatory of Bogotá, Republic of Columbia, S. America.
Paper 1f.
- 703 no date
39. Königlichen Sternwarte, Bonn.
Paper 1f.
- 704 27 September 1910
40. Königlichen Universitäts Sternwarte, Breslau.
Paper 1f.
- 705 10 October 1910
42. Royal Observatory Catania, Sicily.
Paper 1f.
- 706 28 September 1910
44. University Observatory, Copenhagen.
Paper 1f.
- 707 28 November 1910
45. National Observatory, Córdoba.
Paper 1f.
- 708 28 September 1910
46. K.K. Sternwarte, Krakow.
Paper 1f.
- 709 9 November 1910
47. G.T. Survey of India Library, Dehra Dun (India).
Paper 1f.
- 710 Ireland, November 1910
48. Dunsink Observatory, Castle Knock.
Paper 1f.

- 711 29 October 1910
49. Government Astronomer, Natal Observatory.
Paper 1f.
- 712 22 September 1910
50. Royal Observatory, Edinburgh.
Paper 1f.
- 713 26 September 1910
51. Bordeaux Observatory.
Paper 1f.
- 714 20 November 1910
52. Geneva Observatory.
Paper 1f.
- 715 21 September 1910
53. Glasgow Observatory.
Paper 1f.
- 716 28 September 1910
54. Königlichen Sternwarte, Göttingen.
Paper 1f.
- 717 21 September 1910
56. Royal Observatory, Greenwich.
Paper 1f.
- 718 no date
57. Sterrenkundig Laboratorium, Groningen.
Paper 1f.
- 719 30 September 1910
58. Hamburger Sternwarte, Bergedorf.
Paper 1f.
- 720 no date
59. Astronomical Observatory, Heidelberg.
Paper 1f.
- 721 no date
60. Heidelberg Observatory.
Paper 1f.
- 722 11 November 1910
62. Helwan Observatory.
Paper 1f.
- 723 27 September 1910
63. Jena University Observatory.
Paper 1f.
- 724 21 October 1910
64. Transvaal Observatory, Johannesburg.
Paper 1f.

- 725 2 October 1910
65. Dorpat University Observatory.
Paper 1f.
- 726 29 September 1910
66. Observatory of the Imperial University of Kasan.
Paper 1f.
- 727 22 October 1910
67. Königlichen, Sternwarte, Kiel.
Paper 1f.
- 728 2 November/20 October 1910
68. Kiew Observatory.
Paper 1f.
- 729 29 September 1910
69. Universitäts Sternwarte Koenigsberg.
Paper 1f.
- 730 13 December 1910
70. Observatory, La Plata, Argentina.
Paper 1f.
- 731 12 October 1910
73. Lisboa Observatory.
Paper 1f.
- 732 21 September 1910
74. H.M. Nautical Almanac Office.
Paper 1f.
- 733 December 1910
75. Lund Observatory, Sweden.
Paper 1f.
- 734 13 January 1911
76. Observatoire de Lyon, France.
Paper 1f.
- 735 11 November 1910
77. Madras Observatory.
Paper 1f.
- 736 6 October 1910
79. Observatoire de Marseille, France.
Paper 1f.
- 737 4 October 1910
81. Observatoire d'Astronomie Physique de Paris.
Paper 1f.
- 738 23 October 1910
82. Royal Astronomical Observatory, Milan.
Paper 1f.

- 739 11 October 1910
83. McGill University, Montreal.
Paper 1f.
- 740 28 September 1910
85. K. Sternwarte, Munich.
Paper 1f.
- 741 30 September 1910
86. Observatoire de Nice.
Paper 1f.
- 742 12 October 1910
87. University Observatory, Odessa.
Paper 1f.
- 743 30 September 1910
88. Ogyalla.
Paper 1f.
- 744 10 October 1910
89. Dominion Observatory, Ottawa.
Paper 1f.
- 745 21 September 1910
90. Radcliffe Observatory, Oxford.
Paper 1f.
- 746 14 October 1910
91. University Observatory, Oxford (H.H. Turner).
Paper 1f.
- 747 7 October 1910
92. University Observatory, Padua.
Paper 1f.
- 748 11 November 1910
93. Kodaikānal Observatory (India?).
Paper 1f.
- 749 6 October 1910
94. Palermo Observatory.
Paper 1f.
- 750 8 October 1910
96. Bureau des Longitudes, Paris.
Paper 1f.
- 751 16 November 1910
97. Perth Observatory, W. Australia.
Paper 1f.
- 752 14 October 1910
100. Potsdam Observatory Library.
Paper 1f.

753 27 September 1910

101. Zentral-Bureau der Internationalen Erdmessung, Potsdam.

Paper 1f.

754 25 October 1910

102. Pulkovo Observatory, Russia.

Paper 1f.

755 29 September 1910

103. Prague Observatory.

Paper 1f.

756 7 December 1910

105. National Observatory, Rio de Janeiro.

Paper 1f.

757 4 October 1910

106. Royal Observatory of the Roman College at Rome.

Paper 1f.

758 4 October 1910

107. University Observatory, Rome.

Paper 1f.

759 4 October 1910

108. Vatican Observatory.

Paper 1f.

760 22 December 1910

109. Observatory of the Imperial University of St. Petersburg, Russia.

Paper 1f.

761 11 September 1910

110. Marine Observatory of San Fernando.

Paper 1f.

762 29 November 1910

111. Santiago Observatory, Chile.

Paper 1f.

763 26 October 1910

114. K. Vetenskaps Akademiens Bibliothek, Stockholm.

Paper 1f.

764 21 September 1910

115. Stonyhurst College, Observatory.

Paper 1f.

765 26 September 1910

116. K. Universitäts Sternwarte, Strassburg.

Paper 1f.

766 28 November 1910

117. Sydney Observatory N.S. Wales.

Paper 1f.

- 767 10 November 1910
118. Library of the National Observatory of Mexico.
Paper 1f.
- 768 8 November 1910
119. Tokyo Astronomical Observatory.
Paper 1f.
- 769 1 October 1910
121. K.K. Maritimes Observatorium, Trieste.
Paper 1f.
- 770 4 December 1910
122. Royal Observatory of Turin.
Paper 1f.
- 771 28 September 1910
123. Royal Observatory of Belgium.
Paper 1f.
- 772 25 January 1911
124. Upsala Observatory.
Paper 1f.
- 773 10 October 1911
125. Utrecht Observatory.
Paper 1f.
- 774 3 October 1910
127. Zurich Observatory.
Paper 1f.
- 775 21 September 1910
128. Royal Astronomical Society, London.
Paper 1f.
- 776 21 September 1910
129. British Astronomical Association.
Paper 1f.
- 777 29 September 1910
130. Astronomische Nachrichten, Kiel.
Paper 1f.
- 778 21 September 1911
131. Observatory Magazine, Royal Observatory Greenwich.
Paper 1f.
- 779 13 October 1910
134. Astrophysical Journal.
Paper 1f.
- 780 21 September 1910
136. University of Bristol.
Paper 1f.

- 781 21 September 1910
137. University Library Glasgow.
Paper 1f.
- 782 22 September 1910
138. University of Leeds.
Paper 1f.
- 783 23 September 1910
139. University Library Liverpool.
Paper 1f.
- 784 24 September 1910
140. University of Manchester.
Paper 1f.
- 785 21 September 1910
141. University Library, St. Andrews.
Paper 1f.
- 786 29 September 1910
142. St. John's College Library, Cambridge.
Paper 1f.
- 787 21 September 1910
143. Sheffield University Library.
Paper 1f.
- 788 29 September 1910
144. K. Akademie der Wissenschaften, Berlin.
Paper 1f.
- 789 23 September 1910
146. Royal Dublin Society Library.
Paper 1f.
- 790 21 September 1910
147. Royal Society of Edinburgh.
Paper 1f.
- 791 28 September 1910
148. Solar Physics Observatory, South Kensington, London.
Paper 1f.
- 792 24 September 1910
149. Academie des Sciences, Institut de France, Paris.
Paper 1f.
- 793 8 September 1910
150. R. Accademia dei Lincei, Rome.
Paper 1f.
- 794 17/30 September 1910
151. Biblioth. Academ. Imp. Scientiar, St. Petersburg.
Paper 1f.

795 30 September 1910

153. K. Akademie der Wissenschaften, Vienna.

Paper 1f.

796 17 October 1910

154. Smithsonian Institution, Washington D.C.

Paper 1f.

797 23 September 1910

155. George William Kitchin, Dean of Durham, with personal note.

Paper 1f.

798 30 September 1910

156. Bishop of Jarrow.

Paper 1f.

799 21 September 1910

157. J[ohn] Theo[dore] Merz, The Quarries, Newcastle.

Paper 1f.

800 26 September 1910

158. Percy J. Heawood, 41 Old Elvet, Durham.

Paper 1f.

801 21 September 1910

159. Armstrong College Library, Newcastle.

Paper 1f.

802 21 September 1910

160. T[homas Henry] E[spinell Compton] Espin, F.R.A.S., vicar of Tow Law.

Paper 1f.

803 21 September 1910

161. W[illiam] H[enry] St. Q[uintin] Gage.

Paper 1f.

804 13 October 1910

162. George William Hill, West Nyack, New York, U.S.A..

Paper 1f.

805 22 September 1910

163. Sir David Gill, (F.R.S. President of the Royal Astronomical Society), 34 De Vere Gardens, W. Kensington.

Paper 1f.

806 14 October 1910

166. Hubert Hall Turner (personal copy).

Paper 1f.

807 21 September 1910

167. H.M. Nautical Almanac Office.

Paper 1f.

808 21 September 1910

168. William Fraser Doak of H.M. Nautical Almanac Office.

Paper 1f.

- 809 28 September 1910
169.F[rank] W[atson] Dyson (Astronomer Royal, Scotland).
Paper 1f.
- 810 21 September 1910
170.Arthur J. Walker, Mount St. John Thirsk.
Paper 1f.
- 811 24 September 1910
171.W[illiam] McF[adden] Orr (F.R.S.).
Paper 1f.
- 812 October 1910
172.Royal Observatory, Berlin.
Paper 1f.
- 813 21 September 1910
No.173F. Stratton, Caius College, Cambridge.
Paper 1f.
- 814 19 October 1910
174. Harvard College Observatory, Cambridge Massachusetts.
Paper 1f.
- 815 22 September 1910
177. Copyright Office, British Museum.
Paper 1f.
- 816 22 September 1910
Official receipt of the Copyright Office, British Museum.
Paper 1f.
- 817 22 September 1910
178.G.W. Eccles, agent for the Bodleian Library, Oxford.
Paper 1f.
- 818 22 September 1910
179.G.W. Eccles, agent for the University Library, Cambridge.
Paper 1f.
- 819 22 September 1910
180.G.W. Eccles, agent for the Advocates' Library,Edinburgh.
Paper 1f.
- 820 22 September 1910
181.G.W. Eccles, agent for the Library of Trinity College, Dublin.
Paper 1f.
- 821 11 October 1910
196.Public Library Newcastle.
Paper 1f.
- 822 No date
197. Letter of presentation and acknowledgment of receipt intended for Sir Joseph Larmor, F.R.S., secretary of the Royal Society, but not sent.
Paper 2ff.

823 No date

198. Letter of presentation and acknowledgment of receipt intended for Sir George Howard Darwin, F.R.S., Professor of Astronomy and experimental Philosophy, Cambridge (?) but not sent.

Paper 2ff.

824 24 October 1910

201. Bureau des Longitudes, Paris.

Paper 1f.

825 18 October 1910

202. A[rthur] M[atthew] W[eld] Downing F.R.S..

Paper 1f.

826

203-207. W. Wesley and Son, Booksellers London (for 5 copies).

Paper 1f.

827 19 June 1911

Letter from John Waller Hills (solicitor) of 23, Queen Anne's Gate, London to Major E. Hills of 32, Princes Gardens saying that Professor Robinson of Durham University has asked whether he would agree to be one of the Curators of the Observatory, describing the duties and recommending that he should accept.

Paper 1f.

828 No date

Memorandum describing changes in the supervision of the Observatory between the departure of Professor Sampson in 1910 and the invitation to "the present Director" (Col. Hills) to join the Board of Curators in 1911.

Paper 1f.

829-841 23 August 1911 to 31 January 1912

File of twelve letters and 1 loose letter to F.C.H. Carpenter concerning modifications to the Almucantar and the problem of extracting air bubbles:

9 letters from T. Cooke and Sons Ltd., Buckingham Works, York.

4 letters from Major E.H. Hills.

13 items

842 2 December 1913

Part of T. Cooke and Sons' instructions for adjusting the reversible level for the Almucantar float.

Paper 1f.

[Observer's Report to the Curators for 1911 and 1912 by F.C.H. Carpenter. Photocopy of Council Minutes 29/10/1912 p.145-8. See Photographs and Photocopies Fac.7]

843

Notice and Agenda for a meeting of the Curators to be held on 6 December (1912) ; with Observatory Account for the year ending 30 June 1912.

Paper 1f.

844 9 December 1912

Copy of part of letter from E.H. Hills to Professor A. Robinson concerning his appointment as Director of the Observatory; with notes on financial arrangements and the duties of the Board of Curators in future.

Paper 3ff.

845 14 June 1913

Letter from F.C.H. Carpenter to Hills concerning damage at the Observatory caused by subsidence, and the maintenance of the springs and object glass for "the new instrument" (the Zenith Telescope?) having regard to the damp foggy weather and filthy atmosphere.

Paper 2ff.

846 15 June 1913

Letter from Robinson to Hills describing the dress worn by Lord Roberts when he took his degree and explaining some points in connection with the control of the Observatory; with list of Curators.

Paper 2ff.

847

Report by the Observer, F.C.H. Carpenter, for the year ending June 1913.

Paper 4ff.

848 5 July 1913

Letter from Philip Anthony Brown (lecturer in Economics) to Hills asking whether he would lecture at the summer school at Hatfield Hall; with note of reply that he will be abroad, 8 July (1913).

1 piece.

[24 June - 5 September 1913.

Correspondence concerning the Suspended Zenith Telescope. See 865/1-15]

849 26 February 1914

Letter from Percy Stephens of the Estates Office of the Durham Colleges to Major Hills informing him of his intention to object to the valuation of the Observatory field as undeveloped building land; and asking him to confirm that the erection of any further buildings on the land would be highly detrimental to the purposes of the Observatory.

Paper 1f.

850 28 February 1914

Copy of letter (from Major Hills to Percy Stephens) confirming that heated vapour from the chimneys of any building near the Observatory would have a disastrous effect on the precision of observations.

Paper 1f.

851

Draft account (relating to the debt on the Almucantar House?) for the period April 1910 to March 1914.

Handwriting of F.C.H. Carpenter.

Paper 1f.

[18 February - 22 April 1914.

Correspondence concerning the Suspended Zenith Telescope. See 865/16-18]

852

Draft Report of the Director of the Observatory for the year ending June 1914.
F.C.H. Carpenter's handwriting.
Paper 3ff.

853 23 February 1915

Observatory Report for the period June 1914 - 23 February 1915.
Paper 2ff.

854 3 June 1915

Letter from Arthur Robinson to Major Lowe inviting him to become a Curator of the Observatory.
Paper 1f.

855 4 June 1915

Draft letter from Major Lowe to Dr. Robinson expressing gratification at the invitation to join the Board of Curators and enquiring as to the duties involved; but pointing out that his time is fully occupied and that the Observatory can already be sure of his interest and advice as an amateur.
Paper 1f.

856 6 June 1915

Letter from Arthur Robinson to Major Lowe urging him to join the Board of Curators of the Observatory and outlining the duties of a Curator.
Paper 1f.

857 10 June 1915

Draft letter (from Major Lowe) to the Secretary to the Council of the Durham Colleges accepting the invitation to become a Curator of the Observatory.
Paper 1f.

[17 May - 14 July 1915.

Correspondence concerning the Suspended Zenith Telescope. See 865/19-23]

858 4 September 1915

Letter from F.C.H. Carpenter to Col. Hills telling him of the progress he had made in recovering from his injuries.
Paper 1f.

[1 April 1916.

Letter concerning the Suspended Zenith Telescope. See 865/24]

859 1 November 1916

Copy of 2 letters from H.G. Lyons, President of the Royal Meteorological Society, to Sir Hugh Bell of Rounton Grange, Northallerton:

a) a personal letter regretting the lamentable ignorance of meteorology by the great majority of people and expressing the Society's intention to extend its activity and influence as widely as possible by doubling its membership and attracting the amateur as well as the scientific investigator.

b) a formal letter emphasising the importance of increasing the membership of the Society in order to extend an appreciation of meteorological studies, the value of which has been highlighted by the War; and asking for the names of persons who might be approached to become members.

(Enclosures from Nos. 861 or 864?)

Paper 3ff.

860

The same.

Paper 3ff.

861 23 January 1917

Letter from A. Robinson to Major Hills enclosing a circular (the above Nos. 859-860?); asking his advice as to whether the meteorological observations should be suspended for the time being; with note of reply, 28 January, that they should close down.

Paper 1f.

862 No date

Draft letter (from Hills) to Shaw (? Sir William Napier Shaw, Director of the Meteorological Office 1905-20), saying that the Observatory will reconsider the proposal to discontinue the meteorological readings, which are a great burden in war time, if they can be assured that the records are of real value.

Paper 1f.

863

Notification of the Annual Meeting of the Curators to be held on 27 June 1917.

1 piece.

863A 25 June 1917

Copy of letter (from Major Lowe) to Mr. Heawood apologising for being unable to attend the meeting of the Curators on the 27th due to ill health; saying that he has told Sir Hugh Bell that the Observatory requires a standard self-recording anemometer, preferably Dines' latest pattern; and expressing the opinion that more use could be made of the meteorological records in mining and agricultural districts and by the Naval and Military authorities.

Paper 2ff.

864 17 June 1918

Notification of the Annual Meeting of the Curators to be held on 26 June.

1 piece.

865/1-36

File of correspondence concerning the design, construction and installation of the Suspended Zenith Telescope:

865/1-15 24 June - 5 September 1913

9 letters from T. Cooke and Sons Ltd. to Major E.H. Hills and drafts of 4 letters from Hills to Cooke's concerning the design and estimate for making the telescope, with specifications and comments dated 24 June and 22 August 1913.

16 items.

865/16-18 18 February - 22 April 1914

3 letters from Cooke's to Hills reporting on progress in the construction of the telescope and noting additional requirements.

3 items

865/19-28 17 May 1915 - 14 July 1916 (sic. recte 1915?)

2 letters from Cooke's to Hills, draft of 1 letter from Hills to Cooke's and 2 letters from Percy J. Heawood to Hills, concerning payment of Cooke's account and the storage of the instrument for the duration of the war.

5 items.

865/24 1 April 1916

Letter from Cooke's to Hills concerning alterations to the telescope.

1 item

865/25-36 8 August 1919 - 20 February 1920

Correspondence between Cooke's and Hills (4 letters and 2 copies), and W.T. Jones and Hills (2 letters, 1 draft and 2 copies), concerning the construction of the pier and installation of the telescope; and copy of letter from Hills to Heawood requesting authority to proceed.

12 items.

866 26 June 1920

Draft letter from Lowe to Pemberton apologising for being unable to attend the next meeting of the Curators; commenting on the use of the Zenith Telescope and the desirability of putting the Equatorial in order so that the Observatory can take some part in modern astronomical work.

2 pieces.

[16 August 1920 - 18 May 1923.

11 letters concerning the results obtained from the Suspended Zenith Telescope. See above Nos. 131-133, 172/6 (includes comments on the control of petty cash), 172/7, 172/8 (includes discussion on Messrs. Cooke's estimate for the Transit Instrument); 172/9 and 10, 141, 146, 148, and V.62/1]

867/1-45 18 October 1920 - 8 October 1923

File of papers, (45 items).

Sent to the Observatory by Major Lowe's widow, 7 April 1947 (see below no. 2196). The contents of this file have been re-arranged and numbered in chronological order. The original position of each item in the file can however be re-constructed from the number in brackets after the main reference number:

867/1 (4) 18 October 1920

Letter from Arthur Robinson to Major Lowe asking him to continue as Curator despite his removal to Newcastle.

Paper 1f.

867/2 (40) No date

Pencil draft of letter to Mr. Pemberton (pro. Vice-Chancellor) recommending Harold Thomson, a past president of the British Astronomical Association, to succeed Col. Grove-Hills as Director of the Observatory.

4 pieces

867/3 (39) No date

Copy of extract from letter to J.S.G. Pemberton of Ramside, recommending Harold Thomson as successor to Col. Hills.

Paper 1f.

867/4 (38) 2 November 1922

Copy of letter to J.S.G. Pemberton describing the approaches made to Harold Thomson with a view to his becoming the Honorary Director of the Observatory.

Paper 1f.

867/5 (4) 11 January 1923

Copy of notice and agenda for a meeting of the Curators of the Observatory on 18 January 1923, from the convener Percy J. Heawood.

Paper 1f.

867/6 (3)

List of the Curators of the Observatory, with their addresses, from *Durham University Calendar*, 1922-23.

Paper 1f.

867/7 (43)

List of the Curators of the Observatory, with some addresses.

Written on the note paper of the Literary and Philosophical Society, Newcastle.

Paper 1f.

