

ELEVENTH ANNUAL REPORT
OF THE
METEOROLOGICAL COMMITTEE

TO THE
LORDS COMMISSIONERS OF HIS MAJESTY'S
TREASURY.

For the Year ended 31st March, 1916
(the Sixty-first Year of the Meteorological Office).

Presented to both Houses of Parliament by Command of His Majesty.



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THE METEOROLOGICAL COMMITTEE, 1915-16.

Constituted by Minutes of the Lords Commissioners of H.M. Treasury, dated 20th May, 1905, 31st March, 1910, and 31st March, 1915.

Appointed till

- March 31, 1920 ... Sir NAPIER SHAW, Sc.D., F.R.S., Director,
Chairman.
- Sept. 1, 1919 ... Rear-Admiral JOHN F. PARRY, C.B., Hydro-
grapher of the Navy. Nominated by the
Admiralty.
- March 31, 1920 ... Captain J. M. HARVEY, Principal Examiner
of Masters and Mates, Board of Trade.
Nominated by the Board of Trade.
- Dec. 2, 1916 ... Mr. T. H. MIDDLETON, C.B., Assistant
Secretary of the Board of Agriculture
and Fisheries. Nominated by the Board
of Agriculture and Fisheries.
- Feb. 26, 1918 ... Major H. G. LYONS, D.Sc., F.R.S. Nomi-
nated by the Royal Society.
- March 31, 1920 ... Professor ARTHUR SCHUSTER, F.R.S. Nomi-
nated by the Royal Society.
- March 31, 1920 ... Mr. G. L. BARSTOW, C.B. Nominated by
the Treasury.
-

Subject to the discretion of the authorities by which they are respectively nominated, the members of the Committee hold office for a period not exceeding five years, but are eligible for reappointment.

THE GASSIOT COMMITTEE, 1916.

Appointed by the Royal Society in accordance with Treasury Letter of 26th February, 1910, to administer the Gassiot Trust, and to promote the scientific study of the branches of science to which the Trust relates, viz., Meteorology, Terrestrial Magnetism, Atmospheric Electricity, Seismology, and the cognate subjects.

Sir Joseph J. Thomson, O.M. (*President of the Royal Society*).

Major H. G. Lyons (*Chairman*).

Dr. C. Chree.

Mr. W. H. Dines.

Sir F. W. Dyson (*Astronomer Royal*).

Sir Archibald Geikie, K.C.B.

Dr. R. T. Glazebrook, C.B.

Sir A. B. Kempe (*Treasurer of the Royal Society*).

Sir Joseph Larmor, M.P.

Prof. H. F. Newall.

Prof. Arthur Schuster (*Secretary of the Royal Society*).

Sir Napier Shaw.

Mr. G. W. Walker.

Prof. W. Watson.

Mr. C. T. R. Wilson.

THE STAFF OF THE METEOROLOGICAL OFFICE AND OF THE OBSERVATORIES OF THE METEOROLOGICAL COMMITTEE, APRIL, 1916.

Members of the staff whose names are in brackets are absent by permission on military service or other special duty.

DIRECTOR.

Sir Napier Shaw, LL.D., Sc.D., F.R.S.

METEOROLOGICAL OFFICE.

SECRETARIAL STAFF.

<i>Secretary</i> ...	...	R. Corless,* M.A.
<i>Chief Clerk</i> ...	...	T. D. Bell.
<i>Acting Cashier</i> ...	...	J. A. Curtis.
<i>Professional Assistants</i> ...	...	C. E. P. Brooks, B.Sc., Miss E. R. Perkins, M.A.
<i>Graduate Assistant</i> ...	...	[H. W. Braby, M.A.]
<i>Staff Assistants</i> ...	...	[2nd Lieutenant E. L. Ardley], H. L. B. Tarrant.
<i>Clerks</i> ...	...	E. J. Hood, Miss R. E. Smith, Miss A. F. Poole.
<i>Clerk Assistant</i> ...	...	Miss E. C. While, B.A.§
<i>Clerk Computers</i> ...	...	Misses D. M. Buckeridge, D. G. Chambers, E. V. Turney.
<i>Probationers</i> ...	...	[E. L. Clinch], Miss W. A. Quennell.§
<i>Boy Clerk</i> ...	...	C. S. Herbert.§
<i>Girl Clerks</i> ...	...	Miss R. M. Chambers, Miss G. K. Herbert.§
<i>Office Keepers</i> ...	...	W. H. Parsons, C. E. Goad.
<i>Store Keeper</i> ...	...	[A. G. Goad.]
3 Messengers,† 2 Office Boys.		

