

P R E F A C E.

At the beginning of the year 1913 the Established Staff of the Observatory consisted of the following persons, the names in each class being arranged alphabetically :—

Chief Assistants,—Sydney Chapman, B.A., D.Sc. ; Arthur Stanley Eddington, M.A., M.Sc., Fellow of Trinity College, Cambridge.

Assistants,—Walter William Bryant, B.A. ; Andrew Claude de la Cherois Crommelin, B.A., D.Sc. ; Henry Park Hollis, B.A. ; Thomas Lewis ; Edward Walter Maunder ; William Grasett Thackeray.

Clerical Assistant,—Henry Outhwaite.

Established Computer (Higher Grade),—Charles Rundle Davidson.

Established Computers,—William Bowyer ; William Wood Burkett ; Richard Thomas Cullen ; David J. R. Edney ; Joseph Edward Evans ; Herbert Henry Furner ; Philibert J. Melotte ; William Stevens ; William Moody Witchell, B.Sc.

Mr. A. S. Eddington resigned on June 5 on his appointment as Plumian Professor of Astronomy in the University of Cambridge. The vacancy thus created was filled by the appointment of Mr. H. S. Jones, B.A., B.Sc., as Chief Assistant on July 1.

Mr. E. W. Maunder resigned on November 6 on reaching the age limit. Mr. W. Bowyer was appointed an Established Computer (Higher Grade) on November 7.

Mr. J. E. Evans resigned on January 3 on his appointment as Second Assistant Astronomer at the Ceylon Observatory. Mr. F. Jeffries was appointed an Established Computer on January 4 to fill the vacancy.

The Chief Assistants have the general superintendence of all the work of the Observatory. Mr. Maunder (or Mr. Bryant, assisted by Mr. Edney, from November 6) is charged with the Heliographic photography and reductions. Mr. Lewis has charge of the clocks, time-signals, and chronometers, and of the 28-inch equatorial. Mr. Thackeray superintends the meridian work with the Transit-Circle, and miscellaneous astronomical computations. Mr. Hollis superintends the photo-

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graphic mapping of the heavens, the measurement of the plates, and the computations for the Astrographic Catalogue. Mr. Crommelin has charge of the Altazimuth and of the observations of occultations. Mr. Bryant is superintendent of the Magnetic and Meteorological Department. Mr. Davidson has charge of the Thompson equatorial and the measurement of the photographs taken with it. Mr. Outhwaite acts as responsible accountant officer, has charge of the library manuscripts and stores, and conducts the official and general correspondence. Mr. Bowyer, Mr. Cullen, and Mr. Furner assist Mr. Lewis, Mr. Thackeray, and Mr. Crommelin respectively. Mr. Witchell and Mr. Acton, under Mr. Thackeray's direction, respectively undertake the reduction of the transits and of meridian zenith distances observed with the Transit-Circle; Mr. Witchell and Mr. Acton are also charged with the reduction of the Cookson Floating Zenith-Telescope observations. Mr. Melotte is engaged in the reproduction of the photographs taken with the Thompson equatorial. Mr. Stevens and Mr. J. E. Evans (or Mr. Jeffries from January 4) assist Mr. Hollis, Mr. Edney assists Mr. Bryant, and Mr. Burkett assists Mr. Outhwaite.

The regular observers with the Transit-Circle were Mr. Witchell, Mr. Cullen, Mr. Acton, and Mr. J. Evans, afterwards succeeded by Mr. Jeffries. The same observers undertook the Cookson Floating Zenith-Telescope observations. Observations with the 28-inch equatorial are generally made by Mr. Chapman, Mr. Bryant, Mr. Bowyer, and Mr. Furner. Observations with the Altazimuth are made by Mr. Crommelin, Mr. Furner, or one of the Computers. Photographs with the Astrographic equatorial are generally taken by Mr. Stevens or one of the Computers, and with the Thompson equatorial by Mr. Chapman, Mr. Davidson, Mr. Edney, Mr. Stevens, Mr. Melotte, or Mr. Burkett. Photographs of the Sun with the Thompson or Dallmeyer photoheliograph are taken by Mr. Maunder, or by one of the Computers under his direction.

The following are the signatures of the observers :—

F. W. Dyson	- D	C. Davidson	- CD	F. Jeffries	- FJ
A. S. Eddington	- SE	D. J. R. Edney	- DE	W. G. Davies	- WD
S. Chapman	- SC	W. Bowyer	- WB	G. Bartle	- GB
H. S. Jones	- HJ	H. H. Furner	- HF	A. Smith	- AS
E. W. Maunder	- M	W. M. Witchell	- W	W. G. Percival	- P
T. Lewis	- L	W. Stevens	- WS	E. A. Chamberlain	- EC
W. G. Thackeray	- T	P. Melotte	- PM	H. W. Davis	- HD
H. P. Hollis	- H	J. E. Evans	- E	P. J. White	- PW
A. C. D. Crommelin	AC	R. T. Cullen	- RC	W. T. Lord	- WL
W. W. Bryant	- B	H. Acton	- HA		

F. W. DYSON.

LIST OF APPENDICES IN VOLUMES OF GREENWICH OBSERVATIONS.

(Most of these have also been issued separately.)