867/8 (42) 16 January 1923

Copy of letter from one of the Curators (F.M. Lowe?) to Dr. J.L. Burchnall of Hatfield College, Dr. T.H. Havelock and Dr. Henry Louis both of Armstrong College Newcastle, urging them to attend the meeting of the Board of Curators on the 18th January and saying that the item in the Agenda on Future Arrangements will be of unusual interest.

Paper 1f.

867/9 (44)

Constitution of the Observatory: Extract from *Durham University Calendar* 1922-23, p.381, Section III; with pencil notes of subjects discussed at the meeting of the Board of Curators, 18 January 1923.

Paper 1f.

867/10 (30) No date

Draft of announcement (for the press?) of the appointment of Harold Thomson, a Director of Sir W.G. Armstrong, Whitworth & Co., as Director of Durham University Observatory in succession to the late Col. Grove-Hills F.R.S.

Paper 1f.

867/11 (37) January 1923

Press cutting relating to the 200th anniversary of the death of Sir Christopher Wren (25 February 1723), pointing out that his main interest prior to the Great Fire was in astronomical mathematics.

1 piece.

867/12 (5)

Notes on Astronomers Royal 1646-1910.

1 piece.

867/13 (36) 10 February 1923

Letter from Major F.M. Lowe to Sargent telling him to expect a parcel of back numbers of *The Observatory*.

Paper 1f.

867/14 (34) 12 February 1923

Card from Janelda Western of Perry-Mead to Major Lowe saying she will send a packet of old copies of *The Observatory* to Durham that afternoon.

1 card

867/15 (35) 12 February 1923

Card from Richard Dutton Budworth (Headmaster of Durham School), to Major Lowe noting the name of the new Director.

1 card

867/16 (33) 13 February 1923

Letter from Sargent to Major Lowe on minor matters relating to the Observatory including repairs to the telescope driving clock and the barometer; expressing his pleasure at the appointment of Mr. Thomson and his hopes for the future.

Paper 1f.

867/17 (31) 14 February 1923

Card from Sargent to Major Lowe suggesting that they meet in Newcastle on Friday.

1 card

867/18 (32) 14 February 1923

Letter Rev. C.S. Wallis of St. John's College, Durham, to Major Lowe apologising for being unavailable the next day and offering to meet him and the Director of the Observatory any other day.

Paper 1f.

867/19 (29) 16 February 1923

Letter from Sargent to Major Lowe informing him of the arrival of the *Observatory* parcel which also included 5 issues of *The Chaldean*, another astronomical journal; with reference to the Peek telescope.

Paper 1f.

867/20 (28) 3 March 1923

Card from Sargent to Major Lowe on matters concerning the barometer and saying that it will have to be returned to Brady and Martins as there is a crack in the glass.

1 card

867/21 (27) 27 March 1923

Copy of letter (from Major Lowe) to W.T. Jones of 7A, North Bailey to accompany press cutting from the *Yorkshire Post* of 7 March 1923 concerning compensation arising from subsidence.

Paper 1f.

867/22 (26) 29 March 1923

Letter from W.T. Jones to Major Lowe acknowledging the letter and press cutting on subsidence.

Paper 1f.

867/23 and 24 (24 and 25) 26 April 1923

Copy of Telegram from Major Lowe to Sargent saying he will arrive later that day with a joiner to inspect the dome; and receipt for the same.

Both on forms headed Elswick Works, Newcastle upon Tyne.

1 piece each

867/25 (45)

Pencil notes of actions connected with the Observatory (by Major Lowe?), 15 February - 26 April 1923.

Paper 1f.

867/26 (23) 30 May 1923

Order of Proceedings for the Placing of a Commemoration Stone at the New Science Laboratories and Lecture Rooms by The Earl of Durham ...

Printed . 2ff.

867/27 (22) (6 June 1923)

Draft letter (from Major Lowe) to Rev. Mouldsdales, Principal of St. Chad's College, suggesting that the name of Thomas Wright (1711-1786), "the finest scientific mind produced by the county of Durham" should be connected with the new University Buildings; quoting the opinion of Temple Chevallier and Fordyce's *History of Durham* in support of the proposal.

Paper 2ff.

867/28 (21) 8 June 1923

Letter from W.T. Jones, University Architect, to Major Lowe saying that painting and general repairs at the Observatory must wait pending the outcome of negotiations between the University and the Colliery Company in respect of colliery damage at the Observatory.

Paper 1f.

867/29 (16) 28 June 1923

Letter from J.E.C. Wellden, Dean of Durham, to Major Lowe inviting him and his wife to stay from 14 to 16 July or longer, when the Astronomer Royal and Professor Turner will also be there.

With pencil note of two addresses.

Paper 1f.

867/30 (15) 2 July 1923

Letter from J.E.C. Wellden, Dean of Durham, to Major Lowe concerning his visit.

Paper 1f.

867/31 (14) 3 July 1923

Letter from Harold Thomson to Major Lowe concerning arrangements for the Curators' Meeting.

Paper 1f.

867/32 (18)

Report of the Director of the Observatory to the Board of Curators, 1923 ; reviewing the equipment and work of the Observatory and the proposed programme of work for the future.

Major Lowe's copy.

Paper 9ff.

867/33 (20)

Report on the Annual Meeting of the Curators of the Observatory on the 16th inst. (16 July 1923), listing those present and commenting on the importance of such a meeting of the leading authorities in the Astronomical World of Science.

Paper 1f.

867/34 (19) 17 July 1923

Draft letter (from Major Lowe) to the Dean to accompany above report for release to the press.

Paper 1f.

867/35 (10) 18 July 1923

Letter from J.E.C. Wellden, Dean of Durham, to Major Lowe thanking him for the report on the Curators' Meeting which he has given to the press.

Paper 1f.

867/36-40 (6-9 and 17) 19 and 20 July 1923

Press cuttings from the *Newcastle Journal*, *Durham Advertiser*, and *Durham Chronicle* relating to Sir Frank Dyson's visit to Durham and the Curator's Meeting. 1 piece each, pasted on paper

867/41 (2) 13 August 1923

Extract from letter from Sargent listing the Directors of the Observatory and the Observers (see below 868/1).

Paper 2ff.

867/42 (13) 30 September 1923

Card from Sargent to Major Lowe concerning observations in September.

1 card

867/43 (1) 1 October 1923

Letter from Henry Richardson, Librarian of the Literary and Philosophical Society, Newcastle upon Tyne, to Major Lowe thanking him for copies of *Durham Observatory Papers, New Series*, Nos. 1-7, and the Director's Report, 1923.

Paper 1f.

867/44 (12) 2 October 1923 (Postmark)

Card acknowledging receipt of Major Lowe's letter of 29 September 1923 to H.G. Theodosius, Registrar of the University of Durham.

1 card

867/45 (11) 8 October 1923 (Postmark)

Card from Sargent to Major Lowe saying he has carried out the instructions concerning Mr. Jones.

1 card

868/1-5 13 and 14 August and 18 October 1923

File of Papers. (Major Lowe's Papers? 5 items):

868/1 13 August 1923

Letter from Sargent to Major Lowe listing previous Directors and Observers at the Observatory; describing his inspection of the sundial in the Cathedral Cloisters estimating the necessary correction for longitude.

Paper 5ff.

868/2 (20 August 1923)

Letter (from the Dean?) to Major Lowe requesting his advice on the proposal that a brief explanation of the meridian line should be made available for visitors to the Cathedral.

Unsigned.

Paper 2ff.

868/3

Extract from the letter from Sargent to Lowe.

13 August 1923 (868/1), concerning previous Directors and Observers of the Observatory.

Paper 2ff.

868/4 14 August 1923

Letter from Francis Robert Hardy, Cathedral Verger, quoting from Raine's *Brief Account of St. Cuthbert* relating to the meridian line carved on the floor of the north side of the Cloisters in 1829.

1 piece.

868/5 18 October 1923

Letter from H.G. Theodosius the Registrar, to Major Lowe correcting some points in Sargent's list of Directors and Observers.

Paper 1f.

869 12 December 1923

Letter from John Jackson, chief assistant of the Royal Observatory, Greenwich, to Harold Thomson concerning latitude variation in 1923 and describing how scale is determined at Greenwich.

Found in V.62, book containing record of experiment with the Zenith Telescope.

Paper 1f.

870 (December 1923)

Letter from Harold Thomson to Sargent enclosing the above letter from Jackson, with comments.

Found in V.62, book containing record of experiments with the Zenith Telescope.

Paper 1f.

871

Extracts from the *Durham University Calendar* 1923/24 relating to the Curators and the Regulations.

Paper 2ff.

872 and 873 15 February 1924

Director's Report for the year ending 31 December 1923 ; with copy of letter dated 25 November 1923 from Felix de Roy, Director of the Variable Star Section of the British Astronomical Association, to Harold Thomson commending the work of Frank Sargent and expressing thanks to the University for continuing the observations with the Rousdon Telescope.

2ff. and 1f.

[18 June 1924.

Letter from H.H. Turner to Thomson apologising for being unable to attend the meeting on 20 June and explaining that, owing to pressure of other work, he has not completed the examination of the results obtained with the Zenith Telescope, but is sending a provisional report. With papers on the Zenith Telescope 197]

874 29 November 1927

Letter from Harold Thomson to Sargent expressing disappointment with the results obtained from the Zenith Telescope and making some suggestions.

Found in V.62, book containing record of experiments with the Zenith Telescope.

Paper 1f.

[18 September 1929 - 30 April 1930.

5 letters from J.J. Shaw of Milne-Shaw Seismographs, Secretary of the British Association Seismological Committee, to Sargent giving detailed advice on the erection of the seismograph and commenting on the results obtained at Durham. See below: Nos. 1506 - 1510]

875 26 June 1931

Letter from Professor H. Stroud to Major F.M. Lowe regretting that he will be unable to attend the next meeting of the Curators.

1 piece.

Ownership history: Found in the Minute Book of the Curators, V.70

876 26 October 1931

Letter from Sir F.W. Dyson (Astronomer Royal) saying that he is unable to attend the next meeting.

Found in the Minute Book of the Curators, V.70.

1 piece.

2242 1923 - 1929/30

Reports of the Director to the Board of Curators:

1923. Printed. Noted as the first report of the new director, and the first since 1920, providing an overview of the Observatory's equipment and work and its proposed future programme.

1923/24. Printed.

1924/25. Printed.

1926/27. Printed.

1929/30. Printed and draft.

Further copies are to be found in the Durham Colleges Council minute books in UND/BA3.

2243 1930/31 - 1936/37

Reports of the Committee of Management (for the year 1 June to 31 May unless otherwise stated):

1930/31. Printed and draft. Noted that the Management Committee was set up by Council on 28 October 1930 for 1 year.

31 October 1931. Two drafts.

1931/32. Printed and draft.

1932/33. Printed.

1933/34. Printed and draft.

1935/36. Printed.

1936/37. Printed and draft.

Further copies are to be found in the Durham Colleges Council minute books in UND/BA3.

2244 14 May 1930 - 23 July 1937

Correspondence with Prof P.J. Heawood as secretary of the Curators of the Observatory about the maintenance and adaption of the Observatory, its apparatus, reports, curators' and management committee meetings and including occasional agendas and statements of accounts.

Paper file

Administrative Records, 1937-1953

Correspondence with officers of the University

877-881 17 January - 13 March 1941

Correspondence concerning the conditions under which Dr. Glückauf was permitted to continue research into atmospheric ozone:

Acting Registrar W.R. Niblett to Professor J.E.P. Wagstaff and Beecroft (2 items)

Professor Wagstaff (?) to Professor Paneth (1 item)

Professor Paneth and the Warden (2 items)

5 items, 1f. each

882 3 June (1941)

Letter from Charles Holmes of the Geography Department, King's College, Newcastle to Beecroft concerning the wet and dry bulb readings for May.

Paper 1f.

883 4 March 1943

Letter from F. Dodsworth, for the Acting Registrar, to Beecroft concerning missing copies of the *Bulletin of the Seismological Society of America*.

Paper 1f.

884 28 April (1943?)

Letter from Charles Holmes to Beecroft sending rainfall totals for 1942.

Paper 1f.

885 2 May

Letter from Charles Holmes to Beecroft requesting the grass minimum readings for 14-18 April.

Paper 1f.

886 16 September

Letter from Charles Holmes to Beecroft asking for certain morning readings for 12-16 September.

Paper 1f.

887 2 November

Letter from Charles Holmes to Beecroft requesting a set of correction tables.

Paper 1f.

888 10 August 1945

Letter from the Acting Registrar, H.A. Murray, to Joyce (Lawrence Sanderson Joyce, Lecturer in Physics 1941-47) concerning equipment ordered for the Observatory and deficiencies in the seismographic records reported by Dr. Barocas.

Paper 1f.

889 20 November 1945

Letter from Charles Holmes of the Geography Department Durham to Joyce concerning the meteorological records.

Paper 1f.

890 27 February 1946

Letter from Charles Holmes to Joyce concerning the task of making up the monthly weather records.

Paper 1f.

891 8 April 1946

Letter from James Towers to Joyce resigning his post as gardener at the Observatory.

Paper 1f.

892 29 April 1946

Letter from the Registrar W.S. Angus to Joyce agreeing to the appointment of Mr. Lowrie as gardener for the Observatory.

Paper 1f.

893 28 May 1946

Letter from Charles Holmes to Joyce concerning the monthly weather Register and gaps in the records in 1936 and 1945.

Paper 1f.

894 7 June 1946

Letter from the Registrar, W.S. Angus, to Joyce concerning repairs to the dome of the Observatory, and possible inspection by the University Grants Committee on 14th June.

Paper 1f.

895 7 July 1946

Letter from Charles Holmes to Joyce concerning the monthly weather records.

Paper 1f.

896 20 September 1946

Letter from the Registrar W.S. Angus to Joyce asking him to report on the running and adjustment of the seismographs and on the meteorological equipment at the meeting of the Board of Curators on 1 October.

Paper 1f.

897 2 October 1946

Letter from Angus to Joyce concerning the request by the Board of Curators that he should take over the meteorological recording at present done by Mr. C.W. Holmes.

Paper 1f.

898 21 December 1946

Letter from Angus to Joyce putting on record the decision of the Curators that Mr. Holmes should continue to compile the meteorological records, but that the record book should be kept at the Observatory.

Paper 1f.

899 21 December 1946

Letter from Angus to Joyce conveying the decision of the Curators to replace the clockwork motor on one of the seismographs by an electric motor.

Paper 1f.

900 30 December 1946

Copy of letter from Angus to Mr. Stopes-Roe of Morbury Park Dorking, conveying the decision of the Curators, that he may use the Observatory premises for office work in connection with research on the absorption of ultra violet light on which he is engaged together with Dr. Prowse and Dr. Glückauf.

Paper 1f.

901 19 September 1947

Memorandum of order for R. Sampson's *Tables of the Four Great Satellites* and of reply that it was not available.

Paper 1f.

902 27 October 1947

Copy of letter from Angus to Mrs. Brydon, confirming her engagement as cleaner at the Observatory.

Paper 1f.

903 14 November 1947

Copy of letter from Angus to Cincinnatti Observatory asking them to send copies of *Minor Planet Circulars* to the University Observatory, Durham.

Paper 1f.

904 1 December 1947

Letter from Angus to Mrs. Chackett concerning the paths at the Observatory.

Paper 1f.

V.73a and b December 1947

"Inventory of Property under control of the Curators of Durham University Observatory," compiled by E.F. Baxter and Wilfred Hall; details the Observatory buildings, with dimensions, the astronomical, meteorological and seismological equipment and the atmospheric electricity apparatus, with historical notes on the buildings and equipment, and a bibliography on the equipment, with a block plan of the buildings and a letter from Wilfred Hall to the Curators of the University Observatory of December 1947 explaining the background to the inventory. 2 copies.

Bound typescript. 15ff. and plan.

Provenance: V.73b was transferred on 16 June 2005, Acc No Misc.2004/2005:62, from the Science Library, reference M+ 522.1(428.1) BAX where it had been accessioned on 24 April 1950.

Related material in other DUL collections: A letter of 10 June 1948 relating to the inventory is at 919.

905 and 906 7 January 1948

Copy of article on the weather in Durham in 1947 written for the *Durham County Advertiser* by E.F. Baxter; with covering letter from Angus to Chackett.

1f. and 2ff.

907 27 January 1948

Receipt by K.F. Chackett (Research Assistant 1946-49, Lecturer in Radio Chemistry from 1949) for seven volumes of Observatory Meteorological Records, 1873-1934.

1 piece.

908 and 909 10 and 12 February 1948

Copy of January weather report from Houghall, sent with covering letter from Angus to Chackett.

Paper 1f. each

910 17 March 1948

Notice of the cancellation of the meeting of the Board of Curators of the Observatory on 23 March 1948 due to insufficient business.

Paper 1f.

911 17 March 1948

Letter from Angus to Chackett concerning the cancellation of the meeting of the Board of the Curators.

Paper 1f.

912

Notice of Easter Holidays 1948 from the University Office.

1 piece.

913 12 April 1948

Copy of letter (from Chackett) to Angus concerning repairs necessary at the Observatory and a request from Mr. Langford of Burnhope Modern School for monthly weather reports.

Paper 1f.

914 12 April 1948

Copy of letter from Chackett to C. Elgey (University Architect) concerning repairs needed at the Observatory.

Paper 1f.

915

Notice of the closure of the University Office on Whit Monday, 17th May 1948.

Paper 1f.

916 31 May 1948

Letter from Angus authorising Chackett to order a Planimeter.

Paper 1f.

917 31 May 1948

Letter from Angus informing Chackett that a committee convened by Mr. Baxter will consider Mr. Caffyn's proposal that the reflector telescope should be made available to staff and students for elementary study.

Paper 1f.

918 4 June 1948

Letter from Angus informing Chackett of arrangements made with Mrs. Robson for cataloguing periodicals at the Observatory.

Paper 1f.

919 10 June 1948

Letter from Angus to Chackett sending two bound copies of the inventory of instruments at the Observatory, and informing him where other copies are to be placed.

See above: V.73, December 1947

Paper 1f.

920 15 July 1948

Letter from Angus to Chackett concerning arrangements with Holmes for entering the meteorological records into the record book monthly.

Paper 1f.

921 and 922 17 July and 4 August 1948

Exchange of letters between Chackett and Angus concerning the Observer's responsibility for keeping the meteorological records.

Paper 1f. each

923-925 4-9 August 1948

Correspondence between Angus and Chackett concerning the availability of equipment from Government Surplus Stores.

3 items, 1f. each

926-929 26 August-1 September 1948

Correspondence between Chackett and Angus concerning the transfer of responsibility for keeping the meteorological records from Holmes to Chackett and arrangements for sending monthly weather summaries to the *Evening Chronicle*.

4 items, 1f. each

930-936 2-27 September 1948

Correspondence between Angus and Chackett concerning periodicals received by the Observatory, arrangements for cataloguing the Observatory Library, arrangements for taking the readings during Chackett's holiday, and repairs to the lawn mower.

7 items, 1f. each

937 6 October 1948

Copy of letter from Angus to Elgey asking him to estimate the cost of additional shelving for periodicals in the anemometer room.

Paper 1f.

938 6 October 1948

Letter from Angus to Baxter expressing the thanks of the Board of Curators for his report on making the portable telescope usable and informing him of the Board's decisions to sanction the acquisition of minor parts for the telescope and to appoint a committee consisting of Baxter, Chackett and Mr. Caffyn to determine the use of the telescope.

Paper 1f.

939 9 October 1948

Copy of letter from Chackett to Angus concerning missing numbers of the *Nautical Almanac* and the plans for the reflecting telescope.

Paper 1f.

940 15 December 1948

Letter from W. Morrow (for the Registrar) informing Chackett that the Curators have agreed that a case be obtained for transporting the Barometer.

Paper 1f.

941 16 December 1948

Letter from Angus asking Chackett to obtain a case for transporting the Barometer and informing him of the payment to be made to Mr. Owen for taking the meteorological readings in September.

Paper 1f.

942 16 December 1948

Copy of letter from Angus to Baxter conveying the decision of the Curators that the Committee on the reflecting telescope should continue their work, and that Professor Goldsbrough will make enquiries about the cost of restoring the mirror and a new telescope.

Paper 1f.

943 5 January 1949

Copy of letter from Chackett to C. Elgey asking him to have a box made suitable for the transportation of a barometer.

Paper 1f.

944 22 January 1949

Copy of letter (from Chackett) to Angus asking him to send the monthly weather summaries and yearly summary for 1948 to Mr. Clark, head teacher at Rosa Street County School Spennymoor.

Paper 1f.

945 8 February 1949

Slip to accompany document sent by the Registrar to Chackett.

1 piece.

946-949 5-18 February 1949

Correspondence between Chackett and Professor Goldsbrough, Professor of Mathematics, King's College, Newcastle, concerning modifications to the portable telescope and the need for a new mirror.

4 items, 1f. each

950 24 March 1949

Letter from Angus to Chackett on matters arising out of the meeting of the Board of Curators on 22 March regarding the disposal, purchase and binding of periodicals, the extension telephone line to the cottage, and the purchase of a hydrograph and garden roller.

Paper 1f.

951 24 March 1949

Copy of letter from Angus to the Telephone Manager, Carliol Square, Newcastle, complaining about the extension line from the Observatory to the cottage.