MARINE DIVISION.

<i>Marine Superintendent</i> ...	...	M. W. Campbell Hepworth,* C.B., R.D., Captain R.N.R.
<i>Principal Assistant</i> ...	...	W. Allingham.
<i>Staff Assistant</i> ...	...	W. G. James.
<i>Clerks</i> ...	...	J. T. Williams, H. Keeton.
<i>Clerk Assistant</i> ...	...	J. E. Belasco.§
<i>Clerk Computer</i> ...	...	[A. A. Lovie.]
<i>Probationers</i> ...	...	H. T. Smith,§ [2nd Lieutenant J. L. Gray], A. J. Tabor.§
<i>Boy Clerk</i> ...	...	F. C. Warmington.§

* Inspector of Meteorological Stations.

† Including one absent by permission on military service.

§ Member of the corps of observers for the instruments installed at the Office.

FORECAST DIVISION.

<i>Superintendent</i> ...	... R. G. K. Lempfert, M.A.*
<i>Senior Professional Assistant.</i>	J. S. Dines, M.A.*
<i>Principal Assistant</i> ...	F. J. Brodie.*
<i>Forecast Assistants</i> ...	H. Harries,* R. Sargeant.*
<i>Junior Professional Assistants.</i>	[Lieutenant C. D. Stewart, B.Sc.], [Lieutenant F. Entwistle, B.Sc.]
<i>Staff Assistant</i> ...	W. Hayes.
<i>Clerks</i> ...	A. T. Bench, A. G. W. Howard.
<i>Clerk Computer</i> ...	[R. Pyser.]
<i>Probationers</i> ...	C. F. J. Jestico,§ R. M. Poulter,§ C. C. Newman,§ [E. T. Streets.]
<i>Girl Clerk...</i> ...	Miss K. R. Corrin.

The staff of the Branch Office at Farnborough and at the Weather Station at Falmouth (see below), are associated with this Division.

STATISTICAL DIVISION.

<i>Superintendent</i> ...	... [Major E. Gold,* M.A., D.S.O.]
<i>Principal Assistant</i> ...	J. Sheerman.
<i>Staff Assistants</i> ...	A. H. Bell, A. R. Simpkins.
<i>Clerks</i> ...	C. A. Bracey, L. H. Powers, C. W. Heinemann, Miss L. D. Sawyer, B.A. §
<i>Clerk Assistant</i> ...	[Sub-Lieutenant M. T. Spence, R.N.V.R.]
<i>Clerk Computer</i> ...	A. E. Pycock.
<i>Supernumerary Clerk</i> ...	[W. J. Tomkins.]
<i>Probationers</i> ...	Miss N. L. Despicht,§ Miss M. Bigelstone. §
<i>Boy Clerks</i> ...	[G. J. Barker], W. R. Penfold.

INSTRUMENTS DIVISION.

<i>Superintendent</i> ...	... F. J. W. Whipple,* M.A.
<i>Principal Assistant</i> ...	R. F. Wallace.
<i>Clerk Assistant</i> ...	[Lieutenant A. E. Gendle, R.N.V.R.]
<i>Clerk</i> ...	F. W. Snell. §
<i>Mechanical Assistant</i> ...	J. H. James.
<i>Clerk Computer</i> ...	[F. Levin.]
<i>Probationer</i> ...	C. V. Ockenden. § 1 Messenger.

Lithographers.—Messrs. Wyman & Sons, Ltd. (A. G. King, Artist).

* Inspector of Meteorological Stations.

§ Member of the corps of observers for the instruments installed at the Office.