Volume.	Title.
1836.	Bessel's Refraction Tables.
	Table of Factors for converting Errors of R.A. and N.P.D. into Errors of Longitude and Ecliptic Polar Distance.
1837.	Logarithms of Sines and Cosines for every 10 seconds of time.
1842.	Catalogue of 1439 Stars for 1840, from Observations made in 1836-41.
1845.	Longitude of Valentia (Chronometrical).
1847.	Catalogue of 2156 Stars for the twelve years 1836-47.
1851.	Results in Right Ascension of Stars observed by Dr. Maskelyne.
1852.	Regulation of the Royal Observatory.
	Description of the Transit-Circle.
1853.	Refraction Tables.
1854.	Description of the Reflex Zenith-Tube.
	Catalogue of 1576 Stars for 1850, from Observations made in the years 1848-53.
1856.	Description of the Galvanic Chronographic Apparatus used for recording Observations.
1859.	Errors of the Moon's Tabular Place as deduced from the Tables of Burckhardt and Hansen, 1847-58.
	Reduction of Magnetic Observations, 1848-57, with reference to the Positions of the Sun and Moon.
1860.	Reduction of Deep Thermometer Observations, 1846-59.
1862.	Seven-Year Catalogue of 2022 Stars reduced to Epoch 1860, from Observations made in the years 1854-60.
	Plan of Ground and Buildings.
	Longitude of Valentia (Galvanic).
1864.	Moon's Semidiameter from Occultations.
	Planetary Reductions, 1831-35.
1867.	Description of the Altazimuth.
	Description of the Transit-Circle.
1868.	Corrections of Elements of Jupiter and Saturn.
	Second Seven-Year Catalogue of 2760 Stars for 1864, from Observations made in the years 1861-67.
	Description of the Great Equatorial.
1869.	Reprint of Halley's Magnetic Chart.

LIST OF APPENDICES, ETC.

Volume.	Title.
1871.	History and Description of the Water Telescope.
1873.	Regulations of the Royal Observatory.
1876.	Nine-Year Catalogue of 2263 Stars for the Epoch 1872.
1877.	Mean Temperature of the Air at every hour of the day in each year from 1849-68.
1879.	Description of the Greenwich Time Signal System.
1884.	Magnetic Diagrams, 1841-76.
1887.	Reduction of the Photographic Records of the Barometer, 1874-76, and of the Dry and Wet Bulb Thermometers, 1869-76 (Meteorological Reductions, Part II.).
	Ten-Year Catalogue of 4059 Stars for 1880.
	Recomputation of the Position of the Ecliptic, and Corrections to Refraction of Stars, Sun, Moon, and Planets, 1877-86.
1889.	Observations of the Time of Swing of the Indian Invariable Pendulums.
1891.	Greenwich Five-Year Catalogue of 258 Fundamental Stars for 1890.
1898.	Refraction Tables arranged for use at the Royal Observatory.
	Second Ten-Year Catalogue of 6892 Stars for 1890.0.
1899.	Tables for reducing Transits arranged for use at the Royal Observatory.
1904.	Meridian Zenith Distances of γ Draconis, from Observations made with the Reflex Zenith-Tube, 1886-99.
1907.	Catalogue of Recurrent Groups of Sun-Spots, 1874-1906, compiled from the Ledgers of Groups of Sun-Spots, published in the Greenwich Observations, 1886-1907.
1908.	Precession Tables for use in connection with the Third Ten-Year Catalogue, 1910.
1909.	Investigation of the Motion of Halley's Comet from 1759-1910.
1911.	Ten-Year Catalogue of Stars observed with the Altazimuth, for the Epoch 1900.
1912.	Results of Reflex Zenith Tube Observations made at the Royal Observatory, Greenwich, 1907-1911.
1913.	Catalogue of Stars for 1910, from observations with the Altazimuth between the years 1909-1913.

SEPARATE PUBLICATIONS.

(Not in the Greenwich Volumes.)

Title.	Year of Publication.
Groombridge's Circumpolar Catalogue for 1810	1838
Reductions of the Observations of Planets, 1750-1830	1845
Lunar Observations, 1750-1830, Vol. I.	1848
" " " " Vol. II.	1848
Tables of the Moon, by P. H. Hansen	1857
Lunar Observations, 1831-51	1859
Greenwich Meteorological Reductions, Part I. (Barometer, 1854-73; Thermometers, 1849-68; Earth Thermometers, 1847-73)	1878
Transit of Venus, 1874	1881

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Title.	Year of Publication.
Greenwich Meteorological Reductions, Part II. (Barometer, 1874-76; Thermometers, 1869-76)	1887
Greenwich Meteorological Reductions, Part III. (Temperature of the Air, 1841-90)	1896
Astrographic Catalogue, Vol. I.	1904
New Reduction of Groombridge's Catalogue	1905
Longitudes, 1888-1902	1906
Greenwich Meteorological Reductions, Part IV. (Temperature of the Air, 1891-1905)	1906
Photoheliographic Results, 1874-85	1907
Astrographic Catalogue, Vol. II.	1908
Observations of the Planet Eros, 1900-01, for the Determination of the Solar Parallax	1908
Second Nine-Year Catalogue of Stars for 1900, from Observations made in the years 1897-1905	1909
Catalogue of 2212 Stars within 3° of the North Pole for the epoch 1900.0 (forming a part of Volume III. of the <i>Astrographic Catalogue</i> —only a few advance copies issued)	1912
Position of the Sun's Axis as determined from Photographs of the Sun taken in the years 1874-1912	1913
Photographic Magnitudes of Stars brighter than 9 ^m .0 between Declination +75° and the Pole.	1913
Astrographic Catalogue, Vol. III.	1914
Photographic Magnitudes of Stars brighter than 9 ^m .0 between Declination +65° and +75°.	1915