Paper 1f.

952 6 May 1949

Copy of letter (from Chackett) to Angus asking for more copies of the "Durham Meteorological Summaries".

Paper 1f.

953 and 954 16 and 19 July 1949

Exchange of letters between Chackett and Professor Goldsbrough concerning the report on the mirrors for the telescope.

Paper 1f. each

955-958 19 and 20 July 1949

Correspondence between Angus, Elgey and Chackett concerning the suggestion that the gardener at the Observatory should be allowed to occupy part of the ground floor at the Observatory.

4 items, 1f. each

959 16 September 1949

Notice postponing the meeting of the Board of the Curators on 28th September.
Paper 1f.

960 22 October 1949

Letter from Angus to Chackett concerning arrangements with Messrs. Dunn and Wilson Ltd. for binding periodicals at the Observatory.

Paper 1f.

961 8 November 1949

Letter from Angus to Chackett on matters arising from the meeting of the Board of Curators on 3 November with regard to the use of the telescope, the purchase of pamphlet boxes, the binding of Periodicals, recommendations for alterations to Observatory Cottage and an increase in Chackett's salary.

Paper 2ff.

962 and 963 12 and 14 November 1949

Exchange of letters between Chackett and Angus concerning the binding of periodicals, the purchase of pamphlet boxes and the address of Mr. T.H. Langford of Burnhope Modern School who receives copies of the monthly summaries.

2 items, 1f. each

964 20 November 1949

Copy of letter from Chackett to Angus recommending that Elgey be asked to give an estimate for re-roofing the seismograph house; pointing out that his wife is the official assistant at the Observatory although they share the work equally.

Paper 1f.

965-968 26 November - 7 December 1949

Correspondence between Chackett and Angus concerning the decision to rebind some of the Journals (viz.):

Bulletin of the Seismological Society of America, Astrophysical Journal, International Seismological Summary and the Quarterly Journal of the Royal Meteorological Society, and the acquisition of missing parts.

4 items, 1f. each

969 14 December 1949

Letter from Angus to Mrs. Chackett informing her that her salary in addition to the tenancy of the observer's cottage has been increased from £26 to £75 a year as from 1st October 1949.

Paper 1f.

970 and 971 15 December 1949

Copies of two letters from Angus to Elgey and compliment slip, asking him to obtain tenders for repairs to the seismograph house and alterations to the observer's cottage.

3 items, 1 piece each

972 21 January 1950

Copy of letter from Chackett to Angus asking him to send copies of the Monthly Weather Summaries to St. Leonard's Secondary Modern School.

Paper 1f.

973 31 January 1950

Copy of letter from Angus to H. Cullen of St. Leonard's Secondary Modern School to accompany a set of monthly summaries from January to December 1949.

Paper 1f.

974 18 February 1950

Copy of letter from Chackett to Angus concerning repairs at the Observatory Seismograph house and informing him that the monthly summaries should now be sent to the News Editor of the *Newcastle Chronicle*.

Paper 1f.

975 27 February 1950

Copy of letter from Angus to Elgey confirming that he should proceed with the re-roofing of the Seismograph house at an estimated cost of £156.; with Registrar's compliment slip attached.

1f. and 1 piece

976 and 977 18 and 20 March 1950

Exchange of letters between Chackett and Angus concerning the advisability of increasing the insurance on the Observatory buildings and contents.

2 items, 1f. each

978 and 979 27 March and 3 April 1950

Exchange of letters between Angus and Chackett concerning the order for back numbers of the *Astrophysical Journal*.

2 items, 2ff. and 1f.

980 12 May 1950

Copy of letter from Chackett to Elgey informing him of the delivery of thirty nine soft copper sheets presumably for the re-roofing of the Seismograph house.

Paper 1f.

981 27 June 1950

Letter from Angus to Chackett concerning the inclusion of periodicals in the Observatory in a list of periodicals in the University Library.

Paper 1f.

982 3 July 1950

Copy of letter from Chackett to Elgey concerning repairs to the bearings on the Anemometer and alterations to the attic room in the cottage.

Paper 1f.

983 and 984 28 September and 1 October 1950

Exchange of letters between Angus and Chackett concerning amendments to draft minutes of the Curators' meeting in respect of the acquisition of a new mirror unit for the seismograph.

Paper 1f.

985 2 December 1950

Copy of letter from Chackett to Angus concerning an enquiry for the monthly weather summaries, and recommending that in future the Observatory should hold stocks of the summaries to deal with such requests.

Paper 1f.

986 5 January 1951

Letter from Angus to Chackett asking whether he wishes to order *Memoirs of the Commonwealth Observatory, Australia*, for the Observatory Library.

Paper 1f.

987 and 988 4 and 5 February 1951

Exchange of letters between Chackett and Angus concerning a request for the monthly weather summaries from the Secretary to the Dean of Agriculture at King's College, and repairs to the shutter on the Observatory Dome.

Paper 1f.

989 and 990 9 and 17 February 1951

Exchange of letters between Angus and Chackett concerning an application to the Durham Division Funds for expenses incurred in transporting the Willmore Seismograph from Messrs. Hilger and Watts in London.

2 items, 1f. each

991 20 February 1957

Copy of letter from Angus to Mr. Burkett, Secretary at the Department of Agriculture, King's College, Newcastle, concerning his request for the monthly meteorological summaries.

Paper 1f.

992 28 February 1951

Letter from S. Holgate, Secretary to the Durham Colleges, to Chackett inviting him to be a member of the ad hoc Committee to consider the future of the Observatory.

Paper 1f.

993-995 1 March - 19 April 1951

Correspondence between Chackett, the Warden Sir James Duff, and Chairman of Council M.P. Appleby concerning payment of Chackett's expenses for the journey to London to collect the Seismograph although the instrument was not ready for him to bring back.

3 items, 1f. each

996 and 997 4 and 12 May 1951

Exchange of letters between Chackett and Elgey concerning the plans for the new Observatory.

2 items, 1f. and 2ff.

998 19 May 1951

Letter from Angus to Chackett concerning his resignation and arrangements to fill the vacancy.

Paper 1f.

999 13 September 1951

Letter from Holgate to Dr. W.K.R. Musgrave (Lecturer in Chemistry) asking for his opinion on the proposal to build a workroom in the roof of the observer's cottage.

Paper 1f.

1000 21 September 1951

Letter from Sir James Duff to Musgrave expressing relief that the proposed work-room at Observatory Cottage is to be abandoned.

Paper 1f.

1001 2 October 1951

Letter from Holgate concerning Musgrave's pay.

Paper 1f.

1002 24 October 1951

Copy of letter from Holgate to Dr. H.R. Calvert concerning arrangements for his visit to the Observatory.

Paper 1f.

1003 16 November 1951

Copy of letter from Musgrave to Holgate concerning the payments to O'Neill for doing the readings and developing the seismograms.

Paper 1f.

1004 4 January 1952

Letter from Holgate to Musgrave saying that he will keep a letter from the Curator of the Newcastle Museum so that he has a record of those to whom the telescope has been offered, unsuccessfully.

Paper 1f.

1005 31 January 1952

Letter from Holgate to Musgrave concerning payment of National Health contributions for the cleaner Mrs. Brydon.

Paper 1f.

1006 29 October 1952

Letter from Holgate to Musgrave explaining that, as the building of the new Observatory will be delayed for some time, there is no urgency about planting shrubs and felling trees.

Paper 1f.

1007 5 February 1953

Letter from Holgate to Musgrave concerning the appointment of a cleaner for the Observatory.

Paper 1f.

1008 25 September (1953?)

Letter from William Anson Lecturer in Geography, King's College, Newcastle, to the Secretary asking for copies of the monthly weather summaries from October 1950 to September 1951.

Paper 1f.

Financial Records

V.74

(Postage Book, 26 August 1945 - 14 July 1951.

1 volume

1009-1012

Correspondence between the Financial Clerk C.E. Stobart and Joyce concerning the payment of accounts:

1009 9 November 1945
for the Terrestrial Minimum Thermometer.
Paper 1f.

1010 5 December 1945
for plumbing work by Harold Fairclough and with Deighton, Bell & Co. Ltd.
Paper 1f.

1011 18 December 1945
for the October 1945 issue of the *Bulletin of the Seismological Society of America* from Deighton, Bell and Co. Ltd.
Paper 1f.

1012 and 1013 20 December 1945 and 18 January 1946
Exchange of letters between Joyce and Deighton, Bell and Co., booksellers, Cambridge, concerning the October 1945 issue of the *Bulletin of the Seismological Society of America*.
2 items, 1f. each

1014-1048
Correspondence between the Financial Clerk C.E. Stobart and Joyce concerning payments in respect of:

1014 11 February 1946
garden implements and volumes 34 and 35 of the *Bulletin of the Seismological Society of America*.
Paper 1f.

1015 27 March 1946
the Meteorological Office.
Paper 1f.

1016 16 April 1946
chemicals from Brady and Martin.
Paper 1f.

1017 11 May 1946
a Solar Thermometer from Messrs. Negretti and Zambra.
Paper 1f.

1018 13 May 1946
the October 1945 issue of the *Bulletin of the Seismological Society of America*.
Paper 1f.

1019 15 May 1946
plumbing work by Harold Fairclough.
Paper 1f.

1020 18 June 1946
the *Astronomical Journal* during and since the war.
Paper 1f.

1021 3 July 1946

Copy letter from Joyce to the *Astronomical Journal*, Yale University Observatory, requesting details as to how and when payment for the Journal has been made in the past.

Paper 1f.

1022 16 July 1946

the Meteorological Observations Book from G. Bailes and Sons.

Paper 1f.

1023 22 July 1946

the Meteorological Office.

Paper 1f.

1024 30 July 1946

postage and petty cash.

Paper 1f.

1025 6 August 1946

gas bill.

Paper 1f.

1026 6 August 1946

plumbing work by Harold Fairclough and materials from Criterion Papers Ltd. and Gledson of Blacket St. Newcastle.

Paper 1f.

1027 20 August 1946

a private telephone call.

2 pieces

1028 21 August 1946

gas bill.

Paper 1f.

1029 21 August 1946

materials from Criterion Papers Ltd.

Paper 1f.

1030 15 August 1946

work at the Observatory done by Messrs. C.W. Gibson and Bros.

Paper 1f.

1031 7 September 1946

postage and petty cash.

Paper 1f.

1032 12 September 1946

petty cash.

Paper 1f.

1033 13 September 1946

the Meteorological Office and petty cash.

Paper 1f.

1034 30 September 1946

electricity bill.

Paper 1f.

1035 18 October 1946

postage and petty cash.

Paper 1f.

1036 21 October 1946

petty cash.

Paper 1f.

1037 24 October 1946

postage and petty cash.

Paper 1f.

1038 14 November 1946

a thermometer from Negretti and Zambra, Ltd.

Paper 1f.

1039 18 November 1946

invoice from Messrs. Brady and Martin for November, 1941.

Paper 1f.

1040 4 December 1946

Negretti and Zambra.

Paper 1f.

1041 7 December 1946

the Air Ministry and the N.P.L. Certificate.

Paper 1f.

1042 30 December 1946

gas bill.

Paper 1f.

1043 18 January 1947

private telephone calls.

1 piece.

1044 21 January 1947

gas bill.

Paper 1f.

1045 28 January 1947

an electric motor from Messrs. Everett, Edgcumbe and Co. Ltd.

Paper 1f.

1046 31 January 1947

postage and petty cash and Mrs. Macpherson's National Insurance.

Paper 1f.

1047 4 February 1947

Anemometer charts and the Wireless Licence.

Paper 1f.

1048 18 February 1947

National Insurance payments for Mrs. Macpherson.

Paper 1f.

1049-1141

Correspondence between Stobart and Dr. K.F. Chackett or Mrs. G.A. Chackett concerning orders for equipment or payments in respect of:

1049 3 June 1947

petty cash and National Health contributions for Mrs. Macpherson and the gardener Mr. Nelson.

Paper 1f.

1050 9 June 1947

petty cash.

Paper 1f.

1051 25 June 1947

the motor from Everett, Edgecumbe and Co.

Paper 1f.

1052 8 July 1947

a new solar radiation thermometer from Negretti and Zambra.

Paper 1f.

1053 16 July 1947

the telephone bill.

Paper 1f.

1054 29 July 1947

private telephone calls.

Paper 1f.

1055 29 July 1947

Mrs. Chackett's pay slip for July 1947.

Paper 1f.

1056 1 August 1947

the *Astronomical Journal* from Deighton, Bell and Co.

Paper 1f.

1057 1 August 1947

petty cash and postage books, and Mrs. Macpherson's Insurance.

Paper 1f.

1058 6 August 1947

petty cash, 1 June to 31 July 1947.

Paper 1f.

1059 21 August 1947

materials from Criterion Ltd.

Paper 1f.

1060 23 August 1947

the *Astronomical Journal* from Deighton, Bell and Co.

Paper 1f.

- 1061 27 August 1947
a spare motor for the Seismograph.
Paper 1f.
- 1062 8 September 1947
a Synclock Motor from Messrs. Everett, Edgcumbe & Co.
Paper 1f.
- 1063 2 October 1947
petty cash and postage.
Paper 1f.
- 1064 17 October 1947
a second-hand typewriter from the Tyne Typewriter Service.
Paper 1f.
- 1065 6 October 1947
petty cash to 30 September 1947.
Paper 1f.
- 1066 December 1947
publications of the Thunderstorm Census Organisation.
Paper 1f.
- 1067 5 December 1947
petty cash and postage.
Paper 1f.
- 1068 31 January 1948
the subscription to the Bulletin of the Seismological Society of America for 1948.
Paper 1f.
- 1069 3 February 1948
instruments from the Meteorological Office.
Paper 1f.
- 1070 5 February 1948
petty cash.
1 piece.
- 1071 7 February 1948
private telephone calls.
Paper 1f.
- 1072 16 February 1948
National Insurance registration.
Paper 1f.
- 1073 14 April 1948
the January number of the *Bulletin of the Seismological Society of America*
supplied by Deighton Bell and Co. Ltd.
Paper 1f.

- 1074 26 April 1948
the *Bulletin of the Seismological Society of America*, the *Quarterly Journal of the Meteorological Society* and *Weather*.
Paper 1f.
- 1075 28 April 1948
the *Quarterly Journal and Weather*.
Paper 1f.
- 1076 12 May 1948
materials from Criterion Ltd.
Paper 1f.
- 1077 23 May 1948
a Stanley "Allbrit" rule form Planimeter and charts for the Anemometer and rain guage.
Paper 1f.
- 1078 1 June 1948
requesting a reply to Stobart's letter of 12 May (no. 1076?).
Paper 1f.
- 1079 13 June 1948
rainguage charts supplied by Messrs. Casella.
Paper 1f.
- 1080 5 July 1948
Journal of the British Astronomical Society (sic.), the July/August Number of the *Quarterly Journal of the Royal Meteorological Society*, the Solar Radiation thermometer supplied by Negretti and Zambra.
Paper 1f.
- 1081 6 July 1948
the same, and also Mrs. Chackett's National Insurance exemption certificate.
Paper 1f.
- 1082 7 July 1948
the same.
Paper 1f.
- 1083 9 July 1948
April invoice from Criterion Ltd.
Paper 1f.
- 1083a 9 July 1948
private telephone calls.
1 piece.
- 1084 10 July 1948
the British Astronomical Association and materials from Criterion Ltd.
Paper 1f.
- 1085 13 July 1948
the *Journal of the British Astronomical Association* .
Paper 1f.

1086 21 July 1948

telephone bill.

Paper 1f.

1087 6 August 1948

petty cash and postage.

Paper 1f.

1088 12 August 1948

petty cash.

1 piece.

1089 23 August 1948

Dr. Holmes' fee for completing the Meteorological records book.

Paper 1f.

1090 26 August 1948

Holmes' fee for completing the Meteorological records book.

Paper 1f.

1091 19 October 1948

petty cash.

Paper 1f.

1092 22 October 1948

petty cash.

Paper 1f.

1093 23 October 1948

the *Astronomical Journal* and Barograph charts.

Paper 1f.

1094 [August 1948]

the subscription for the *Astronomical Journal*.

1 piece.

1095 6 November 1948

Mr. Owen's fee for work at the Observatory in the summer, photographic paper for the seismographs, from Criterion Ltd., the *Astronomical Journal*, and the *Quarterly Journal of the Royal Meteorological Society*.

Paper 1f.

1096 27 November 1948

the Meteorological Office.

Paper 1f.

1097 4 December 1948

the photographic paper from Criterion Ltd., and Mr. Owen's fee.

Paper 1f.

1098 13 December 1948

materials from Criterion Ltd.

Paper 1f.

- 1099 29 December 1948
the subscription for Weather and photographic paper supplied by Brady and Martin.
Paper 1f.
- 1100 8 January 1949
for a Ministry of Labour form for Mr. McCall and a statement from Messrs. Ransomes, Sims and Jefferies Ltd.
Paper 1f.
- 1101 27 January 1949
petty cash.
Paper 1f.
- 1102 1 February 1949
January telephone bill.
Paper 1f.
- 1103 5 February 1949
the telephone bill and the subscription for the *Seismological Bulletin* supplied by Deighton Bell and Co.
Paper 1f.
- 1104 12 February 1949
Twin lock binder, supplied by Barlow and Son.
Paper 1f.
- 1105 9 April 1949
petty cash.
Paper 1f.
- 1106 20 April 1949
petty cash.
Paper 1f.
- 1107 and 1108 23 April 1949
Mr. O'Neill's fee for working on the seismological records for the year ending 31 March 1949.
1 piece each
- 1109 (c. 6 May 1949?)
Messrs. Casella and Messrs. Darton.
1 piece.
- 1110 28 May 1949
photographic paper from Brady and Martin and from Criterion Ltd., the Barometer Case from Snowball and Son and the Maximum Thermometer from the Royal Air Force.
Paper 1f.
- 1111 7 June 1949
the same.
Paper 1f.

- 1112 11 June 1949
for a Thermohygrograph costing £24 from Messrs. Casella.
Paper 1f.
- 1113 2 July 1949
photographic paper for the seismographs from Criterion Ltd.
Paper 1f.
- 1114 16 July 1949
materials from Criterion Ltd., and petty cash.
Paper 1f.
- 1115 26 July 1949
the telephone bill.
Paper 1f.
- 1116 26 July 1949
the Rule Form Planimeter from Messrs. W.F. Stanley and Co.
Paper 1f.
- 1117 26 July 1949
Dr. K.F. Chackett's quarterly stipend for keeping the meteorological records.
1 piece.
- 1118-1126 28 January 1948-26 July 1949
Mrs. G.F. Chackett's pay for January, March, April, May, June and October 1948; and March, June and July 1949.
9 items, 1f. each
- 1127 30 July 1949
the planimeter.
Paper 1f.
- 1128 26 August 1949
the telephone bill, rainguage and anemometer charts, and two accumulators.
Paper 1f.
- 1129 3 September 1949
the rainguage charts and repairs to the barometer by the Meteorological Office.
Paper 1f.
- 1130 18 September 1949
the thermohygrograph supplied by Casella and Co., pen nibs and ink for the anemometer and the latest edition of the Meteorological Observer's Handbook.
Paper 1f.
- 1131 23 September 1949
the accumulators from Gledson's.
Paper 1f.
- 1132 15 October 1949
materials from Timothy Whites and Taylors, 2 dozen copies of the Durham Meteorological Summaries.
Paper 1f.

- 1133 12 November 1949
the accumulators, the subscription for *Annales d'Astrophysique* supplied by Deighton, Bell and Co., and pamphlet boxes.
Paper 1f.
- 1134 20 November 1949
Barograph and Anemometer charts, pens and ink.
Paper 1f.
- 1135 24 November 1949
Barograph and Anemometer charts, pens and ink.
Paper 1f.
- 1136 3 December 1949
transport boxes from Thos. Hill and Co., and the subscription to *Popular Astronomy* supplied by E.W. Allen and Son.
Paper 1f.
- 1137 6 January 1950
photographs equipment from Brady and Martin and Criterion.
Paper 1f.
- 1138 and 39 15 January 1950
the gas bill.
Paper 1f. each
- 1140 17 January 1950
Messrs. E.G. Allen and Sons.
Paper 1f.
- 1141 25 February 1950
two Air Maximum thermometers from the Meteorological Office.
Paper 1f.
- 1142-1144 15 and 18 March 1950
Exchange of letters between Stobart and Chackett concerning Observatory expenses 1948/49, 1949/50 and 1950/51; with copy of actual and estimated account.
3 items, 1f. each
- 1145-1192
Correspondence between Stobart and Dr. K.F. Chackett or Mrs. G.A. Chackett concerning orders for equipment or payments in respect of:
- 1145-1147 18 and 23 April 1950
O'Neill's fee for developing seismological records for the year ending 31 March 1950.
3 items, 1f. each
- 1148 27 April 1950
petty cash.
Paper 1f.
- 1149 27 April 1950
Mrs. Chackett's pay for April 1950.
Paper 1f.

1150 29 April 1950

the gas accounts.

Paper 1f.

1151 30 April 1950

the account with Deighton and Bell, and copies of the Nautical Almanac for 1939, 1940 and 1941.

Paper 1f.

1152 5 May 1950

the gas accounts.

Paper 1f.