METEOROLOGICAL FIELD SERVICE.

[Names underlined are permanent members of the office-staff.]

<i>War Office Representative in Charge.</i>	Major H. G. Lyons, R.E., D.Sc., F.R.S.
<i>Major</i>	Major E. Gold, R.E., D.S.O.
<i>Captains</i>	Captain C. J. P. Cave, J.P. (in England); Captain E. M. Wed- derburn, D.Sc., W.S., F.R.S.E.
<i>Subalterns</i>	Lieutenants: J. W. Bispham, M.A., B.Sc.; E. H. Chapman, M.A., B.Sc.; F. Entwistle, B.Sc.; A. E. M. Geddes, M.A., B.Sc.; A. H. R. Goldie, M.A.; E. Kidson, M.A.; J. G. Lamb, M.A., B.Sc.; (one in England).

2 Sergeants, 23 Corporals, 1 Clerk, 6 Batmen, 1 Driver.

Reserve of Meteorologists in England.

<i>Professional Assistants</i> ...	David Brunt, M.A., B.Sc.; T. Harris, M.A., A.R.C.Sc.; E. L. Hawke, B.A.; J. F. Duffin, M.Sc.
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Professor of Meteorology to the Royal Flying Corps.

<i>Major</i>	Major G. I. Taylor, R.F.C.
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METEOROLOGICAL OFFICE, EDINBURGH.

<i>Superintendent</i>	Andrew Watt,* M.A.
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METEOROLOGICAL OFFICE, SOUTH FARNBOROUGH.

<i>Meteorologist-in-charge</i> ...	Captain C. J. P. Cave, J.P.
<i>Professional Assistant</i> ...	R. A. W. Watt, B.Sc.

OBSERVATORIES.

CENTRAL OBSERVATORY.

Kew Observatory, Old Deer Park, Richmond, Surrey.

<i>Superintendent</i>	C. Chree, Sc.D., LL.D., F.R.S., <i>Assistant Director of Observatories.</i>
<i>Professional Assistants</i> ...	E. G. Bilham, B.Sc., A.R.C.Sc., E. H. Nichols, B.Sc.
<i>Staff Assistants</i>	E. Boxall, B. Francis.
<i>Probationer</i>	[L. G. Hemens.]
<i>Observer and Caretaker</i> ...	W. R. Corrin.
<i>Boy Clerks</i>	A. H. Lupton, L. E. Fletcher.
1 Carpenter, 1 Handyman.	

MAGNETIC OBSERVATORY.

Eskdalemuir, Langholm, Dumfries-shire.

<i>Superintendent</i>	...	...	L. F. Richardson,* B.A.
<i>Professional Assistant</i>	...	...	[Lieutenant A. H. R. Goldie, M.A.]
<i>Clerk Assistant</i>	...	...	P. N. Skelton.
<i>Clerk Computers</i>	...	...	[Lieutenant H. G. Harris], B. G. Brame.
<i>Mechanic-Caretaker</i>	...	...	A. Stonier.
<i>Boy Clerks</i>	...	...	J. Beck, J. Graham.
			1 Handyman.

WESTERN OBSERVATORY.

Valencia Observatory, Cahirciveen, co. Kerry.

<i>Superintendent</i>	...	...	L. H. G. Dines,* M.A., A.M.I.C.E.
<i>Assistant</i>	...	...	M. Sugrue.
<i>Boy Clerk</i>	...	...	M. J. Morley.
			1 Handyman.

AEROLOGICAL OBSERVATORY.

Benson, near Wallingford.

<i>Director of Aerological</i>	}	W. H. Dines, F.R.S.	
<i>Investigations.</i>			
<i>Professional Assistant</i>	...	...	E. V. Newnham, B.Sc.
<i>Mechanical Assistant</i>	...	...	[H. W. Baker.]

WEATHER STATION, FALMOUTH OBSERVATORY.

<i>Professional Assistant</i>	...	...	T. Harris, M.A., A.R.C.Sc.
<i>Clerk Computer</i>	...	...	J. B. Phillips.
<i>Boy Clerk</i>	...	...	W. J. Fowler.