1153 8 May 1950

the same.

Paper 1f.

1154 7 June 1950

the Rule Form Planimeter from W.F. Stanley & Co.

Paper 1f.

1155 10 June 1950

the Stanley Planimeter, and the *Quarterly Journal of the Royal Meteorological Society*.

Paper 1f.

1156 13 June 1950

the same.

Paper 1f.

1157 28 July 1950

the telephone account.

Paper 1f.

1158 1 August 1950

petty cash, postage and tradesmen's accounts; and a maximum thermometer obtained from Brady and Martin.

Paper 1f.

1159 1 August 1950

private telephone calls.

Paper 1f.

1160 2 August 1950

a Maximum thermometer from Messrs Brady and Martin.

Paper 1f.

1161 3 August 1950

the procedure for ordering equipment.

Paper 1f.

1162 5 August 1950

L'Astronomie and *Astronomische Nachrichten*, written under a letter dated 11 August 1950 regarding an invitation to Chackett from Mr. Peirson.

Paper 1f.

1163 8 September 1950

1949 and 1950 volumes of *L'Astronomie*, charts and photographic papers supplied by Casella, R.W. Munro Ltd., and Criterion Ltd.

Paper 1f.

1164 12 September 1950 (Postmark)

the March number of *Astronomie*.

1 card

1165 28 September 1950

Mrs. Chackett's pay for September 1950.

Paper 1f.

1166 8 October 1950

photographic paper from Messrs. E.N. Mason, the Astrophysical Journal from the Cambridge University Press, the account with Deighton, Bell and Co. Ltd., and the subscription to *Popular Astronomy*.

Paper 1f.

1167 12 October 1950

the standing order for *Popular Astronomy*.

Paper 1f.

1168 13 October 1950

new locks for the doors of the Observatory and the Seismograph Hut to satisfy the requirements of the Insurance Company.

Paper 1f.

1169 21 October 1950

the new locks, petty cash and postage.

Paper 1f.

1170 27 October 1950

the gas accounts.

Paper 1f.

1171 4 November 1950

photographic equipment, and the new locks.

Paper 1f.

1172 28 November 1950

Mrs. Chackett's pay for November 1950.

Paper 1f.

1173 9 December 1950

the account with Messrs. Deighton and Bell, and the *Bulletin of the Seismological Society of America*.

Paper 1f.

1174 and 1175 31 December 1950

the account of George Gradon and Son Ltd. for joiners work at the Observatory.

2 pieces.

1176 17 January 1951

the gas accounts.

Paper 1f.

1177 18 January 1951

the telephone account.

Paper 1f.

1178 20 January 1951

the gas and telephone accounts, two mirror units for the seismograph, two canisters for photographic paper, both from Messrs. Hifer and Watts, and book binding by Dunn and Wilson.

Paper 1f.

1179 2 February 1951

the book binding account.

Paper 1f.

1180 2 February 1951

the new locks required by the insurance company.

Paper 1f.

1181 4 February 1951

repairs to the shutter on the Dome, and the subscription for *Weather*.

Paper 1f.

1182 10 February 1951

the book binding account and the new locks.

Paper 1f.

1183 14 February 1951

the book binding account and the new locks.

Paper 1f.

1184 4 March 1951

photographic paper for the seismograph.

Paper 1f.

1185 14 March 1951

the electricity accounts.

Paper 1f.

1186 and 1187 4 April 1951

O'Neill's fee for developing seismological records for the year ended 31 March 1951.

2 items, 1 piece each

1188 8 April 1951

O'Neill's fee and the canisters for photographic paper.

Paper 1f.

1189 14 April 1951

L'Astronomie, photographic paper and Deighton and Bell's account.

Paper 1f.

1190 18 April 1951
the Staff Travel Fund.
Paper 1f.

1191 19 May 1951
photographic paper from Messrs. E.N. Mason and Sons.
Paper 1f.

1192 15 August 1951
petty cash.
Paper 1f.

1193-1212

Correspondence between the Financial Clerk (1193 only), Stobart, or the Treasurer Col. Fitzgerald Lombard and Dr. W.K.R. Musgrave concerning orders for equipment or payments in respect of:

1193 2 November 1951
two mirror units for the Milne Shaw seismograph.
Paper 1f.

1194 4 November 1951
repairs to the waterpipes at the Observatory and to the ladder leading to the store room in Observatory Cottage.
Paper 1f.

1195 9 November 1951
repairs at the Observatory.
Paper 1f.

1196 8 February 1952
estimates of expenditure for the years 1951/52 and 1952/53.
Paper 1f.

1197 13 February 1952
the same.
Paper 1f.

1198 4 March 1952
the subscription to the *Quarterly Journal of the Royal Meteorological Society*.
Paper 1f.

1199 [23] March 1952
alterations to the fireplace at Observatory Cottage.
Paper 1f.

1200 24 March 1952
the same.
Paper 1f.

1201 16 May 1952
sickness benefit and alterations to the fireplace at Observatory Cottage.
Paper 1f.

1202 27 May 1952
alterations to the fireplace at Observatory Cottage.
2 pieces

1203 8 June 1952
the February 1952 issue of *L'Astronomie*.
Paper 1f.

1204 9 June 1952
the February number of *L'Astronomie*.
(Copy of letter from Col. Lombard to the House of Andrews).
2 pieces

1205 15 June 1952
the construction of a greenhouse in the ground of Observatory Cottage.
Paper 2ff.

1206 27 October 1952
the insurance of the contents of the Observatory.
Paper 1f.

1207 17 January 1953
repairs to the electrical wiring in the Seismograph House and new gravel
for the paths at the Observatory.
Paper 1f.

1208 28 January 1953
gravel (for the Observatory paths).
Paper 1f.

1209 7 March 1953
felling trees and planting shrubs.
Paper 1f.

1210 22 September 1953
insurance for the Willmore Seismograph on temporary loan from Hilger and
Watts Ltd.
Paper 1f.

1211 23 September 1953
the same.
Paper 1f.

1212 24 November 1953
shrubs at the Observatory.
Paper 1f.

Papers concerning the order, supply and repairs to equipment

1213-1229
Numbers not used.

1230 18 June 1946
Letter from J. Gledson and Co. Ltd., electric and wireless wholesaler, to Joyce
concerning the supply of Accumulators.
Paper 1f.

1231 25 June 1946
Despatch note from J. Gledson and Co. Ltd., in respect of five Exide
Accumulators.
Paper 1f.

1232 No date

Letter from Negretti and Zambra Ltd. to Joyce regretting that they are unable to supply a Ground Minimum Thermometer (Order No. D2560) to replace the one that was damaged.

Paper 1f.

1233-1243

Numbers not used.

1244 26 April 1948

Copy letter from Chackett to Messrs. Stanley and Co. asking if they can recommend a planimeter suitable for measuring mean wind speed from the anemometer records and enclosing some anemometer charts as samples.

Paper 1f.

1245 January 1947

Brochure advertising Stanley Planimeters with price list.

Paper 4ff.

1246 28 May 1948

Copy letter from Chackett to Messrs. Stanley and Co. saying that the University will be ordering a planimeter and asking for the return of sample charts.

Paper 1f.

1247-1250 24 May - 17 June 1948

Papers and correspondence concerning the purchase of a Planimeter from Stanley and Co. Ltd. including an acknowledgment of the order.

4 items, 1f. each

1251-1264

Numbers not used.

1265 and 1266 18 and 24 March 1949

Exchange of letters between Chackett and Messrs. Watts and Son Ltd. concerning the supply of a portable stand for an old reflecting telescope.

Paper 1f.

1267 5 May 1949

Copy of letter from Chackett to Messrs. Stanley and Co. enquiring about the Planimeter ordered in May 1948.

Paper 1f.

1268-1272

Numbers not used.

1273 10 May 1949

Letter from Messrs Stanley and Co. informing Chackett that they can find no trace of the order for a Planimeter and requesting further details.

Paper 1f.

1274

Number not used.

1275 21 May 1949

Copy of letter from Chackett to Messrs. Stanley and Co. expressing surprise that they cannot trace the order for a planimeter dated 10 June 1948 as it was acknowledged by letter, and requesting the return of sample anemometer charts. Paper 1f.

1276 28 May 1949

Copy of letter from Chackett to Messrs. Casella Ltd. requesting a quotation for the Thermo-Hygrograph M1040. Paper 1f.

1277 2 June 1949

Letter from Messrs. Stanley and Co. informing Chackett that the Planimeter will be ready for despatch within approximately 4/6 weeks. Paper 1f.

1278, 1279/1 and 2 11-15 June 1949

Exchange of letters between Chackett and Howard Grubb Parsons & Co. with Report on the state of the Gregorian Telescope (9¼ inch) mirror, signed J.W. 3 items, 1f. each

1280

Number not used.

1281 and 1282 6 and 16 July 1949

Exchange of letters between Sir Howard Grubb Parsons and Co. to Chackett concerning the mirrors. Paper 1f. each

1283 9 September 1949

Delivery note in respect of 1 Thermo-Hygrograph supplied by Casella Ltd. Paper 1f.

1284 9 September 1949

Letter from R.W. Munro Ltd. saying that the new printing of Dines Anemometer charts in knots should be ready for despatch at the beginning of October. Paper 1f.

1285 28 October 1949

Copy of letter from Chackett to Mr. Manville at Howard, Grubb and Parsons Ltd. thanking him for sending the report on the telescopic mirrors, which he had left behind in the taxi after collecting the mirrors. Paper 1f.

1286-1290 5 November - 2 December 1949

Papers and correspondence between Chackett and Messrs. R.W. Munro concerning the supply of charts pens and ink for the Dines Pressure Tube Anemometer.

5 items, 1f. each excepting 1290, 2ff.

1291 6 July 1950

Copy of letter from Chackett to R.W. Munro Ltd. requesting advice on problems encountered with Anemometer. (*see above No. 982*)

Paper 1f.

1292-1294 6 and 10 July 1950

Exchange of letters between Chackett and Stanley and Co. and delivery note in respect of the planimeter ordered in June 1948.

3 items, 1f. each

1295 28 July 1950

Copy of letter from Chackett to Messrs. R.W. Munro Ltd. concerning the problems with the vane of the Anemometer which is sticking.

Paper 1f.

1296-1303 15 September - 14 November 1950

Papers and correspondence between Chackett and R.W. Munro Ltd. concerning the supply of anemometer charts in knots.

8 items, 1 piece each

1304-1314

Numbers not used.

1315 and 1316 3 and 8 March 1952

Exchange of letters between R.W. Munro Ltd. and Musgrave concerning the need for a spare clock for the Dines Pressure Tube Anemometer.

Paper 1f.

1317 9 August 1952

Letter from C.F. Casella and Co. Ltd. apologising for sending the wrong charts, (order no.7514), and stating that the recorder clock sent had been modified to give a weekly timing.

Paper 1f.

1318 No date

Consignment note from C.F. Casella and Co. in respect of charts, recorder pens and Solar Radiation Thermometer (order no.7525).

Paper 1f.

Correspondence with the Meteorological Office

1319 and 1320 12 and 14 August 1937

Issue Voucher and Despatch Note for items in respect of the Anemometer.

Paper 1f. each

1321 and 1322 16 December 1937

Certificate approving observations at Durham for use in the Official Publications of the Meteorological Office, and covering letter.

Paper 1f. each

1323 24 January 1940

List and condition of instruments belonging to the Meteorological Office at Durham Observatory.

Paper 1f.

1324 No date (Spring 1941?)

List and condition of instruments belonging to the Meteorological Office at Durham Observatory.

Paper 1f.

1325 6 March 1941

Invoice for the supply of forms.

Paper 2ff.

1326 7 March 1941

Query regarding rainfall at Durham 18-20 February 1941.

Paper 1f.

1327 28 April 1941

Instructions for taking observations during British Summer Time, 4 May - 9 August 1941.

Paper 1f.

1328 May 1941

Request for hourly wind values at Durham on 13 June 1940.

Paper 1f.

1329 1 August 1941

Instruction for reporting sunshine values.

Paper 1f.

1330 17 March 1942

Request for report on the condition of instruments at Durham.

Paper 1f.

1331 12 April 1942

List and condition of instruments belonging to the Meteorological Office at Durham.

Paper 1f.

1332 23 March 1943

Request for rainfall figures for 1942.

Paper 1f.

1333 24 March 1943

Request for report on the condition of instruments belonging to the Meteorological Office at Durham.

Paper 1f.

1334 30 March 1943

Instructions for taking observations during Summer Time, 4 April - 15 August 1943.

Paper 1f.

1335 4 April 1943

List and condition of instruments belonging to the Meteorological Office at Durham Observatory.

Paper 1f.

1336 18 June 1943

Request for rain gauge charts for January 1941 and October 1942.

Paper 1f.

1337 28 August 1943

Advice on problems concerning the wet bulb readings for July 1943.

Paper 1f.

1338 19 January 1944

Request for report on the condition of instruments belonging to the Meteorological Office at Durham.

Paper 1f.

1339 22 April 1947

Request for information about the Observatory for a revised edition of *Offices Météorologiques du Monde* to be published by the International Meteorological Association.

Paper 1f.

1340 23 April 1947

Acknowledgement of order of 29 March 1947 for a maximum thermometer stating that there will be a delay of at least three months.

Paper 1f.

1341 25 September 1947

Urgent request for anemograms, thermograph and barograph charts for 17 August to 14 September for an investigation into unusual barograph record from Scarborough.

Paper 1f.

1342 6 October 1947

Acknowledgement for receipt of anemograms and thermograph charts.

1 card

1343-1345 19 December 1947

Issue Voucher for thermometers and other equipment, and two packing notes for the same.

1 piece each

1346 24 February 1948

Request for report, and Return regarding the instruments belonging to the Meteorological Office at Durham.

Paper 2ff.

1347 and 1348 8 March 1948

Instructions for recording of the "highest hourly wind" and the "highest gust", and covering letter.

Paper 1f. each

1349 No date

Notice of increase in the price of meteorological forms from 1 March 1948.

Paper 1f.

1349A 11 March 1948

Instructions for taking observations during Summer Time, 14 March - 31 October 1948.

Paper 1f.

1350 15 March 1948

Instructions for recording the number of hours with gusts exceeding 54 m.p.h.

1 card

1351 20 April 1948

Request for hourly wind speed and direction records from 1940.

Paper 1f.

1352 13 May 1948

Instructions for completing the wind analysis form, F3433.

Paper 1f.

1353 18 May 1948

Issue Voucher for a thermometer.

1 piece.

1354 21 May 1948

Request for the Durham anemogram for 31 March/1 April 1948.

Paper 1f.

1355 31 May 1948

Chackett's reply to above letters nos. 1352 and 1354.

Paper 1f.

1356 18 June 1948

Covering letter for the return of an anemogram.

Paper 1f.

1357 3 July 1948

Chackett's acknowledgement of the receipt of anemograms and thermograms.

Paper 1f.

1358 6 July 1948

Instructions concerning the recording of wind direction.

Paper 1f.

1359 and 1360 10 and 12 August 1948

Issue Voucher for a Thermometer Earth Symon's Pattern, and covering letter.

1 piece each

1361-1370 23 August - 21 November 1948

Correspondence between Chackett and the Meteorological Office concerning the return of a Fortin Barometer to the Meteorological Office for cleaning and the loan of a standard Kew pattern barometer.

10 items, 1 piece each

1371 24 November 1948

Request for Durham anemograms.

Paper 1f.

1372 25 November 1948

Copy of Chackett's reply.

Paper 1f.

1373 30 November 1948

Letter concerning a correction card for the new barometer and regretting that the Meteorological Office cannot supply a box suitable for transporting the Fortin Barometer.

Paper 1f.

1374 15 November 1948

Request for the early return of monthly weather reports.

Paper 1f.

1375 and 1376 17 and 30 December 1948

Request for information as to latitude and height above sea level, needed for the preparation of a correction card for the new barometer; and Chackett's reply.

Paper 1f. each

1377 December 1948

Instructions for completing forms during the changeover in recording wind from miles per hour to knots.

Paper 1f.

1378 5 January 1949

Copy of letter from Chackett to the Meteorological Station at Tynemouth requesting an explanation for the unusually low barometric pressure recorded at 2100 hrs. on 1 January.

Paper 1f.

1379 8 January 1949

Request from Chackett for a Pocket Register and Weekly Climatological Report Forms for 1949.

Paper 1f.

1380 12 January 1949

Letter from the Meteorological Office R.A.F. Acklington to Chackett attributing the exceptionally low pressure on 1 January to the movement of two centres of a complex depression.

Paper 1f.

1381 and 1382 28 January 1949

Request for report, and Return regarding the instruments at Durham on loan from the Meteorological Office.

Paper 1f. each

1383 5 February 1949

Chackett's acknowledgement for the receipt of the Barometer correction card, stating that the Fortin barometer will be despatched in a few days.

Paper 1f.

1384 7 February 1949

Letter from the Meteorological Office concerning modifications to and the certification of the (Fortin) Barometer.

Paper 1f.

1385-1389 12-24 February 1949

Correspondence concerning the recording of wind speed in knots.

3 items, 1f. each and 2 cards

1390-1391 16 and 18 March 1949

Exchange of letters concerning the despatch of the Fortin Barometer.

Paper 1f. each

1392 25 April 1949

Issue and receipt voucher for a scale anemograph in knots.

Paper 1f.

1393 and 1394 30 April 1949

Approval of Durham sunshine recording, and the sunshine record for March 1949.

1f. and 1 piece

1395 and 1396 16 and 21 May 1949

Issue voucher for a thermometer and notice of despatch.

Paper 1f. each

1397-1403 31 May-17 August 1949

Correspondence concerning the cost of cleaning the Fortin Barometer and its return to Durham; with mention of the failure of the seismograph to record the Ecuador earthquake (no. 1402).

6 items, 1f. each and 1 card

1404 24 August 1949

Request for daily rainfall readings 1-12 August for the investigation of rainfall on days when experiments were carried out to break the drought in Upper Teesside by the use of Drikold.

Paper 1f.

1405 and 1406 26 August 1949

Issue voucher for the repairs to the Fortin Barometer; and acknowledgement of its receipt and request for correction card.

Paper 1f. each

1407 29 August 1949

Notice of intention to inspect the meteorological station at Durham on 14 September.

Paper 1f.

1408 30 August 1949

Acknowledgement of letter (requesting a correction card).

1 card

1409 10 September 1949

Chackett's acknowledgement of letter concerning inspection (no. 1407).

Paper 1f.

1410-1414 10-18 September 1949

Correspondence concerning the return of the Kew Barometer to the Meteorological Office, the supply of a correction card for the Fortin Barometer and giving correction figures for 4 thermometers as required following the recent inspection.

5 items, 1f. each

1415-1416

Numbers not used.

1417 26 November 1949

Request by Chackett for anemometer charts in knots.

Paper 1f.

1418

Number not used.

1419 and 1420 6 January 1950

Exchange of letters concerning the return of the Kew Barometer to the Meteorological Office.

2 items, 1f. each

1421-1424 26 January-14 February 1950

Correspondence concerning points arising from the inspection in September.

4 items, 1f. each

1425 15 February 1950

Instructions from the Meteorological Office concerning the use of Beaufort letters.
Paper 1f.

1426 18 February 1950

Copy of letter from Chackett commenting on points arising from the inspection regarding the rain gauge, the felling of trees and the distance of visibility objects.
Paper 1f.

1427 and 1428 25 February and 8 March 1950

Copy of letter from Chackett requesting 2 new maximum thermometers, and acknowledgement from the Meteorological Office.

Paper 1f. each

1429 and 1430 13 March 1950

Request for report, and copy of Return regarding the instruments at Durham on loan from the Meteorological Office.

Paper 1f.

1431 12 April 1950

Request for completed form A.M. 1094.

Paper 1f.

1432 and 1433 21 June 1950

Exchange of letters concerning the wind record for May 1950.

Paper 1f. each

1434 8 July 1950

Request for completed form 1094.

Paper 1f.

1435 29 July 1950

Copy of letter from Chackett informing the Meteorological Office that he has obtained a thermometer from Messrs. Brady and Martin in Newcastle to replace one which was broken and prepared a correction table for it, returning Form 1094 complete except for the photographs.

Paper 1f.

1436 8 August 1950

Copy of letter from Chackett concerning holiday arrangements from 14 August to 8 September.

Paper 1f.

1437 11 August 1950

Acknowledgement of Chackett's letter dated 8 August 1950.

1 card

1438-1442 August-21 September 1950

Correspondence concerning points arising from the completed form 1094 regarding the history and records of the Durham Meteorological station, the position of thermometers and the use of the new thermometer, the need to make the site more open, visibility objects and the photographs.

4 items, 1f. each and 1 card

1443 30 September 1950

Instructions concerning Visibility Objects.

Paper 1f.

1444-1446 15 November 1950

Information and instructions concerning the monthly returns November-January, the retention of sunshine cards, snow observations, and National Grid references.

3 items, 1f. each

1447 29 December 1950

Request by Chackett for a new Pocket Register.

Paper 1f.

1448 18 January 1951

Request for December 1950 sunshine cards.

1 card

1449 23 January 1951

Result of Meteorological Office examination of the sunshine cards for December 1950.

Paper 1f.

1450 17 February 1951

List and condition of instruments belonging to the Meteorological Office at Durham Observatory.