NORTHERN OBSERVATORY

at King's College, Aberdeen, under the direction of Professor Charles Niven, F.R.S.

<i>Assistant</i>	G. A. Clarke.*
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* Inspector of Meteorological Stations.

ELEVENTH ANNUAL REPORT
OF THE
METEOROLOGICAL COMMITTEE

TO
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MAJESTY'S TREASURY.

For the Year ended 31st March, 1916 (the Sixty-first
year of the Meteorological Office).

MAY IT PLEASE YOUR LORDSHIPS,

By Your Lordships' Minute, dated 31st March, 1915, the Meteorological Committee was reconstituted for a further term of five years with the same powers as heretofore, and the Director was reappointed for the same term at the same salary and with the same powers and responsibilities as heretofore.

Meetings of the Committee have been held on 21st April, 2nd June, 23rd June, 11th August, 1st September, 27th October, 24th November, 1915, 26th January, and 22nd March, 1916.

The members of the Committee remain the same: The Chairman (Sir Napier Shaw), Captain Harvey, Professor Schuster, and Mr. G. L. Barstow, subject to the usual provisions, hold office until 31st March, 1920. The terms of appointment of Major Lyons, Rear-Admiral Parry, and Mr. Middleton will, subject to the discretion of the Royal Society, the Admiralty, and the Board of Agriculture and Fisheries respectively, expire five years from the dates of their respective appointments to the Committee, viz., 26th February, 1913, 1st September, 1914, 2nd December, 1911, respectively.

Staff.—The work of the year has been mainly concerned with numerous changes in the staff, brought about by the further organisation of the work of the Office and Observatories on a war basis, and by the requirements in respect of officers trained for special meteorological duties. The work of the Forecast Division now includes reports, four times daily, on observations at 1h., 7h., 13h., and 18h. Greenwich Mean Time, respectively.

The Minutes of the Committee in connexion with appointments contain the names of 41 new members of the staff.

Amongst them is the appointment, on the recommendation of the Gassiot Committee, of Dr. Crichton Mitchell, D.Sc. Edin., formerly Director of Education in Madras, to be Superintendent of the Observatory at Eskdalemuir in place of Mr. Lewis F. Richardson, resigned. The new appointment takes effect from 15th May, 1916.

A separate unit of the Royal Engineers has been created for meteorological service in the field. The service with the Expeditionary Force in France is under the command of Major Gold, one of the Superintendents of Division in the Office, and that with the force in the Eastern Mediterranean under Captain E. M. Wedderburn, D.Sc., W.S., F.R.S.E., Honorary Secretary of the Scottish Meteorological Society, who offered his services to the Office. With him is Lieutenant E. Kidson, a graduate of Canterbury College, New Zealand, who had distinguished himself as magnetician in the service of the Carnegie Institution of Washington, and came to this country to offer his services.

In the organisation of these Meteorological Services the Committee have received great assistance from one of their members, Major H. G. Lyons, R.E., formerly Director-General of the Egyptian Survey Department, whose services were lent by the War Office in view of the importance of an adequate knowledge of the weather to the proper conduct of naval and military operations in the Mediterranean, to which attention was called by the Admiralty. Major Lyons has taken charge of that department of the work of the Office from 17th May, 1915, and more recently he has been appointed to represent the War Office on the Committee.

The Director of the Office received the honour of Knighthood on the occasion of the King's birthday in 1915.

The Commandant of the Meteorological Section in France was mentioned in Lord French's despatch of 30th November, 1915, and has been appointed to the Distinguished Service Order.

The special thanks of the Admiralty for the services of the Meteorological Officer in the Mediterranean have been received through the War Office.

Professorship of Meteorology to the Royal Flying Corps.—In view of the importance of co-ordinating the experience of flying officers with the work of the Office and Observatories in order to obtain more effective knowledge of the structure of the atmosphere for the use of the Air Services, the Committee represented to the Director of Military Aeronautics the desirability of appointing a Professor of Meteorology to the Royal Flying Corps (with the rank of Major during the War). The Director of Military Aeronautics concurred and, with the sanction of Your Lordships, the Army Council approved the appointment of Lieutenant G. I. Taylor, R.F.C., to that office. Major Taylor was Schuster Reader in Meteorology from 20th February, 1912. His services were lent by the Committee to the Board of Trade for meteorological work on the s.s. "Scotia," chartered for the investigation

of ice in 1913. The report of the work of that voyage marks a new epoch in the history of meteorology. The mathematical aspects of work therein contained were developed and extended in an essay which obtained the Adams Prize of the University of Cambridge. At the outbreak of war Mr. Taylor was recommended to the Royal Aircraft Factory and thence obtained a commission in the Royal Flying Corps.

The Professorship dates from 14th February, 1916, and is attached to the Meteorological Office.

Publications.—For the use of the Naval and Military Services, a short introduction to modern meteorology has been drawn up with the title "The Weather Map," to which has been appended a "Meteorological Glossary," consisting of notes and short articles on technical meteorological terms and physical or astronomical subjects, a knowledge of which is required in meteorological practice. The publication has met with a very satisfactory reception.

At the suggestion of a Committee called together by the Hydrographer, the preparation of a Handbook or Text Book of meteorology is in progress.

The publication of official reports has been maintained for the information of the Naval and Military Services or other Government departments and the general public, and for exchange with the services of Allied and Neutral Countries. In other respects the publications of the Office and the issues from the Lithographic Press have been restricted to the requirements of the Naval and Military Services. A number of papers prepared for issue as Geophysical Memoirs have been held up for the present.

International Co-operation.—The issue of publications as a contribution to the International Exchange has been continued so far as the circumstances of the time permit. The most important event of the year in this respect was the completion of the compilation of data for 392 stations in all parts of the world, representing the Meteorology of the Globe, with the title of the *Réseau Mondial*. In this way an aspiration has been realised which has been officially entertained since the Congresses at Vienna in 1874 and Rome in 1879. The printing of the letterpress was finished at the beginning of March, and the issue awaited only the lithographic reproduction of maps showing the variations from the normal of pressure and temperature over the Globe. An account of this publication was given in a lecture to the Royal Meteorological Society on March 15th. Unfortunately, the issue of the work has been delayed through the destruction by fire of the printed-off copies of the letterpress.

Inquiries.—The staff of all the departments of the Office has been very fully occupied in supplying information in reply to inquiries from the various departments of the Admiralty and the War Office. The variety of ways in which the weather affects warlike operations in all parts of the Globe has become very apparent from the

diversity of the information which the Office is called upon to supply at short notice. The results of meteorological inquiries initiated in what appeared to be the remote interest of the theory of the circulation of the atmosphere have turned out to have important practical bearings, and collections of statistics compiled in the ordinary course of meteorological duty have now come in most usefully to meet urgent requirements.

Departmental Divisions, Observatories, Branches, and Stations.—All the establishments in connexion with the Office have been regularly maintained in effective operation. The Branch Office at South Farnborough, which has been in charge of Captain C. J. P. Cave, of the Meteorological Section R.E., has been specially engaged in the investigation of the occurrence of thunderstorms for the Advisory Committee for Aeronautics with a view to anticipating their arrival in threatened localities.

Reports upon the work of the several Departmental Divisions and of the Observatories, &c., have been presented to the Committee in the same form as heretofore, but on this occasion they are not printed. They are available for reference upon any point upon which Your Lordships may deem further information to be desirable.

Meteorological Office, Edinburgh.—The arrangement with the Scottish Meteorological Society, which was concluded three years ago, continues to work satisfactorily. A report and statement of accounts have been received and are available for reference if required.

Voluntary Observations from Ships and Stations.—For the information available for the public concerning the meteorology of the sea and the climatology of the British Isles the Office is still largely dependent upon the observations contributed on a voluntary basis by the Captains and Officers of Ships of the Mercantile Marine, the Officials of Municipal Authorities, or by private persons who are interested in meteorology. A complete list of Observing Ships, Observatories, and Stations in connexion with the Office, numbering altogether about 860, is included in a separate Circular No. 001, which is revised from time to time for presentation to the observers.