Paper 1f.

1451 14 April 1951

Copy of letter from Chackett to the Meteorological Office concerning a query from Mr. Badger regarding comparisons between weather conditions in this country and the U.S.A.; and enquiry about the maximum thermometer ordered 29 July 1950.

See also No. 2060 below.

Paper 1f.

1452 24 April 1951

Copy of letter from the Meteorological Office to S. Badger of Rowland Gill advising him to consult the records at the Meteorological Office and recommending several books, sent to Chackett with Meteorological Office compliment slip.

1f. and 1 piece

1453 23 April 1951

Issue voucher for two maximum thermometers, received 28 April 1951.

1 piece.

1454

Number not used.

1455-1457 30 October 1951 (postmark)

Instructions concerning the monthly returns. Notice and tables concerning the computation of relative humidity from readings of dry-bulb and ice-covered wet-bulb thermometers.

1f. and 2ff.

1458-1459 28 December 1951

Request from the British Rainfall Organisation for the contribution of data for *British Rainfall, 1951*.

Leaflet on *British Thunderstorms 1949*.

Printed. 2ff. and 1f.

1460

Number not used.

1461 8 January 1952

Request for the December 1951 readings.

1 card

1462 24 January 1952

Letter concerning the manner in which total annual rainfall is expressed.

Paper 1f.

1463 and 1464 26 February and 2 March 1952

Request for report, a copy of Return regarding the Meteorological Office instruments at Durham Observatory.

Paper 1f. each

1465 9 April 1952 (postmark)

Instructions concerning the completion of the Wind Analysis form.

1 card

1466 and 1467 August 1952

Notice of training course for Observers, 6-9 October 1952, and application form.

1 piece each

1468 20 October 1952

Instructions concerning the monthly returns.

Paper 1f.

1469 3 December 1952

Telegram requesting confirmation that the maximum temperature for November was 64.

1 piece.

1470-1471 28 December 1952

Request from the British Rainfall Organisation for the contribution of data for *British Rainfall, 1952*.

Leaflet on *British thunderstorms 1950*.

2 items

1472

Number not used.

1473 31 December 1952

Request for November and December 1952 sunshine cards.

Paper 1f.

1474 5 January 1953

Result of examination of November and December 1952 sunshine cards.

Paper 1f.

1475 and 1476 2 and 5 February 1953

Request for report and copy of Return regarding the Meteorological Office instruments at Durham Observatory.

Paper 1f. each

1477 9 April 1953

Notice of inspection by the Chief Meteorological Officer on 5 May 1953.

Paper 1f.

1478 and 1479 8 May 1953

Letter to Musgrave concerning publications of the Meteorological Office; and list of Meteorological Office publications revised to 30 November 1952.

Printed booklet 1f. in addition

1480 17 May 1953

Copy of letter from Musgrave requesting a copy of the Instrument Instruction Leaflet No. 124, dealing with the calibration of Pressure Tube Anemometers.

Paper 2ff.

1481 19 June 1953

Letter on matters arising from the inspection.

Paper 1f.

1482 and 1483 24 July 1953

Comments on the Anemograph records for June 1953; and draft of Musgrave's reply.

1f. and 2ff.

1484 26 October 1953

Instructions concerning the monthly returns.

Paper 1f.

Correspondence concerning the seismographs

1485 7 January 1942

Letter from Vivian Barocas, Magnetic Station, Abinger Common nr. Dorking to Beecroft saying that he is returning the records (Seismograms) for 1 July - 31 December 1940 and requesting the records for 1941.

Paper 1f.

[27 July 1942:

Letter from H.J. Humphrey, Mines Inspector, Doncaster, to A. Beecroft concerning the return of seismograph records. See below, No. 1918.]

1486 9 September 1945

Letter from J.J. Shaw of Sunnyside, Birmingham Rd., W. Bromwich, to Joyce, recommending *The Milne Shaw Seismograph Handbook* and *A Manual of Seismology* by Charles Davison.

Paper 1f.

1487-1495 10 December 1945 - 1 June 1946

Correspondence between V. Barocas, now of Fair View, Abinger Common, Dorking, and Joyce concerning the difficulties involved in measuring the seismograms prior to 1945.

9 items, 1f. each except 1493, 2ff.

1496 15 June 1946

Letter from A.E.M. Geddes of the Natural Philosophy Department, Aberdeen University, to Joyce answering queries in connection with the seismographs regarding the paper used, illumination and constants.

Paper 2ff.

1497 12 August 1946

Circular letter from the Department of Geology and Geophysics at Cambridge giving information about an explosion on Heligoland in September.

Paper 1f.

1498 1 September 1946

Letter from Barocas to Joyce saying that he is returning the records for October to December 1945, with proposals for meeting each other.

Paper 1f.

1499 2 September 1946

Postcard from Department of Geology at Cambridge announcing the postponement of the proposed explosion on Heligoland.

1 card

1500-1502 4 September - 18 December 1946

Three letters from A.E. Geddes of Department of Natural Philosophy, Marischal College, Aberdeen, to Joyce concerning problems with the seismograph, comparing the Durham records with those of Aberdeen, and suggesting that he should seek advice from the secretary of the Seismological Committee.

3 items, 1f. each except 1502, 2ff.

1503 8 April 1947

Circular letter from E.C. Bullard, Department of Geodesy and Geophysics at Cambridge concerning a large explosion to take place at Heligoland on 18th April, explaining arrangements with the B.B.C. to broadcast time signals indicating the exact time of the explosion and requesting copies of records obtained.

Paper 1f.

1504 11 June 1947

Letter from E.C. Bullard, Department of Geodesy and Geophysics at Cambridge giving some details on the Heligoland explosion.

Paper 1f.

1505 1 August 1947

Letter from G.F. Berli, of 1, Fieldhouse Terrace, Durham, to Chackett saying that he had just discovered the enclosed letters from J.J. Shaw to Sargent concerning the erection of the seismograph; and requesting the July meteorological material.

Paper 1f.

1506-1510 18 September 1929 - 30 April 1930

Attached:

5 letters from J.J. Shaw of Milne-Shaw Seismographs, secretary of the British Association Seismological Committee, to Sargent giving detailed advice on the erection of the seismograph and commenting on the results obtained at Durham.

1f. each (except 492, 2ff.)

1511 11 August 1947

Letter from J.J. Shaw to Chackett agreeing to help with any problems; with reference to the handbook sent with each instrument (the seismograph).

Paper 1f.

1512 17 September 1947

Card from J.J. Shaw to Chackett acknowledging the receipt of his roll (the records) and asking him to postpone his visit to the 24th September.

1 card

1513 October 1947

British Association for the Advancement of Science: *Report of the Seismological Investigations Committee for 1947*.

Printed 3ff. and 1 piece

1514-1516 14 April and 3 May 1948

Correspondence between Chackett and J.J. Shaw concerning the attempts to improve the seismographs.

3 items, 1 piece each

1517 27 May 1948

Circular letter from M. Charlier, of the Seismological Department of the Royal Observatory of Belgium, requesting the completion of a questionnaire designed to bring the list of seismological stations up to date.

Paper 1f.

1518-1523 14 November 1948 - 5 January 1949

Correspondence concerning an unusual disturbance recorded by the Durham seismograms on 12 October:

copies of letters from Chackett to the Observatories at Aberdeen and Kew, H.V. Shaw, and the manager of Littleburn Colliery, Durham, and their replies.

6 items, 1f. each

1524 15 August 1949

Letter from the Director of the International Seismological Summary at Kew Observatory requesting the records from Durham for July-December 1939.

Paper 1f.

1525 27 August 1949

Copy of letter from Chackett to the International Seismological Summary at Kew Observatory regretting that the seismological readings at Durham are regarded as unreliable from June 1939 until January 1946 owing to shortage of suitable staff during the war.

Paper 1f.

1526 10 February 1950

Copy of letter from Chackett to the Director of Kew Observatory requesting copies of the International Seismological Summary for January to June 1926.

Paper 1f.

1527 and 1528 24 April and 24 June 1950

Copies of two letters from Chackett to H.V. Shaw enquiring about the new bridge and mirror units being made for the seismographs, and requesting a new pair of black photographic paper cans.

Paper 1f. each

1529

Minutes of the Meeting of the Seismological Investigations Committee, British Association for the Advancement of Science, 31 August 1950.

Paper 1f.

1530

"Seismological Investigations: 55th Report of Committee on Seismological Investigations".

Reprint from *The Advancement of Science* Vol. VII, No. 27, 1950.

Paper 3ff.

1531 21 October 1950

Copy of letter from Chackett to H.V. Shaw, describing in detail his experiments to improve the performance of the seismographs.

Paper 1f.

1532 and 1533 20 and 26 January 1951

Exchange of letters between Chackett and Hilger and Watts Ltd. concerning arrangements for a trial test of the prototype Willmore Seismograph at Durham, and the supply of mirror units for the Milne-Shaw Seismograph.

1f. and 2ff.

1534 29 January 1951

Card from Lt.-Col. Tillotson acknowledging the receipt of Seismogram readings for December 1950.

1 card

1535 2 February 1951

Letter from Hilger and Watts Ltd. to the University Office acknowledging receipt of the order for mirror units; compliment slip from the Financial Clerk attached.

1f. and 1 piece

1536-1538 3 February - 17 April 1951

Correspondence between Chackett and Messrs Hilger and Watts concerning arrangements to see the Willmore Seismograph at the Physical Society Exhibition and to transport it back to Durham.

Paper 1f. each

1539 23 May 1951

Request from the Istituto Nazionale di Geofisica at Rome for the loan of seismographic records for the investigation of the earthquake in Val Padana, Italy, on 15 May 1951.

Paper 1f.

1540-1543 27 May-6 June 1951

Correspondence between Chackett and Hilger and Watts Ltd. concerning arrangements for transporting the Willmore Seismograph to Durham.

4 items, 1f. each

1544-1550 28 June-17 July 1951

Correspondence between Chackett and Hilger and Watts Ltd. concerning problems with the Willmore Seismograph and arrangements for taking it to an exhibition in Belgium.

7 items, 1f. each

1551 26 July 1951

Copy of letter from Chackett to Dr. P.L. Willmore, of the Geophysics Department, Cambridge, sending seismograph records from the Milne Shaw and the Willmore instruments, and asking for his comments on the failure of the Willmore machine to show a quake recorded on the Milne Shaw.

Paper 1f.

1552 No date

Letter from Willmore to Baxter recommending adjustments to the seismograph.

Paper 1f.

1553 30 July 1951

Letter from Hilger and Watts Ltd. to Chackett offering some suggestions to overcome problems with the Willmore seismograph.

Paper 1f.

1554 31 July 1951

Letter from Hilger and Watts sending six new spokes for the seismometer.

Paper 1f.

1555 24 August 1951

Copy of letter from Chackett to Hilger and Watts Ltd. concerning the expenses incurred in sending the Willmore Seismograph to Dr. Willmore at Cambridge and stating that the machine is unlikely to be of much use in the work in Durham.

Paper 1f.

1556 24 August 1951

Despatch note in respect of two mirror units for the Milne-Shaw seismograph supplied by Hilger and Watts Ltd.

Paper 1f.

1557 21 November 1951

Request from the Seismological Observatory, Rathfarnham Castle, Dublin, for information and copies of seismograms in connection with a study of an earthquake in the Mid-Atlantic on 18 July 1951.

1 piece.

1558 9 December 1951 (postmark)

Card from Lt. Col. E. Tillotson acknowledging the receipt of Seismogram readings for November 1951.

1 card

1559 6 January 1952

Draft of letter (from Musgrave) to Mr. H.V. Shaw asking for advice on problems connected with the seismograph.

Paper 2ff.

1560-1563 7 February-11 March

Correspondence between Hilger and Watts Ltd. and Musgrave concerning the order for Boom Points.

1 card and 3 items, 1f. each

1564-1571 14 March-22 April 1952

Correspondence with Hilger and Watts Ltd. concerning problems arising with the new design of Boom Points for the seismograph.

8 items, 1f. each except 1567, 2ff.

1572-1573 8 and 31 October 1952

Exchange of letters between Hilger and Watts Ltd. to Musgrave concerning measures to correct problems with the mirror on the seismograph.

2ff. and 1f.

1574-1577 10 November 1952

Letter from Hilger and Watts Ltd. to Musgrave comparing recent seismograms with the traces originally made from the two mirrors; and cuttings from sample traces, and diagram showing the effect of incorrect positioning of the lamp.

4 items, 1 piece each

1578 21 November 1952

Letter from A.T. Doodson, director of the Liverpool Observatory and Tidal Institute saying that they no longer wish to receive the monthly seismograph readings, although they are still interested in publications containing results of researches in the subject.

Paper 1f.

1579 No date (March 1953?)

Copy of letter from Musgrave to Hilger and Watts Ltd. asking when the Willmore Seismograph will be available so that the Observatory Committee can be informed on 24 March.

Paper 1f.

1580 22 September 1953

Copy of letter from Musgrave to Kodak cancelling an order for Kodak Recording Paper.

Paper 1f.

1581-1583 10-24 November 1953

Three letters from Hilger and Watts Ltd. to Musgrave concerning the loan of a Willmore Seismograph and problems arising from its use.

3 items, 1f., 2ff., 1f.

Correspondence and Papers concerning the Observatory Library

V.72

Record of books lent from the Observatory Library, 3 May 1932-23 November 1949.

1 enclosure at 30 July 1945.

1 volume

[30 October 1942:

Letter from N. Rogers to Beecroft requesting books from the Library.

See below: General Correspondence No. 1919.]

1584 February 1946

Request from the Observatoire de Haute Provence for an exchange of publications; with note of reply by Joyce, 22 April 1946; that no astronomical work is in progress at Durham.

Paper 1f.

1585 9 September 1946

Letter from "Doug." (D. Murray) of 63 Park Avenue, South Shields, to Joyce enquiring about books and journals in the Observatory Library.

Paper 3ff.

1586 September 1946

Request from the W.J. McDonald Observatory, operated jointly by the Universities of Texas and Chicago, for an exchange of publications; with list of the *Contributions of the McDonald Observatory*.

Paper 8ff.

1587 12 October 1946

Letter from Wilfrid Hall of Prior's Terrace, Tynemouth, to Joyce concerning books borrowed from the Library.

Paper 1f.

1588 15 May 1947

Request by Professor H. Amorim Ferreira, director of the newly created National Meteorological Service of Portugal, for publications.

Paper 1f.

1589 16 June 1947

Information concerning the publications of Kirkwood Observatory, Indiana.

Paper 1f.

1590 No date

Offer of publications by the Meteorological Branch of the Department of Interior, Australia; with note of acceptance, 24 July 1947.

Paper 1f.

1591 1947

Printed handout advertising *Répertoire des organismes de Documentation en Belgique* by Julien Van Hove of the Royal Library of Belgium; with card for ordering a copy.

2ff. and card

1592-1594 3-11 June 1948

Correspondence between Miss F. Hurst of the Periodicals Department at the British Council concerning a request from Torun Observatory in Poland to renew the exchange of periodicals which existed before the war.

3 items, 1f. each

1595 28 September 1948

Proposal from R.C. Aldredge, acting librarian for the Weather Bureau, U.S. Department of Commerce, Washington, for an exchange of publications on meteorological and related subjects.

Paper 1f.

1596 No date

Printed slip containing Corrigenda for *The Irrationality of the Irrational* by Alfred Lauck Parson.

1 piece.

1597 10 January 1949

Letter from Henry McCall of 8, Colquhoun Drive, Bearsden, Glasgow to Dr. and Mrs. Chackett on matters connected with cataloguing the books in the Observatory.

Paper 1f.

1598 20 January 1949

Letter from David Ramage, University Librarian, to Mrs. Chackett concerning the cataloguing of periodicals in the Observatory.

Paper 1f.

1599-1606

Numbers not used.

1607 10 February 1950

Copy of letter from Chackett to H.M. Stationery Office requesting copies of the Nautical Almanac for 1939, 1940 and 1941.

Paper 1f.

1608-1645

Numbers not used.

1646 29 August 1952

Letter from Hall Brothers, Steamship Owners and Brokers of Newcastle, enclosing a copy of the Observatory Library catalogue found among the papers of the later Mr. Wilfred Hall.

Paper 1f.

1647 [early 1930s]

Catalogue of the library at the Observatory Durham University, alphabetically by author, with alphanumeric shelfmarks. Typescript, with note at front "Presented by Prof. Heawood. Compiled by Dr Wilfred Hall", stamped 25 October 1934.

Ownership history: Formerly: 016.52

1648 [c.1907 - 1915]

Sheaf catalogue of [the Observatory library], books and journals, with alphanumeric shelfmarks, originally c.1907 with additions to c.1915.

Sheaf binder

1649 [c.1950s]

Card catalogue of [Observatory Library] books and periodicals.

Box of 5" x 3" cards

1650 16 April 1953

Letter from Professor E.C. Abendanon of Monte Carlo offering the Observatory a copy of his book on the Moon, in Dutch; with note of reply, 19 April 1953.

Paper 1f.

1651 22 May 1953

Copy of letter from Baxter to the Warden concerning arrangements for a meeting to discuss the Observatory Library.

Paper 1f.

1652 29 May 1953

Draft recommendations on the location, cataloguing and control of the former Observatory Library made at an informal meeting attended by the Warden, Professor Cragg, Mr. Baxter, Dr. Musgrave and the Librarian, and to be placed before the Observatory Committee and the Library Curators; with the Warden's compliment slip.

Paper 1f.

1653 17 October 1953

Card from Frédéric Montandon of the Union Internationale de Secours (Croix Rouge), Geneva, concerning the publication of *Tremblements de Terre Destructeurs en Europe*.

1 card

1654 19 October 1953

Copy of letter from Baxter to Ramage commenting on the list of books missing from the Observatory Library circulated on 14th October, and on the interpretation of the minutes of the Observatory Committee of 29 June concerning items in the Observatory library which cannot be catalogued; and expressing the hope that much useless stuff accumulated over the years will be thrown away.

Paper 1f.

1655-1659 30 December 1952-31 March 1953

Copies of correspondence between Holgate and Ramage concerning the removal of the Observatory Library to the Science Library.

5 items, 1f. each.

1660-1690 10 April 1947-6 May 1952

Request and/or loan slips for inter-library loans from the Observatory Library, giving details of the items requested and the borrower.

31 pieces

1691-1694

Statistical tables of volumes borrowed and lent through the Northern Regional Library Bureau, April-September 1947, January-March and July-September 1948, including numbers of those lent from the Observatory library.

Paper 5ff.

1695-1726

Numbers not used.

Correspondence with solicitors, insurance companies, etc. concerning claims arising from weather conditions

1727 21 July 1942

Letter from J.S. Adams of Palmer Hall Timber Co. Dunston-on-Tyne to Beecroft enquiring as to the wind velocity about midnight on the night of 19/20 October 1941 when their premises suffered wind damage.

Paper 1f.

1728 and 1729 18-20 October 1941

Photographs of Durham Observatory Pressure Table Anemometer Record for above dates.

2 items

1730-1732 31 October-10 November 1945

Correspondence between F.A. Waller, solicitor of 90 Pilgrim Street Newcastle upon Tyne, Professor G.H.J. Daysh of King's College Newcastle, and Beecroft concerning possible wind damage at Newbiggin-by-the-Sea on 18 January 1945, and arrangements for a student in climatology to visit the Observatory.

3 items, 1f. each

1733-1735 5-10 April 1946

Correspondence between R. Marquis and Co., solicitors of Bishop Auckland, to Joyce concerning wind velocity on Saturday 23rd February when one of their clients was injured by a falling Hotel sign; with reference to photograph of anemometer chart for 20 October 1941 (see No. 1729 above).

3 items, 1f. each

1736-1738 6-19 June 1946

Three letters from D.N. Kershaw of the Prudential Assurance Co. regarding the weather on 18 December 1945; with note of reply 10 June 1946.

3 items, 1f. each

1739 13 August 1946

Letter from D.N. Kershaw of the Prudential Assurance Co. regarding weather in Lartington, Yorks., on 22 July 1946 when it is claimed that lightning caused the death of an eight year old mare; with note of reply, 15 August 1946.

Paper 1f.

1740 14 August 1946

Letter from F. Austin Child, chartered architect of Newcastle, thanking Joyce for sending copies of readings for January, February and March 1942.

Paper 1f.

1741-1743 21 August-16 September 1946

Three letters from W.L. McClure of the Herrington Conservative Association concerning request for rainfall figures between 1 and 7 p.m. on Saturday 7 September, the day of the Association's Gymkhana and Garden Fête.

Paper 1f.

1744-1747 19 May and 13 June

Two letters from Hadaway and Hadaway, solicitors of Pilgrim St., Newcastle concerning request for meteorological information in connection with accidents on 24 November 1944 and 21 February 1946; and copies of the information supplied.

4 items, 1f. each

1748 and 1749 25 and 30 June 1947

Two letters from the Northern Assurance Co. Ltd. concerning request for details of snow fall and daily temperatures from 21 February to 3 March 1947.

Paper 1f. each

1750 and 1751 24 and 29 July 1947

Two letters from Morton, Morton and Shaw solicitors of Sunderland concerning request for expert evidence obtained with a seismograph as to the strength of vibrations caused by machinery in a local forge, which, it is claimed, have damaged their client's dwelling house.

Paper 1f. each

1752-1754 26 September-6 October 1947

Correspondence between G. Arnold Linsley, solicitor of Newcastle, and Chackett concerning temperature and wind force on 9 December 1946.

3 items, 1f. each

1755 and 1756 16 and 23 February 1948

Two letters from Ingledew, Mather and Dickinson, solicitors of Newcastle, requesting the weather report and wind speeds record for 8/9 February.

2 items, 1f. each

1757-1760 11-20 March 1948

Correspondence between the Railway Passengers Assurance Company and Chackett concerning wind speed 8/9 February, when individual gusts between 80 and 95 m.p.h. were recorded.

4 items, 1f. each

1761-1763 16-22 March 1948

Correspondence between Ingledew Mather and Dickinson and Chackett concerning weather report and wind force for 7 February 1948.

3 items, 1f. each

1764-1766 25 March-6 April 1948

Correspondence between D.N. Kershaw of the Prudential Assurance Co. and Chackett concerning wind strength on 9 February in connection with a claim for storm damage.

3 items, 1f. each

1767-1769 16-21 April 1948

Correspondence between Provincial Insurance Co. and Chackett concerning the frost record for January and February in connection with a claim for frost damage to an agricultural tractor.

3 items, 1f., 2ff., 1f.

1770-1773 21-27 April 1948

Correspondence between Ingledew Mather and Dickinson and Chackett concerning the weather and wind records for 8 to 9 November 1947.

4 items, 1f. each

1774-1776 30 April-5 May 1948

Correspondence between Constant and Constant, solicitors of London, and Chackett concerning wind records on 9 February in connection with damage to a vessel "St. Essylt" on the Wear.

3 items, 1f. each

1777-1779 1-5 May 1948

Correspondence between The Motor Union Insurance Co., and Chackett concerning the night temperatures 17-19 November 1947, in connection with a claim for frost damage.

3 items, 1f. each

1780-1782 3-10 August 1948

Correspondence between J. Edgell of the Provincial Insurance Co. Ltd. and Chackett concerning the amount of frost recorded between 1 May and 5 June 1948 in connection with a claim for frost damage to a car.

3 items, 1f. each

1783-1785 11-20 October 1948

Correspondence between Llewellyn, Bradshaw and Hartley, Loss Adjusters and Consulting Engineers of Newcastle, and Chackett concerning the wind and weather report for 13 January 1948.

3 items, 1f. each

1786-1788 20-28 October 1948

Correspondence between J.P. Smith and Co. Loss Adjusters of Newcastle, and Chackett concerning wind speed on or about 2 September.

3 items, 1f. each

1789-1791 23 October-1 November 1948

Correspondence between Botterell, Roche and Spark solicitors of Sunderland and Mrs. Chackett concerning the weather records for 17 September.

3 items, 1f. each

1792-1797 28 December 1948-7 January 1949

Correspondence between Samuel Philips solicitor of Newcastle and Chackett concerning weather conditions for two weeks prior to 10 February 1947 in connection with a claim for damage due to a leaking roof.

6 items, 1f. each

1798-1800 25-31 March 1949

Correspondence between John H. Sinton and Co. solicitors of Newcastle and Mrs. Chackett concerning the strength and directions of wind on the night 5/6 February 1946.

3 items, 1f. each

1801-1800 17-26 May 1949

Correspondence between Law Union and Rock Insurance Co. and Chackett concerning wind velocity on 11 January in connection with an accident caused by a motor cyclist at Leamside Station Bridge.

3 items, 1f. each

1804-1807 23 May-11 June 1949

Correspondence between Ocean Accident and Guarantee Corporation Ltd. and Chackett concerning wind strength on 8 April 1949 in connection with an accident in Newcastle.

4 items, 1f. each

1808 26 July 1949

Copy of letter from Chackett to Mr. Petty of Eden Grange, Shildon, suggesting that he use Durham rainfall figures to corroborate his own or base his insurance claim on the Durham readings alone.

Paper 1f.

1809 and 1810 29 August and 1 September 1949

Letter and telegram from Eagle Star Insurance Co. Ltd. requesting confirmation of arrangements for a special rainfall reading to be taken at Durham 3 September between 9.30 and 5.30 p.m.

1f. and 1 piece

1811 and 1812 3 and 8 October 1949

Exchange of letters between the Motor Union Insurance Co. and Chackett enquiring about a gale on 17 January 1949 when damage was allegedly caused in Spennymoor by the fanlight door of the Essoldo Cinema being blown from the roof onto a car.

2 items, 1f. each

1813-1816 12 January-21 February 1950

Correspondence between G.B. Fanthorpe, Branch Manager of the Midland Employers' Mutual Assurance Ltd., Professor Daysh, and Chackett concerning wind velocity on 19 December 1949 when a railway embankment hoarding at South Shields was damaged.

4 items, 1f. each

1817 and 1818 3 and 5 May 1950

Exchange of letters between the Northern Assurance Company Ltd. of Newcastle and Chackett concerning wind speed at about 1.30 p.m. on 24 April 1950 in connection with damage to switch gear at Sunderland Power Station.

2 items, 1f. each

1819-1821 21-27 February 1951

Correspondence between Swinburne and Jackson, solicitors, and Chackett concerning wind speed and direction on the night of 30 January 1948 when a cyclist was blown in front of a car.

3 items, 1f. each

1822 and 1823 17 and 18 July 1951

Telegram and letter from Eagle Star Insurance Co. concerning arrangements for taking a special rainfall reading at Durham on 21 July 1951.

2 items, 1f. and 1 piece

1824-1828 27 August-6 September 1951

Correspondence between Midland Employers' Mutual Assurance Ltd. and Chackett concerning wind velocity on 24 April 1950 and 17 April 1951 in connection with accidents occurring at Washington and Gosforth respectively.
5 items, 1f. each

1829-1831 13-27 June 1952

Correspondence between Llewellyn Bradshaw and Hartley, Loss adjusters of Newcastle and Musgrave concerning wind and weather conditions in Newcastle about 8 p.m. on Sunday 27 April 1952.
3 items, 1f. each

1832 27 January 1953

Letter from the Northern Assurance Co. Ltd. of Newcastle asking how many degrees of frost there were on the night of 29/30 November 1952, in connection with a claim for frost damage.
1f. and envelope

1833 and 1834 4 and [?] February 1953

Exchange of letters between Botterell, Roche and Temperley, solicitors of Newcastle, and Musgrave concerning the weather on 31 January 1953.
2 items, 1f. each

1835 5 February 1953

Letter from Ingledew, Mather and Dickinson, solicitors of Newcastle requesting a copy of the weather record for 31 January 1953.
Paper 1f.

1836 11 February 1953

Letter from the Motor Union Insurance Co. Ltd., of Newcastle, requesting information regarding the lowest temperature recorded between 1 and 17 November 1952.
Paper 1f.

1837 and 1838 13 and 17 March 1953

Two letters from Aubrey A. Gordon, solicitor of Houghton-le-Spring concerning the weather and probable road surface condition in Durham City at about 10.00 p.m. on 27 December 1952.
Paper 1f. each

1839 and 1840 14 and 23 March 1953

Two letters from Hadaway & Hadaway, solicitors of Newcastle, acting for the National Union of Railwaymen in proceedings against the driver of a lorry which mounted the pavement in Shields Road and killed one of their members, concerning the severity of frost on 5 December 1952.
Paper 1f. each

1841 14 July 1953

Letter from the Midland Employers' Mutual Assurance Ltd. enquiring about the prevailing weather in the Spennymoor district in the first two weeks in December.
Paper 1f.

Correspondence with students requiring information for theses etc.

1842 28 March 1941

Letter from Nancy Newman, Neville's Cross College, asking for weather records relating to the parish of Esh.

Paper 1f.

1843-1845 31 March-11 April 1946

Three letters from Miss R.H. Sugden, Neville's Cross College, concerning meteorological information needed for a nature study thesis on Fox Hill, approximately half way between Darlington and Stockton.

Paper 1f.

1846 1 July 1946

Letter from R. Spencer requesting information for a Geographical survey of Hetton le Hole.

Paper 2ff.

1846 A 29 October 1946

Letter from Anne Tombling of Park Avenue, Bishop Auckland, requesting information about weather records and earthquakes for a geographical survey as part of her work for the Higher School Certificate.

Paper 1f.

1847-1849 29 October-26 December 1945

Three letters from Joyce Newman, a Botany student at Leeds University, requesting rainfall and temperature figures for 1946 in connection with a study of Aycliffe.

Paper 1f.

1850 20 December 1946

Letter from Sheila Mason of Caedmon Hall, Leeds, asking for statistics relating to the climate of Durham for her thesis on the area between the Wear and the Tees.

Paper 1f.

1851 26 August -----

Letter from Eileen M. Carter, Sunderland Training College, asking for information about the climate of the three Trimdons.

Paper 1f.

1852 30 August 1947

Letter from W.F. Milner, West Jesmond Training College, asking for an explanation of the recent dry spell.

Paper 1f.

1853 and 1854 22 January and 12 February 1948

Two letters from Miss Maureen York, Milton Training College, Portsmouth, asking for information about climate and rainfall in the Durham and Tyneside areas.

2ff. and 1f.

1855-1857 20 and 26 April 1948

Exchange of letters between Miss Muriel Lonsdale, The College, Ripon, concerning temperature and rainfall figures for Durham City.

3 items, 1f. each

1856 and 1859 6 August 1948

Exchange of letters between W.J.L. Morgan, a geography student at Bede College, and Chackett concerning the weather records for Durham.

Paper 1f. each

1860 and 1861 14 and 15 October 1948

Exchange of letters between Audrey Shield, Neville's Cross College, and Chackett concerning her survey of Greenside near Ryton on Tyne.

Paper 1f. each

1862 and 1863 19 and 30 October 1948

Exchange of letters between Joan H. Glenton, Wynyard Hall Training College, and Chackett concerning information for a geographical thesis on Durham.

Paper 1f. each

1864 and 1865 30 December 1948 and 5 January 1949

Exchange of letters between Jean Driver, Wynyard Hall Training College, and Chackett concerning information about rainfall and wind direction in the Jarrow and Hebburn area.

Paper 1f. each

1866 and 1867 3 and 12 February 1949

Exchange of letters between Miss Margaret Cooper and Chackett concerning weather records for Willington.

Paper 1f. each

1868 and 1869 5 and 12 February 1949

Exchange of letters between Violet Chesterton, schoolgirl in Houghton-le-Spring and Chackett concerning meteorological maps and graphs.

Paper 1f. each

1870-1872 No date-18 February 1949

Exchange of letters between Norma Heal, pupil at Houghton-le-Spring Modern School, and Chackett concerning the meaning of the word "Isohyet".

Paper 1f. each

1873 and 1874 27 April and 19 May 1949

Two letters from Dorothy E. Heighly, the College, Exmouth, concerning weather records for a study of Durham.

Paper 1f. each

1875 27 July 1949

Letter from Geoffrey B. Moore of Stanley asking for monthly averages for temperature and rainfall for a geographical survey of North West Durham.

Paper 1f.

1876 and 1877 23 August and 1 September 1949

Exchange of letters between J. Newton of Houghton-le-Spring and Chackett concerning the application of Durham weather records to Houghton-le-Spring.

Paper 1f. each

1878 18 September ----

Letter from Miss J. Allan of Shildon requesting information about the climate and rainfall of Shildon.

Paper 1f.

1879 12 October ----

Letter from Miss Marjorie Outhwaite St. Katharine's College, Liverpool, requesting information about the climate of Durham City.

Paper 1f.

1880-1882 19-26 April 1950

Correspondence between Jean Hodgson of Waterhouses and Chackett concerning rainfall and temperature figures needed for a Geography thesis on Durham City and the surrounding district.

3 items, 2ff., 1f. and 1f.

1883-1885 No date-17 June 1950

Correspondence between Valerie Horn and Audrey Slater, pupils at Waldrige Lane County School, and Chackett concerning a request for meteorological information for a guide book of Durham being compiled by their class for the Town Clerk of Pietermaritzburg, S. Africa, with whom they have been corresponding in connection with a study of S. Africa.

Paper 1f. each

1886 and 1887 22 and 30 July 1950

Exchange of letters between P.M. Williams of W. Hartlepool, student at Oxford University, and Chackett concerning meteorological information required for a survey of Durham.

Paper 1f. each

1888 and 1889 10 and 11 August 1950

Exchange of letters between Miss S. Pattinson of Stanhope, a Geography student, and Chackett concerning average weather records for the past seven years.

Paper 1f. each

1890 and 1891 6 and 12 January 1951

Exchange of letters between Margaret Cooper of Willington, Derby Training College, and Chackett concerning meteorological information needed for a study of the R. Wear from Bishop Auckland to Durham.

Paper 1f. each

1892 2 April 1951

Letter from Elizabeth Simpson of Pitlington requesting meteorological summaries for 1950 and for July 1950.

Paper 2ff.

1893-1895 22 April-20 May 1951

Correspondence between Maureen Dent, St. Mary's College, Fenham, and Chackett concerning weather records for Durham City.

Paper 1f. each

1896 and 1897 24 and 28 April 1951

Exchange of letters between E. Chapman, the Training College, Park House, Sunderland, and Chackett concerning climatic information for Witton-le-Wear.

Paper 1f. each

1898 18 May 1951

Copy of letter from Chackett to Miss Mawson giving rainfall figures for 1950.

Paper 1f.

1899 18 December 1951

Letter from Dorothy J. Sutton of Sunderland requesting climatic information for the year January to December 1951 for a study on Durham City.

Paper 1f.

1900 and 1901 28 January-20 February 1952

Two letters from Joe Wilson, pupil of County Senior School, New Brancepeth, concerning climatic information required for a school project.

Paper 1f. each

1902 12 February 1952

Letter from G.W. Unsworth, Sheffield University, requesting a copy of the meteorological summaries for Durham.

Paper 1f.

1903 6 March 1951 (*recte* 1952)

Letter from Miss W.M. Whiteside, St. Mary's Training College Newcastle, enquiring about weather records for the Gainford area, between Barnard Castle and Darlington.

Paper 1f.

1904 4 March 1952

Letter from Marguerite Sparks, St. Mary's College Fenham, Newcastle upon Tyne, asking for weather information for Houghton-le-Spring.

Paper 1f.

1905 21 April 1952

Letter from Maureen M. Higginson of Bishop Auckland asking for temperature and rainfall figures for 1951.

Paper 1f.

1906 24 April 1952

Letter from T. Taylor, Sunderland Training College, asking for weather information for Ryhope or nearby for the year 1952.

Paper 1f.

1907 11 January 1953

Letter from Rosalind Bainbridge, St. Hild's College, asking for sunshine and rainfall figures for Durham.

Paper 1f.

1908 26 February [1953]

Letter from Heather Shepherd, student of Sunderland, asking for climatic information for thesis on the Browney valley.

Paper 1f.

1909 and 1910 25 and 31 March 1953

Two letters from Jenifer Robinson of Fieldhouse Lane Durham asking for a summary of weather readings for 1952 in connection with her A-level Geography thesis.

2ff. and 1f.

1911 19 April 1953

Letter from Freda Hall, Wentworth Castle Training College, Barnsley, requesting weather records for Durham City for 1952.

Paper 1f.

1912 4 May 1953

Letter from B. Brown of Washington Grammar School asking for meteorological observations from 17 December 1952 to 7 January 1953.

Paper 1f.

1913 5 May 1953

Letter from Miss E. Martin of Ferryhill asking for information about the climate of Ferryhill.

Paper 1f.

1914 17 June 1953

Letter from F. Bulmer, City of Leeds Training College, asking for climatic statistics for the Thornley and Wheatley Hill area of Durham.

Paper 1f.

1915 17 November ----

Letter from Miss J. Davison, of Brontë Hall Training College, Leeds, asking for weather statistics for Durham.

Paper 1f.

General correspondence concerning requests for meteorological and other information

[5 February 1940:

Copy letter from Beecroft to R.H. Hall at West House. Wearhead concerning the averages of rainfall and mean temperatures at Wearhead as compared with Durham.

See above: Meteorological Records No. 239]

1916 19 March 1941

Letter from John Wilfred Green, Durham City Engineer and Architect to Beecroft acknowledging receipt of the message regarding magnetic deviation.

Paper 1f.

1917 20 May 1941

Copy of letter (from Beecroft) to the Stationmaster at Durham station concerning the weather conditions on 13 June 1940, which was a clear sunny day.

Paper 1f.

1918 27 July 1942

Letter from H.J. Humphry, Mines Inspector, Doncaster, to A. Beecroft concerning the return of seismograph records still in the possession of Dr. Dollar of Glasgow University in connection with a query relating to Barnborough Main Colliery.

Paper 1f.

1919 30 October 1942

Letter from Gunner N. Rogers to Beecroft, requesting that books from the Observatory Library should be sent to him while he is stationed in Scotland.

Paper 1f.

1920 1 February 1944

Letter from J.W. Pringle of the Newcastle and Gateshead Gas Co. to Beecroft returning temperature records for January to October 1943.

Paper 1f.

[15 March 1944:

Letter from Thomas Vint, Headmaster of Blackhall Mill Council School commenting on the similarity between his own temperature records and those of Durham; and offering an explanation for the cold damp nights experienced at Blackhall Mill.

See above No. 240]

1921 17 November 1945

Letter from R.H. Hall, Headmaster of the County School, St. John's Chapel, Bishop Auckland, to the Observer asking for the monthly rainfall figures for 1944; with note of reply (by Joyce) 20 November 1945.

Paper 1f.

1922 20 February 1946

Letter from J. Mc.Iver, Loss and Depreciation Engineer of Thomas Hedley and Co., to Joyce thanking him for information regarding moisture content of the air and its effect on their experiment.

Paper 1f.

1923 14 May 1946

Letter from James Grant, Medical Officer of Health, Gateshead, asking for monthly figures from January 1936 to December 1945 for research into the prevalence of diphtheria in Gateshead 1936-1945; with note of reply, 30 May 1946.

Paper 1f.

1924 and 1925 27 May and 1 June 1946

Two letters from George Garland of the Geography Department of Bullion Lane Modern School concerning his request for statistics on the climate of Durham.

Paper 1f. each

1926 1 June 1946

Letter from James Grant, Medical Officer of Health, Gateshead, to Joyce thanking him for providing the figures covering temperatures, pressures and rainfall from 1936-45 and describing the purpose of his research.

Paper 1f.

1927 24 June 1946

Letter from W. Seed of the Ministry of Food, Potato and Carrot Division, to Joyce thanking him for supplying information about the degrees of frost weekly throughout the winter.

Paper 1f.

1928 3 September 1946

Letter from Robin Pedley of Grinton, Richmond, Yorkshire, asking for information indicating which town or district in the British Isles is both warmer and drier than other regions; with note of reply 5 September 1946, suggesting he try the Meteorological Office.

Paper 1f.

1929 and 1930 4 and 7 October 1946

Two letters from R. MacLeod of Easington Lane concerning a request for information about the prevailing wind.

Paper 1f. each

1931 9 October 1946

Letter from Lionel Goldman of Edward and James Richardson Ltd., Elswick Leather Works, to Joyce thanking him for sending figures on relative humidity and temperature.

Paper 1f.

1932 29 November 1946

Letter from J. McIver of Thomas Hedley and Co. Ltd., Newcastle to Joyce commenting on the monthly summaries and the fact that 6 to 18 December was a period of high temperature.

Paper 1f.

1933 3 December 1946

Letter from W. Brannan of Nowell Mount, Leeds, to Joyce asking whether there was a storm, with lightning, in Sunderland on 31 August 1946.

Paper 1f.

1934 and 1935 20 and 24 March 1947

Two letters from R. MacLeod of Easington Lane to Joyce concerning his request for confirmation of his calculation that the altitude of the sun at midday in midwinter is 12° .

Paper 1f. each

1936 and 1937 30 May and 9 June

Two letters from H.W. Wake, Director of the Northern Counties Federation of Building Trades Employers concerning a request for information on the times of sunrise and sunset in order to fix the working hours for the building industry during the winter period.

Paper 1f. each

1938 and 1939 16 and 20 August 1947

Exchange of letters between the District Locomotive Superintendent of the London and North Eastern Railway, Newcastle, and Chackett concerning temperatures between Newcastle and Edinburgh, and Newcastle and Doncaster from January to March and June to August 1947.

Paper 1f. each

1940-1943 18-23 August 1947

Correspondence between K.F. Chackett and the American Consulate, Newcastle concerning a request for meteorological data for 1946, and the fee charged for supplying the information.

4 items, 1f. each

1944 and 1945 8 and 11 October 1947

Exchange of letters between T. Sawdon, headmaster of Crook County Boys' School and Chackett concerning a request for weather details for the last week of July and the month of August, with table of readings supplied.

1f. and 2ff.

1946 14 October 1947

Letter from J. Freeman of Washington asking for the monthly rainfall figures for the current year and how snowfall is converted into terms of rain.

Paper 1f.

1947-1950 15 October and 25 November 1947

Exchange of letters between I.V. Longley of the London and North Eastern Railway and Chackett with copies of two tables showing maximum and minimum temperatures for places between Edinburgh and Finningley from January to March and June to August (1947?).

4 items, 1f. each

1951 and 1952 31 January and 12 February 1948

Two letters from T. Hutton, surveyor for Consett Urban District Council, concerning request for sunshine records for 1947.