The Committee desire specially to represent to Your Lordships that this voluntary service is still maintained with great advantage to the public benefit at considerable personal effort on the part of the observers.

Finance.—A statement of the receipts and payments during the year ended 31st March, 1916, is given on page 14. The amount of the Parliamentary Grant-in-aid for Meteorology, which was paid direct to the Committee by the Treasury, was £22,500, an increase of £2,500 on the previous year.

In addition to this, monies from grants voted by Parliament to the Royal Society on account of Eskdale Observatory and to the Advisory Committee for Aeronautics were paid to the Meteorological Committee for the maintenance of the Observatory and for experimental work in connexion with aviation respectively. The dividends of the Gassiot and the Rosse Trust Funds, administered by the Royal Society in respect of Kew and Valencia Observatories, respectively, have also been added to the Observatory revenues. By arrangement with the trustees of the Scott Antarctic Fund a sum of £164 has been received as the equivalent of the time devoted to the discussion of the results of the Magnetic Observations, by the Superintendent of Kew Observatory, in accordance with the arrangement referred to on page 10 of the report for 1913-14.

The sum total of these items was £1,812 18s. 9d., which, together with the grant of £22,500, provided £24,312 18s. 9d. as the revenue available for the work of the year. Repayments and other miscellaneous receipts totalled £5,961 12s. 8d., making a grand total of £30,274 11s. 5d.

Expenditure, including the recoverable items, amounted to £28,927 12s. 6d., so that the cash balance, which, at the commencement of the financial year was £861 16s. 6d., was increased by £1,346 18s. 11d., and at the close of the year stood at £2,208 15s. 5d.

The full effect of the new rates of postage, telegrams, and of other charges has not been realised in this year's statement, as the accounts are not presented until three months after date.

The balance at the commencement of the year included the sum of £91 10s. mentioned in last year's report as paid in advance for instruments; the amount was still in hand on 31st March, 1916, and a sum of approximately £70 was held to the credit of H.M. Stationery Office on account of forms and publications sold to the public.

Office Property.—The various inventories of Office property have been duly examined. Further loans have been made to the Science Museum, and provision has been taken for guarding the interests of the Office in respect of an isolated plot of land belonging to the holding of the Observatory in the Old Deer Park, Richmond.

NAPIER SHAW,
Chairman.

13th September, 1916.

ACCOUNT of RECEIPTS and PAYMENTS for the year ended 31st March, 1916.