1 piece each

1953-1958 31 January-2 February 1948

Correspondence and papers concerning a request by P.J. Sellier, Regional Director of Opencast Coal Production, for rainfall figures for January 1946-48, the average rainfall for January and the average annual rainfall since records started.

5 items, 1f. each

1959 12 February 1948

Letter from T.H. Longford of Burnhope Modern School requesting monthly weather records for use with classes in Local Studies.

Paper 1f.

1960-1963 1-13 July 1948

Correspondence between British Paints Ltd., Newcastle and Chackett concerning monthly rainfall figures and hours of sunshine from 1 July 1946 to 1 July 1948 in connection with a research project exposing various painted panels to the weather; with table of rainfall and sunshine figures for Durham.

4 items, 1f. each

1964 and 1965 15 July 1948

Exchange of letters between Chackett and the Regional Fuel Engineers in the Ministry of Fuel and Power Newcastle, concerning rainfall and frosts between July 1945 and February 1947.

Paper 1f. each

1966 25 September 1948

Copy of letter from Chackett to Miss Redfern in the Reporter's Room of the Evening Chronicle at Newcastle comparing the temperature and sunshine for the years 1921 and 1926.

Paper 1f.

1967-1969 8 and 14 November 1948

Letter from T. Sawdon of Crook County Boys' School asking for the weather records for August, Chackett's reply and table of readings for August 1948.

3 items, 1f. each

1970 and 1971 24 November and 6 December 1948

Exchange of letters between C.T. Reynolds of Chilton Buildings Boys' School and Chackett concerning request for advice and assistance in acquiring and making equipment for a weather station.

Paper 1f. each

1972 and 1973 18 and 22 January 1949

Exchange of letters between John A.R. Clark, headmaster of Spennymoor Rosa Street County School, and Chackett concerning request for monthly readings.

Paper 1f. each

1974-1977 1 February-21 March 1949

Correspondence between W.W. Glaister of South Farm Dalton-le-Dale and Chackett concerning request for information as to temperature and humidity throughout a hot summer day in connection with a study of the suitability of the Durham summer for grazing animals, with specimen graph.

4 items, 1f. each

1978 4 March 1949

Letter from C.T. Reynolds of Chilton Buildings County Boys' School to Chackett sending the February figures from their school weather station, thanking him for his assistance and asking for the Observatory figures to compare with theirs.

Paper 1f.

1979-1981 5-11 April 1949

Correspondence between W.A. Tuke of British Paints Ltd. and Chackett concerning request for the figures for total hours of sunshine in 1940 and 1947 to complete their data for the assessment of exposure panels.

3 items, 1f. each

1982 12 April 1949

Letter from Mary C. Miller of Shotton Hall, Castle Eden, returning the *Observer's Handbook 1934* with thanks.

Paper 1f.

1983 and 1984 12 April and 6 May 1949

Exchange of letters between E.H. Simpson of Low Fell and Chackett concerning his request for advice on obtaining accurate readings from his barometer.

1f. and 3ff.

1985 and 1986 27 June and 2 July 1949

Exchange of letters between Emmie Anderson of the dress design department in the College of Art and Crafts, Sunderland, and Chackett concerning the weather forecast for July 6th when it is proposed to hold an outdoor mannequin parade.

Paper 1f. each

1987 and 1988 10 and 13 August 1949

Letter from A. Hartley of Whitley Bay and Chackett's reply concerning request for the weather forecast for Barnard Castle for the week 13-20 August.

2ff. and 1f.

1989-1991 11-29 August 1949

Correspondence between R.K. Ferguson of Hetton le Hole and Chackett concerning request for information about maps of Durham showing average annual temperature and rainfall.

Paper 1f. each

1992 12 September 1949

Letter from T.H. Langford headmaster of Burnhope Modern School concerning the address to which the monthly summaries should be sent.

Paper 1f.

1993 and 1994 14 October and 5 November 1949

Letter from Mrs. Jean Sowerby of Brancepeth and Chackett's reply concerning request for information needed for teaching purposes about the climate in Brandon and about the instruments used at the Observatory.

Paper 1f. each

1995 and 1996 4 and 12 November 1949

Letter from T. Sawdon headmaster of Crook County boys' School and Chackett's reply supplying the weather figures for the month of August.

Paper 1f. each

1997 5 November 1949

Copy of letter to Miss M. Outhwaite sending a copy of the published summary of weather readings.

Paper 1f.

1998 9 November 1949

Letter from T.H. Langford, headteacher of Burnhope Modern School asking for a summary of meteorological readings to be sent monthly.

Paper 1f.

1999-2001 4 and 9 December 1949

Correspondence between Miss K.M. Ball of Central Newcastle High School and Chackett concerning request for readings to complete their own records.

3 items, 1f. each

2002 28 December 1949

Copy of letter to the manager of the sewage works at Barkers Haugh, Durham enclosing specimen sunshine records.

Paper 1f.

2003 and 2004 11 and 20 January 1950

Letter from H. Cullen of St. Leonard's Secondary Modern School and Chackett's reply concerning the supply of meteorological statistics for 1949 and earlier years.

Paper 1f.

2005 21 January 1950

Copy of letter from Chackett to Mr. Tasey of Durham County Water Board giving summary of weather information for 28 December to 8 January as requested.

Paper 1f.

2006 and 2007 24 January and 4 February 1950

Letter from R. Hurst Mather, headmaster of Alderman Smith Grammar School, Washington and Chackett's reply concerning the supply of weather information for February 1949.

Paper 1f. each

2008-2011 27 January-7 February 1950

Correspondence between Miss K.M. Bell of Central Newcastle High School, Professor Daysh and Chackett concerning her request for the weather readings from Durham Observatory.

3 items, 1f. each

2012 and 2013 1 and 4 February 1950

Letter from H. Kirkup of Tudhoe Colliery County School and Chackett's reply concerning request for information about Tudhoe.

Paper 1f. each

2014 2 February 1950

Letter from E.T. Morrison of the Sewage Treatment Works, Barkers Haugh returning the sunshine recorder cards with thanks (*see above No. 2002*).

Paper 1f.

2015 7 February 1950

Letter from A. Wilson News editor of the *Newcastle Chronicle and Journal* requesting that in future the meteorological summaries should be sent to him, and not to Miss Easten.

Paper 1f.

2016-2018 13-20 February 1951

Correspondence between Joseph L. Thompson & Sons Ltd. shipbuilders of Sunderland and Chackett concerning request for information about the wind on the coast on 11 February 1950.

3 items, 1f. each

2019-2021 8-13 March 1950

Correspondence between D. Morgan of the Botany Department of King's College, Newcastle, and Chackett concerning request for regular reports of the weather readings in connection with a study of autumn leaves and their coloration.

3 items, 1f. each

2022-2024 8-22 April 1950

Correspondence between James Grant, Medical Officer of Health for Gateshead, Angus and Chackett concerning supply of some meteorological data for 1946 to complete his records.

3 items, 1f. each and compliment slip

2025-2026 1 and 5 May 1950

Letter from Miss K.M. Ball of Central Newcastle High School and Chackett's reply concerning request for some more weather records.

Paper 1f. each

2027-2028 6 and 12 May 1950

Exchange of letters between Miss Firth, lecturer at Neville's Cross College, and Chackett concerning request for advice on obtaining a Stevenson Screen and a cheap set of simple recording instruments.

Paper 1f. each

2029 and 2030 7 and 12 May 1950

Exchange of letters between E. Cromwell of the Veterinary Laboratory of the Ministry of Agriculture and Fisheries, Cumberland and Chackett concerning request for a table showing the maximum possible altitude of the sun over the Weardale, Teesdale and Alston Moor areas for each month of the year in connection with an investigation into animal health.

1f. and 2ff.

2031 and 2032 9 and 15 June 1950

Letter from A.H. Lightfoot of Ferryhill and Chackett's reply concerning frost on the evening of 12 May.

Paper 1f. each

2033-2035 5-10 July 1950

Correspondence between I.V. Longley, District Motive Power Superintendent of the N.E. Region of British Railways, and Chackett concerning request asking for the temperature between Edinburgh, Berwick and Grantham for the weeks 12-17 June and 22-27 May.

Paper 1f. each

2036-2039 30 August-20 September 1950

Correspondence between P.G. Lloyd, steam testing engineer at Dunston Power Station and Chackett concerning request for meteorological information between 2 and 18 September.

4 items, 1f. each

2040-2043 16 September-7 October 1950

Correspondence between B.R. Innes, Secretary of Finchale Training Centre for the Disabled and Chackett concerning the adjustment of their aneroid barometer.

4 items, 1f. each

2044 and 2045 18 and 21 September 1950

Exchange of letters between Chackett and the Durham Agricultural Wages Committee concerning rainfall readings for the week 12-16 September.

Paper 1f. each

2046 and 2047 7 and 9 October 1950

Exchange of letters between Chackett and Commander J. de W. Kitcat of Wellesley Nautical School, Blythe, Northumberland concerning request for monthly mean atmospheric pressure figures.

Paper 1f. each

2048 and 2049 26 October and 4 November 1950

Exchange of letters between A.L. Morrison, Senior Geography Master at Middle Street Secondary Commercial Boys' School, Walker and Chackett concerning request for a copy of the seismograph record of the Assam earthquake tremor on 14 August and other meteorological information useful for teaching purposes; with note of postcards sent by Chackett to Observatoire Nationale, Besançon, and Kew Observatory (concerning the Assam earthquake tremor?).

Paper 1f. each

2050 and 2057 27 and 28 October 1950

Exchange of letters between A. Hector Grabham Ltd., General Painting Contractors and Chackett concerning request for written confirmation that the past summer had been exceptionally wet which could be used as evidence to explain his failure to complete a contract on time.

Paper 1f. each

2052-2053 23 November and 2 December 1950

Correspondence between J.W. Green, Durham City Engineer and Architect, to G. Fawcus, University Treasurer, and Chackett concerning request for rainfall readings from 20 July to 17 September 1950.

Paper 1f. each

2054 and 2055 29 November and 2 December 1950

Letter from S. Wardle, Headmaster of Binchester County School, Bishop Auckland, requesting confirmation of the rainfall reading for 29 November, as he suspects someone has been adding water to the rain gauge; and copy of Chackett's reply agreeing that their reading was exceptionally high.

Paper 1f. each

2056-2058 16-23 January 1951

Correspondence between Mr. T.P.H. Miller of "The Close", Sedgefield, and Chackett concerning request for information about wind velocity and direction during the night of 11/12 January.

3 items, 1f. each

2059 23 January 1951

Letter from J. Burkett, secretary to the Dean of Agriculture, University School of Agriculture, King's College, Newcastle requesting monthly summaries of meteorological readings.

Paper 1f.

2060 14 April 1951

Copy of letter from Chackett to Stanley Badger of Rowlands Gill regretting that he is unable to answer the question regarding a comparison between the weather in the U.S.A. and England and saying that he has sent the letter to the Meteorological Office.

See also Nos. 1451 and 1452 above.

Paper 1f.

2061-2064 3 May-18 June 1951

Correspondence between George Garland of Fence Houses and Chackett concerning request for meteorological information for February and 8-11 June 1951.

4 items, 1f. each

2065 11 July 1951

Letter from Miss S.K. Stead formerly of the Alderman Wraith Grammar School asking that the weather records should be sent to Mrs. Blenkinsopp, the new senior Geography mistress.

Paper 1f.

2066 31 August 1951

Letter from Nancy Carr of Washington requesting weather statistics for the week 2-9 September.

Paper 1f.

2067-2070 18 and 20 October 1951

Letter from British Paints Ltd. requesting average monthly rainfall and sunshine figures from August 1950 to August 1951 in connection with experiments with paint exposures; copy and draft of reply, and table of figures.

4 items, 1f. each

[30 October 1951:

Letter from the Editors of Weather to Baxter thanking him for sending Durham sunshine figures from 1886.

See below: No. 2081]

2071 8 January 1952

Letter from J.W. Heslop Harrison of the Department of Agriculture, King's College, Newcastle, with note of Musgrave's reply, concerning supply of the meteorological summaries 1947 to 1950.

Paper 1f.

2072 23 February 1952

Letter from Mrs. J. Stott of St. Leonards-on-Sea, with note of Musgrave's reply concerning sunshine and rainfall in 1951.

Paper 2ff.

2073 3 March 1952

Letter from the secretary of the Sunderland Jewish Boys' Hostel and Talmudical College asking where he can find the daily times of sunset at Sunderland, required for Jewish religious purposes.

Paper 1f.

[29 May-9 June 1952:

Correspondence with the editors of Weather detailing arrangements for sending the weather information for Durham every month.

See below Nos. 2082-2086]

2074 and 2075 23 June [1952]

Letter of thanks from William Anson of the Geography department, King's College for the loan of the anemometer and humidograph charts; and note by H.A. Osborne of the Geography department, King's College, of charts borrowed 20 May 1952.

Paper 1f. each

2076 6 August 1952

Letter from C. Beverley of West Cornforth asking for information on climate statistics.

Paper 1f.

2077 No date

Letter from the British Oxygen Co. Ltd. asking for the barometric pressures from 16 August to 27 October 1951, and from 1-7 August 1952.

Paper 1f.

2078 No date (reply dated 12 October 1952)

Letter from Mrs. W.L. Parkin of Annfield Plain with note of Musgrave's reply concerning local rainfall on 29 and 30 September and 2 October.

Paper 1f.

2079 11 November 1952

Letter from W.W. Glaister of Dalton-le-Dale asking for information regarding wind direction and velocity in the Dalton-le-Dale area, and for an explanation of some of the effects he has noticed from different wind directions.

Paper 1f.

2079A 5 February 1953

Letter of thanks from J.J. Egglisshaw, headmaster of Johnston Grammar School for the Observatory readings for January 1953.

Paper 1f.

2080 15 March 1953

Letter from J. Freeman of Washington asking about the values used for average rainfall and average hours of sunshine, and over how many years the averages were compiled.

Paper 1f.

2081-2087 30 October 1951-30 March 1953

Correspondence with the editors of *Weather* concerning the supply of monthly weather information.

6 items, 1f. each

2088 31 March 1953

Letter from D. Lamb of St. John's Vicarage, Shildon, asking for statistics from 1 January 1952 to 31 March 1953 in connection with a biological survey.

Paper 1f.

2089 28 April 1953

Request by the Northern General Transport Co. of Gateshead for the monthly statistical weather report; with the compliment slip of the Secretary of the Durham Colleges.

2 pieces

2090 12 June 1953

Letter from Miss Isabel G. Holmes of St. Nicholas Drive, Durham enquiring whether the previous winter had been exceptionally sunny.

Paper 1f.

2091 and 2092 August and 2 September

Two letters from P. Goring of Newcastle concerning request for rainfall figures for Chester-le-Street.

2 items 1f. each

2093 No date

Letter from W.L. Ord of Wheatley Hill asking for monthly statistics for 1952.

Paper 1f.

2094 11 September 1953

Letter of thanks from John Wilfrid Green, city engineer and architect, for information regarding rainfall.

Paper 1f.

2095 1 October 1953

Letter from J.B. Twemlow, Director of the Community Service Council for Durham County Ltd. thanking Musgrave for having been allowed access to the records.

Paper 1f.

2096 No date

Letter from Miss O. Pickles, teacher at Shotton Junior Girls' School Shotton Colliery, enquiring whether records of the Durham climate are published and whether she could have copies for her class.

Paper 1f.

2097 22 December 1953

Letter from Brian Hackett, lecturer in Landscape Architecture, King's College, asking if there is a map of County Durham showing isotherms for average monthly temperatures.

Paper 1f.

Correspondence concerning visits and talks

2098 and 2099 13 and 17 September 1945

Correspondence concerning visits by the Geography Society of Stanley Grammar School on 1 and 13 October 1945.

2 items, 1f. each

2100 and 2101 12 and 13 November 1945

Correspondence concerning visit by Miss McDonald, a climatology student, on 28 November 1945.

2 items, 1f. each

2102 and 2103 5 and 15 January 1946

Correspondence concerning visit by party from Brandon Modern School on 23 January 1946.

2 items, 1f. each

2104 11 January 1946

Request for visit from Alderman Wraith Grammar School.

Paper 1f.

2105 and 2106 21 January 1946

Request for visit from the Bearpark and District Workers Educational Association.
2 items, 1f. each

2107 and 2108 20 June and 6 July 1946

Correspondence concerning request for visit from I.C.I. (Billingham) Foremen's Association.

2 items, 1f. each

2109-2112 22-29 June 1946

Correspondence concerning a visit by Brian Elliott, an Easington school boy interested in meteorology, on 27 July 1946.

4 items, 1f. each

2113 14 August 1946

Request for visit from Sister Placida of Convent F.C.J., West Hartlepool.
Paper 1f.

2114-2116 14 October-4 November 1946

Correspondence concerning visit by party from Alderman Wraith Grammar School, Spennymoor, on 2 November 1946.

3 items, 1f. each

2117 and 2118 18 and 20 January 1947

Correspondence concerning request for visit from Durham School Tristram Society.

2 items, 1f. each

2119 22 March 1947

Request for visit from Miss M. Lynn in connection with thesis on the geography of Durham City.

Paper 1f.

2120 28 April 1947

Request for visit from Annfield Plain Intermediate Boys' School.

Paper 1f.

2121 22 June 1947

Invitation to speak at the Over 21 Club, Shildon on 14 August 1947.

Paper 1f.

2122

Number not used.

2123-2126 13-29 June 1947

Correspondence concerning visit from Chester le Street Secondary School on 30 June (cancelled due to bus strike).

4 items, 1f. each

2127 7 July 1947

Request for visit from Sadberge C.E. School on 25 July 1947.

Paper 1f.

2128-2134 29 July-25 September 1948

Correspondence concerning visit by the Publicity Club of Newcastle upon Tyne on 25 September 1948.

7 items, 1f. each

2135-2137 18 September-15 October 1948

Correspondence concerning visit by party from Chilton Buildings County Boys' School, Ferryhill on 3 November 1948.

3 items: 1f., 2ff. and 1f.

2138-2140 12-26 October 1948

Correspondence concerning visit by party from Stanley Grammar School on 26 October 1948.

3 items, 1f. each

2141 1 November 1948

Invitation to speak to the students of Houghall School of Agriculture on "Atomic Energy" on 25 November 1948.

Paper 1f.

2142 16 December 1948

Letter from Miss J. Richardson, Geography Mistress at Stanley Grammar School acknowledging receipt of the book of Weather Records for teaching purposes.

Paper 1f.

2143-2147 10-30 December 1948

Correspondence concerning visit by R.M. Blythe an amateur astronomer from Gateshead, on 8 January 1949.

5 items, 1f. each

2148 25 January 1959

Copy letter from the Registrar to Miss Kathleen Miller of Sunderland concerning arrangements for visits to the Observatory, passed to Mrs. Chackett for information.

Paper 1f.

2149-2152 21 January-5 February 1949

Correspondence concerning visit by party from Consett County Senior Girls' School on 21 May 1949.

4 items, 1f. each

2153-2155 4-17 March 1949

Correspondence concerning request for visit by party from Houghton-le-Spring Modern School.

3 items, 1f. each

2156 21 March 1949

Letter from Dr. J.W. Goethe of Frankfurt-Main University Observatory requesting a visit to Durham Observatory.

Paper 1f.

2157 18 May 1949

Letter confirming arrangements for visit by party from Consett County Senior Girls' School on 21 May 1949.

Paper 1f.

2158-2160 8-11 July 1949

Correspondence concerning request for visit by party from Whinney Hill Boys' Secondary Modern School.

3 items, 1f. each

2161-2163 4-11 October 1949

Correspondence concerning request for visit by party from Neville's Cross College in October or November.

3 items, 1f. each

2164-2168 1-[21?] November 1949

Correspondence concerning visit by party from The Alderman Wraith School, Spennymoor, on 19 November 1949.

5 items, 1f. each

2169 19 May 1950

Letter concerning arrangements for visit by the Newcastle Chemical Industry Club on 1 July 1950.

Paper 1f.

2170-2172 20 September-3 October 1950

Correspondence concerning visit by party from Stanley Grammar School on 2 October 1950.

3 items, 1f. each

2173-2175 30 May-4 July 1951

Correspondence concerning visit by party from Leamside County Mixed Senior School on 7 July 1951 (cancelled).

3 items, 1f. each

2176 and 2177 28 and 30 June 1951

Correspondence concerning request for visit by party from Wellfield A.J. Dawson Grammar School, Wingate.

2 items, 1f. each

2178 and 2179 29 and 30 June 1951

Correspondence concerning request for visit by party from Robert Richardson Grammar School, Ryhope.

2 items, 1f. each

2180 and 2181 19 and 31 July 1951

Correspondence concerning invitation to speak to Everyman's Club, Findon Hill, Sacriston.

2 items, 1f. each

2182 18 September 1951

Request for visit by party from A.J. Dawson Grammar School, Wingate.

Paper 1f.

2183 28 February 1952

Invitation to speak to Everyman's Club, Findon Hill, Sacriston.

Paper 1f.

2184 23 September 1952

Request for visit by party from Stanley Grammar School on 8 October 1952.

Paper 1f.

2185 12 November 1952

Request for visit by party from St. Hild's College, Durham.