Subject to correction upon audit by the Comptroller and Auditor-General:—

RECEIPTS.			PAYMENTS.		
	£	s. d.		£	s. d.
Balance from year 1914-15	—	—	Director	—	1,000 0 0
Parliamentary vote ..	22,500	0 0	OFFICE SALARIES (in- cluding Insurance):		
DEPARTMENTAL EX- PENSES REPAID:			Monthly	9,152 19 5	
Forecasts, &c.	4 17 5		Weekly	1,292 9 1	10,445 8 6
Marine, Statistical, and Administrative	101 10 0		EXPENSES OF OFFICE:		
Instruments	163 9 10	269 17 3	Rent, Heating, and Lighting	685 3 3	
INCIDENTAL EXPENSES REPAID:			Furniture and Equip- ment	229 11 11	
D.W. Report	126 14 0		Library	21 4 10	
Divisional	50 18 5		Insurances, Repairs, Incidental Expenses, and Consumable	331 11 11	
Advertising Account ..	6 4 1	183 16 6	Stores	17 14 2	1,285 6 1
STATIONERY OFFICE ..	—	70 1 5	Advertising Account ..	—	
TELEGRAPH CHARGES REPAID	—	178 6 7	POST OFFICE:		
TELEPHONE CHARGES REPAID	—	8 12 0	Postage	685 3 3	
INSPECTIONS	—	168 0 0	Telephones	87 15 10	
INSTRUMENTS:			Telegrams	1,879 12 7	2,632 11 8
Royal Navy	2,687 8 9		STATIONERY OFFICE	—	88 17 5
Mercantile Marine, Sta- tions, &c.	1,345 11 5	4,033 0 2	TRAVELLING EXPENSES	—	143 19 5
SUPERANNUATION ACCOUNT:			SUPERANNUATION:		
Annuities	745 12 8		Pensions not charge- able on Fund	425 0 0	
Interest on Investments	16 10 1	762 2 9	Pensions chargeable on Fund	263 12 10	
OBSERVATORIES, BRAN- CHES, AND STATIONS:			Annuities	697 10 0	
Kew	608 13 10		Contribution to fund ..	665 1 6	2,051 4 4
Eskdale	1,019 9 6		COST OF INSTRUMENTS:		
Valencia	34 3 8		Royal Navy	2,684 8 9	
Farnborough	273 10 9		For Office use	171 5 0	
Falmouth	9 6 4		Other Commissions ..	1,675 6 8	4,531 0 5
Benson	12 0 0		OBSERVATORIES, BRAN- CHES, AND STATIONS:		
Miscellaneous	134 5 11	2,001 10 0	Kew	2,023 4 1	
LECTURES AND EXPERI- MENTS	—	9 4 9	Eskdale	1,418 2 3	
		£31,136 7 11	Valencia	637 5 9	
			Farnborough	403 2 10	
			Falmouth	190 13 0	
			Benson	389 13 1	
			Edinburgh	372 16 0	
			Miscellaneous	1,314 7 8	6,749 4 8
			BALANCE:		
			Cash at Bank	2,131 0 4	
			" at Office	77 15 1	2,208 15 5
					£31,136 7 11

Note.—On 31st March the amount of Government securities held for the provision of Superannuation Annuities was £26 14s. 2d. 2½ per cent. Consols, and £702 10s. 2d. 4½ per cent. War Loan.

The following abstract shows approximately the net payments for this and the preceding years, together with the increase or decrease in 1915-16, as compared with 1914-15:—

NET CHARGES.	1914-15.	1915-16.	Increase.	Decrease.
SALARIES :	£	£	£	£
Director	1,000	1,000	—	—
Office and Observatories ...	12,911	13,893	982	—
GENERAL ADMINISTRATION of Central Office :				
Rent, Heating, and Lighting	684	685	1	—
Furniture and Equipment	26	230	204	—
Library	41	21	—	20
Insurances, Repairs, Incidental Expenses, Consumable Stores, and Advertising Account.	57	250	193	—
STATIONERY OFFICE ...	*	19	19	—
POSTAGE	572	581	9	—
TELEGRAMS	1,874	1,701	—	173
TELEPHONES	73	79	6	—
TRAVELLING EXPENSES ...	85	—	—	85
INSTRUMENTS	578	498	—	80
SUPERANNUATION	1,083	1,289	206	—
OBSERVATORIES, &c. (exclusive of Salaries) :—				
Kew	804	281	—	523
Eskdale	422	474	52	—
Valencia	93	123	30	—
Farnborough	71	181	110	—
Falmouth	75	85	10	—
Benson	201	32	—	169
Edinburgh	} 1,627 {	373	} — {	74
Miscellaneous		1,180		
LECTURES AND EXPERIMENTS.	†	†	—	—
Total expenditure ...	22,277	22,975	698	—
NET CREDITS.				
S.O. Publications and Forms (receipts in advance).	43	—	—	—
Lectures and Experiments ...	81	9	—	—
Total Net Expenditure £	22,153	22,966	813	—
NET INCOME.				
PARLIAMENTARY GRANTS :				
M.O. Vote	20,000	22,500	2,500	—
Royal Society Vote ...	1,000	1,000	—	—
" " Advisory Committee.	250	250	—	—
ROYAL SOCIETY :				
Gassiot Trust	339	388	49	—
Rosse Trust	11	11	—	—
SCOTT ANTARCTIC FUND ...	164	164	—	—
	21,764	24,313	2,549	—

* Receipts exceeded expenditure ; balance held to credit of Stationery Office.

† £43 15s. held to the credit of the Schuster Readership.