Paper 1f.

2186 3 February (1952 or 1953?)

Request for visit by party from Durham High School.

Paper 1f.

2187 11 February 1953

Request for visit by John W. Most of Sunderland and friend.

Paper 1f.

2188 29 April 1953

Request for visit by the Darlington section of The National Trades Technical Societies on 6 October 1953.

Paper 1f.

2189 13 May 1953

Request for visit by party from Middle Street Secondary Commercial Boys' School, Walker and 33 German students, on 11 July 1953.

1f. and envelope.

Miscellaneous

2190 and 2191 28 October 1945

Correspondence between L.S. Joyce and the Collector of Customs and Excise at Liverpool concerning the duty payable on a package of scientific journals from the U.S.A.

Paper 1f. each

2192 7 November 1945

Letter from A. Beecroft to L.S. Joyce forwarding two letters on Observatory business and hoping to see him about the records on Thursday or Friday.

Paper 1f.

2193 25 February 1946

Letter from the Assistant Chief Constable to Joyce thanking him for assistance to the police during their investigations into a murder at Catchgate.

Paper 1f.

2194 No date

Note giving the address of Dr. Wilfred Hall, 20 Pilgrim St., Newcastle.

Paper 1f.

2195 5 December 1946

Letter from Professor G.M.J. Daysh, King's College Newcastle, to Joyce thanking him for the return of a Ground Minimum Thermometer and commenting on the difficulty of finding a suitable site for renewing their own readings.

Paper 1f.

2196 7 April 1947

Letter from Beatrice Manley Lowe, widow of Major Francis Manley Lowe formerly a Curator of Durham Observatory, saying that she is sending some of her husband's papers in the hope that they may be of interest.

See above Nos. 867/1-45 and 868/1-5.

1f. and card

2197

Number not used.

2198 and 2199 25 June and 4 July 1947

Two concerning time signals broadcast by the BBC and informing him of the "List of Stations performing Special Services" published by the International Telecommunications Union at Berne.

Paper 1f.

2200-2203

Numbers not used.

2204 12 February 1948

Letter from H. Cockburn of Ferryhill describing an object he had seen in the sky that morning and asking what it was.

Paper 1f.

2205 13 February 1948

Letter from Harriet J. Oxley of Darlington describing what she believes was a comet seen the previous morning.

Paper 1f.

2206 28 June 1948 (Postmark)

Card from L.E. Cunningham of Cincinnati, Ohio, giving figures for the Ephemeris of (1221) Amor from 26 June to 21 August 1948.

1 card

2207 25 December 1948

Letter from T.L. Goundry of Ushaw Moor saying that he has seen some sun spots and asking whether they are the same as those seen in February 1905.

1f. and envelope

2208-2210

Numbers not used.

2211 28 September 1949

Communication from the Royal Astronomical Society that Bucarest and Harvard report no comet has been found in the region of Daimaca comet.

1 piece.

2212 12 October 1949

Order from Chief Supply and Transport Officer, Australia House, for *Temperature, rainfall, sunshine and wind readings at Durham University Observatory from first recording to 1947* to be sent to the Secretary, C.S.I.R.O. Meteorological Physics, Highett, Victoria, Australia.

Paper 1f.

2213 and 2214 9 and 17 February 1950

Letter from Mrs. M. White of White Heather, Grange Road, St. Leonards, Ringwood, Hants, asking whether a star she has observed moves; and copy of Chackett's reply.

2ff. and 1f.

2215 and 2216 18 and 26 March 1950

Letter from C.W. Stewart of the Sunderland Drama Club requesting information about the Morning Star in connection with some lines of a play; and copy of Chackett's reply.

Paper 1f.

2217-2219

Numbers not used.

2220 and 2221 14 and 17 October 1950

Correspondence between Chackett and the Divisional Rodent Officer at the Ministry of Agriculture and Fisheries concerning an infestation of rats at the Observatory and Observatory House.

Paper 1f. each

2222 and 2223 26 and 28 October 1950

Correspondence between Miss Freda Stevens of South Hetton and Chackett concerning suitable training for a career in astronomy.

2 items, 2ff. and 1f.

2224-2240

Numbers not used.

2241 28 January 1953

Letter from K.V. Padgaonkar, Hon. Secretary of Jyotirvidya Mandal, Astro-Research Institute of Bombay concerning the aims of the Institution; and copy of map of the solar eclipse of 30 June 1954 compiled from Indian works.

Paper 2ff.

2245 January 1958

Temperature, Rainfall, Sunshine and Wind Readings at Durham University Observatory from first recording to 1947. Supplement I giving Temperature, Rainfall and Sunshine readings for the ten years 1948-1957. (Durham Colleges Science Laboratories)

2246 [?1980]

"The History of Astronomy in the University of Durham from 1835 to 1939", by G.D. Rochester, typescript

Paper file, i + 17f

Photocopies

Fac. 1 and 2 23 October 1840

Photocopy of photograph of letter from James F.W. Johnston (Lecturer in Chemistry) to John Sturrock Esq., secretary to the Kilmarnock Philosophical Society expressing gratitude and pleasure at having been made an honorary member of the Society. Letter written on Durham Observatory notepaper, with engraving of the Observatory. (Photograph in Durham University Library Additional Manuscripts.)

Paper 2ff.

Fac. 3

Photocopy enlargement of the engraving of Durham Observatory at the head of the above letter.

Paper 1f.

Fac. 4

Photocopies of pages from the index to the Cambridge Observatory Archives which contain references to letters from Temple Chevallier. R.C. Carrington and others relating to the Durham Observatory, 1849-1858.

Copies made 1981.

Paper 41ff.

Fac. 5

Photocopies of nineteen items relating to Durham in the Cambridge Observatory Archives as listed in the index above:

Fac. 5/1 (Cambridge Observatory Archives 1840/32) 19 December 1840

Letter from Professor Temple Chevallier to Professor Challis requesting copies of the Cambridge Observations to make a set at Durham, which had been promised on the completion of the instrument preparations; adding further comments about the new Observatory, and of the young man in working charge who was trained at Greenwich; suggesting that consultations might be made with Challis concerning method of observations.

Paper 3ff.

Fac. 5/2 (Cambridge Observatory Archives 1842/17) 18 June 1842

Letter from Professor Temple Chevallier to Professor Challis stating that the dome at Durham runs badly, and requesting information on the Northumberland dome system; pointing out a possible misprint in recent volumes of the Cambridge Observations.

Paper 2ff.

Fac. 5/3 (Cambridge Observatory Archives 1846/2) 12 January 1846

Letter from Professor Temple Chevallier (to Challis?) thanking him for the introduction of Mr. Griffith but regretting that the position of observer had already been filled. Also mentioning a possible observation of the planet back in 1834.

Paper 2ff.

Fac. 5/4 (Cambridge Observatory Archives 1846/33) 20 April 1846

Letter from Professor Temple Chevallier to Challis requesting a position as observer for LeJeune, who is very good but they are unable to hire him permanently.

Paper 4ff.

Fac. 5/5 (Cambridge Observatory Archives 1846/34) 29 April 1846

Letter from Professor Temple Chevallier to Professor Challis again requesting position for Mr. Lejeune who should be finished reductions in a fortnight.

Paper 2ff.

Fac. 5/6 (Cambridge Observatory Archives 1846/35) 4 May 1846

Letter from W.A. LeJeune to Professor Challis accepting a place on the Cambridge staff.

Paper 1f.

Fac. 5/7 (Cambridge Observatory Archives 1846/55) 19 September 1846
Letter from Professor Chevallier to Professor Challis sending reduced observations of stars from Argelander's catalogue and measured diameters of the sun and planets. Also discusses income tax, Mr. LeJeune, the occultation of Mars and difficulties in computing the immersion of Spica.
Paper 2ff.

Fac. 5/8 (Cambridge Observatory Archives 1848/22) 12 July 1848
Letter from Professor Chevallier to Professor Challis telling him that he will quite probably have a position for Mr. LeJeune and asking Challis' opinion of his moral and religious conduct while at Cambridge.
Paper 2ff.

Fac. 5/9 (Cambridge Observatory Archives 1849/3) 5 February 1849
Letter from R.C. Carrington to Professor Challis thanking Challis for his kind remarks and inquiring about a vacancy at the Cape since he has no hope for a position in England unless Challis knows of something.
Paper 4ff.

Fac. 5/10 (Cambridge Observatory Archives 1849/5) 8 February 1849
Letter from R.C. Carrington to Professor Challis informing him of Airy's response that there was no vacancy at the Cape.
Paper 1f.

Fac. 5/11 (Cambridge Observatory Archives 1848/6) 1 March 1849
Letter from R.C. Carrington to Professor Challis concerning his desire to devote himself to practical astronomy, and expressing appreciation at the opportunity to do so at Cambridge, giving details of his proposed arrival.
Paper 4ff.

Fac. 5/12 (Cambridge Observatory Archives 1849/18) 8 May 1849
Letter from R.C. Carrington to Professor Challis describing his astronomical studies in preparation for doing practical work, and asking if there is a preferred set of logarithm tables.
Paper 2ff.

Fac. 5/13 (Cambridge Observatory Archives 1849/27) 21 July 1849
Letter from Professor Chevallier to Professor Challis discussing the apparatus at Durham, their need for a new observer followed by a description of Carrington's qualifications for such a position after a possible training period at Cambridge, questions on constant error, a detailed description of an observed rainbow, and errors in various tables.
Paper 8ff.

Fac. 5/14 (Cambridge Observatory Archives 1849/30) 15 August 1849
Letter from R.C. Carrington to Professor Challis giving details of his arrival at Cambridge and hoping that his appointment at Durham won't affect Challis' offer to let him use the facilities there.
Paper 3ff.

Fac. 5/15 (Cambridge Observatory Archives 1850/8) 25 February 1850
Letter from R.C. Carrington to Professor Challis discussing occultation form 3, observations of a meteor, and the machine he has designed after Challis' reference to such a marvellous one, which is accurate for all stars more than 10° from the Pole.

Paper 4ff.

Fac. 5/16 (Cambridge Observatory Archives 1851/11) 25 March 1851
Letter from R.C. Carrington to Professor Challis informing him that due to an eye inflammation he will be absent from Durham for several weeks, but hopes that the Cambridge Syndicate will agree to the transfer of the volumes of observations decided on.

Paper 2ff.

Fac. 5/17 (Cambridge Observatory Archives 1852/2) 12 January 1852
Letter from R.C. Carrington to Professor Challis telling him that he has seen Encke's comet but has had no success with the new planet. Also informing him that as of April he will leave Durham.

Paper 2ff.

Fac. 5/18 (Cambridge Observatory Archives 1852/4) 17 January 1852
Letter from Professor Chevallier to Professor Challis inquiring about a new observer since Mr. Carrington is leaving due to university regulations requiring the observer to be single, and because he would prefer a first-rate equatorial. Also, asking about the mounting of the Northumberland.

Paper 2ff.

Fac. 5/19 10 February 1852
Letter from Carrington to Professor Challis describing in detail his reasons for leaving Durham, and stating his intentions to either find a post with good equipment or to set up a private observatory.

Paper 6ff.

Fac. 6/1-10 Photocopies of letters relating to Durham from the archives of the Royal Astronomical Society, 1843-1869:

Fac. 6/1 and 2 2-16 December 1843

Correspondence between R. Harris, assistant secretary to the Royal Astronomical Society and Chevallier concerning Chevallier's gift of an astronomical time watch case with description.

3 letters, 2ff.

Fac. 6/3 24 December 1847

Letter from Chevallier to A. De Morgan Esq. enquiring whether the Royal Astronomical Society has received his model for a Transit Time Ball which he intends to present to the Society.

Paper 4ff.

Fac. 6/4 2 February 1848

Letter from Chevallier to A. De Morgan saying that he is enclosing observations on some of the new planets, and describing his Time Ball which appears to have been mislaid again.

Paper 2ff.

Fac. 6/5 2 November 1848

Letter from Chevallier to J. Williams enclosing his subscription and asking that some books be forwarded to Durham for him.

Paper 2ff.

Fac. 6/6 5 June 1851

Letter from R.C. Carrington to J. Williams concerning the acquisition of back numbers of the Society's publications for the Observatory and for himself.

Paper 2ff.

Fac. 6/7 1851 (?)

Note from R.C. Carrington that Observations of Irene and Hebe will be sent on 15 July.

Paper 1f.

Fac. 6/8 10 April 1851

Letter dictated by R.C. Carrington to Professor De Morgan concerning his (Carrington's) admission to the Royal Astronomical Society.

Paper 2ff.

Fac. 6/9 19 June 1859

Letter from Chevallier to R.C. Carrington asking whether he thinks the Royal Astronomical Society would give a set of their publications to Col. Thomas Pears C.B. of the East India Company's Engineers who is interested in the formation of a public library for Europeans in India.

Paper 2ff.

Fac. 6/10 7 April 1869

Letter from Chevallier to the secretary of the Royal Astronomical Society to accompany a report of an observation of the light of an Aurora Borealis by means of the spectroscope.

20 April 1869 :

Letter from Chevallier to the secretary of the Royal Astronomical Society to accompany the comments of Mr. Plummer, Observer at Durham, on a paper in the last *Monthly Notices*.

Paper 1f.

Fac. 7

Observer's Report to the Curators for 1911 and 1912.

Signed F.C.H. Carpenter.

(From Council Minutes 29/10/1912, p.145-8).

Paper 4ff.

Fac. 8/1-8

Photocopies of items from the correspondence of Professor Paneth, relating to the Observatory, 1938-1940.

Fac. 8/1 14 December 1938

Letter from Paneth to Dr. J.L. Edgar (at the technical college, Aberdeen) commenting favourably on the prospects for his research in Durham in view of the facilities available in the chemical laboratory and the proximity of the Observatory.

Paper 1f.

Fac. 8/2 17 December 1938

Letter from Paneth to Dr. G.M.B. Dobson (of Oxford) commenting on the prospects for resuming the ozone work in Durham and asking his advice on the best way to approach the D.S.I.R. for a grant to enable Dr. J.L. Edgar to join him.

Paper 2ff.

Fac. 8/3 27 November 1939

Letter from Paneth to N.K. Johnson of the Meteorological Office concerning the decision to discontinue Gluckauf's investigation on the water-vapour content of the upper atmosphere: commenting on the suitability of Durham for this research "owing to the Chemical Institute and the Observatory being situated near to each other in the open country, and to my co-optation to the Board of Curators of the Observatory".

Paper 2ff.

Fac. 8/4 8 January 1940

Letter from Paneth to Professor H. Dingle at the Imperial College of Science asking for advice and suggestions as to the future of the Observatory as a centre of astronomical research after the departure of Sargent and his telescope, and the feasibility of converting it to a teaching institution.

Paper 3ff.

Fac. 8/5 10 January 1940

Letter from Dingle to Paneth endorsing the idea of using the Observatory for teaching rather than research purposes and outlining the course of instruction at Imperial College.

Paper 3ff.

Fac. 8/6 17 January 1940

Letter from Paneth to Dingle thanking him for his observations and saying that the proposal will depend on Professor Goldsbrough's approval and the end of the war.

Paper 2ff.

Fac. 8/7 5 June 1940

Letter from Paneth to Daysh on problems with the meteorological readings arising from the absence of Gluckauf.

Paper 2ff.

Fac. 8/8 19 December 1940

Letter from Paneth to Dr. G.M.B. Dobson of Watch Hill, The Ridings, Oxford, mainly concerned with the progress of research into changes in the ozone content of the lower atmosphere; with reference to the restrictions placed on Gluckauf since his release from internment which prevent him from working at the Observatory.

Paper 5ff.

Fac. 9 1997

Joan Kenworthy's digital files of meteorological information 1849-1997, with a covering letter of 4 December 2013 explaining the background with lists of the files. CD in a plastic cover + paper file

Provenance: Received 6 March 2014.

Photographs

Phot.1 - 20 9 May 2005

Photos of the Observatory and adjacent buildings, environs and some interiors.

Taken, and captioned, by Peter D. Hingley.

1. Main building from the SE.
2. Observer's cottage from the roof of the observatory.
3. Hardstanding to the W of the drive.
4. Pediment of the S front.
5. E front.
6. Adjustable sighting marker [probably not *in situ*].
7. S front showing Stevenson screen.
8. [Almucantar House] and Observer's cottage beyond.
9. Brick building to the N of the main block with a portakabin.
10. Commemorative wall plaque listing professors and observers.
11. Peter Hingley emerging on to the roof.
12. Professor Martin Ward emerging on to the roof.
13. View to the E from the roof.
14. View to the S from the roof.
15. Inside the dome, the upper shutter.
16. Inside the dome, the lower shutter.
17. Inside the dome, ribs and boarding.
18. Soffit boards showing the site of the former transit slit.
19. Lantern over the main door.
20. S front showing door, lantern and pediment.

Size: 148 x 101mm

Colour photographic prints on Kodak paper 20 items

Location of originals: Negatives, and copyright, remain with Peter Hingley, librarian, Royal Astronomical Society.

Phot.21 1900

Copy print from *Monthly Notices of the Royal Astronomical Society* (60, 1900), plate 18, facing page 572, of Durham's almucantar.

Size: 242 x 144mm

BW print

Location of originals: Copyright photograph from the Royal Astronomical Society library.

Phot.22 1997

Publications

Pub.1 1913 - 1929

Durham University Observatory, *Report of the director of the Durham University Observatory to the Board of Curators for the year*

Presented at the meeting of the board

Issues: 1912/13, 1913/14, 1914/20, 1921, 1923/24 - 1928/29

First three issues with purple book stamp on front cover: "Durham Observatory Publications New Series No. [2, 3 & 5]"

On the front cover of 1913/14 report bookstamp: "Major F. M. Lowe, 22, North Bailey, Durham".

9 printed pamphlets

Pub.2 1931 - 1937

Durham University Observatory, *Report of the Committee of Management for the year...*

Probably a continuation of Pub. 1

Issues: 1930/31 - 1936/37

6 printed pamphlets

Pub.3 [1859]

Notes for the rainfall for 1858 by Henry T. Mennell

Caption title

On the front cover purple elliptical bookstamp: "Durham University Observatory"

Printed pamphlet (pp. 1-10)

Pub.4 1873

On some results of temperature observations at Durham. By John J. Plummer.

At the head of page [241]: From the *Quarterly Journal of the Meteorological Society for October 1873.*

Offprint (pp. [241] - 246)

Pub.5 [1881]

The snow storms of January 17th to 21st, 1881

On title page: Excerpt from *Symon's Monthly Meteorological Magazine* for February and March.

With frontispiece illustration "Distribution of snow, January 17th to 21st, 1881"

Printed pamphlet (pp. [1-3], 4-30)

Pub.6 [1881]

The frost of January, 1881, over the British Isles. By William Marriott, F.H.S.

At the head of the title page: From the *Quarterly Journal of the Meteorological Society* for April 1881.

At the head of the title page blue elliptical bookstamp: "Durham University Observatory"

Offprint (pp. [138], 139-152, folded plans)

Pub.7 1903

Transits observed with the Durham almucantar between 1901 November 23 and 1902 December 15. By Professor R. A. Sampson

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, vol. LXIII, no. 6

On the front cover purple elliptical bookstamp: "Durham University Observatory"

Offprint (pp. 338 - 391)

Pub.8 1910

Notes on an erroneous formula employed in the tables of the four great satellites of Jupiter. By Prof. R. A. Sampson, F.R.S.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXI, no. 2.

Offprint [pp. [124] - 126]

Pub.9 1913

Results of the observations made with the almucantar of the University of Durham during 1912. By E. H. Hills F.R.S., and F. C. H. Carpenter.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXIII, no. 5.

On the front cover purple bookstamp "Durham Observatory Publications New Series No 1".

Offprint (pp. [369] - 380)

Pub.10 1914

Observations of the transit of Mercury, 1914 November 6-7, at the Royal Observatory, Edinburgh.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXV, no. 1.

Offprint (pp. [34] - 35)

Pub.11 1914

The temperature coefficients of the Edinburgh Transit Circle. By Professor R. A. Sampson and E. A. Baker, B. Sc.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXV, no. 1.

On the front cover elliptical purple bookstamp "Durham University Observatory".

Offprint (pp. [69] - 81)

Pub.12 1914

On Professor Turner's theory of a sunspot swarm of meteors, associated with the Leonids. By Professor R. A. Sampson.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXV, no. 2.

On the front cover elliptical purple bookstamp "Durham University Observatory".

Offprint (pp. [82] - 92)

Pub.13 1920

On the suspended zenith telescope of Durham Observatory. Part I. By Col. E. H. Hills, F.R.S.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXX, no. 6.

On the front cover purple bookstamp: "Durham Observatory Publications New Series No 4".

Offprint (pp. [564] - 574)

Pub.14 1922

Recent Jupiter observations. By Frank Sargent.

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. LXXXII, no. 7.

On the front cover purple bookstamp: "Durham Observatory Publications New Series No 7".

Offprint (pp. [418] - 419)

Pub.15 1931

Variability of B.D.+72°733. By F. Sargent

At the head of the half-title page: Reprinted from the *Monthly notices of the Royal Astronomical Society*, Vol. CXI, no. 5.

On the front cover elliptical purple bookstamp "Durham University Observatory".

Offprint (pp. [602] - 603)