19 JUN. 1918

YORKSHIRE PHILOSOPHICAL SOCIETY.

BRITISH MUSEUM
NATURAL HISTORY

ANNUAL REPORT

FOR

MCMXVII.

ANNUAL REPORT

OF THE COUNCIL

OF THE

YORKSHIRE

PHILOSOPHICAL SOCIETY

FOR

MCMXVII.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1918.

BRITISH MUSEUM
NATURAL HISTORY

YORK:
COULTAS & VOLANS LTD., PRINTERS, LITTLE STONEGATE.
1918.

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APPOINTED BY ROYAL GRANT,

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Oxley Grabham, M.A., Cantab., M.B.O.U.

SUB-CURATOR: W. Watson.

REPORT OF THE COUNCIL

OF THE

YORKSHIRE PHILOSOPHICAL SOCIETY,

FEBRUARY, 1918.

DURING the past year, in addition to the ordinary routine work, your Council has endeavoured to bear its part as a patriotic Society. In the first month, on the occasion of a Lantern Exhibition of York Pageant Pictures to wounded soldiers in our Lecture Theatre, our guests were entertained to tea, and several Concerts for War Charities have been given in the Tempest Anderson Hall with very successful financial results. The privilege of free admission to our Gardens and Museum to all sailors and soldiers in uniform has been taken full advantage of and hardly a day passes without soldiers, not only of home regiments but from all parts of the Dominions beyond the seas, spending some time in the Galleries and enjoying to the full the study of the antiquities and natural history specimens.

In obedience to the orders for economy your Council has dispensed with the free teas before lectures, and has reduced the number of birds in the aviary.

The list of foreign Institutions to which we have been accustomed to send our Annual Reports has been revised, and all those in Germany and Austria have been eliminated.

One of the leading events in the past year has been the publication of the second series of Volcanic Studies by our late President, Dr. Tempest Anderson, with text and preface by

It is urgently requested that any discovery of Archæological interest in the neighbourhood may be brought to the notice of either the Chairman, Honorary Curators, or the Keeper of the Museum as early as possible.

The Keeper of the Museum will be pleased to give any information in his power, and may be seen daily, Museum engagements permitting.

Postcards of many of the most important antiquities may be obtained in the Museum at Two Pence each.

Professor Bonney, and profusely illustrated by those wonderful photographs with which our ex-President used to delight our members. The first series was published by Dr. Anderson in 1903, and he always intended to bring out a second volume to contain examples of the districts which he visited after that date. He had discussed the project with Professor Bonney, with whom he had been on terms of intimacy since 1881, when the British Association met in York for its Jubilee, shortly before starting on his last journey to the East Indies in 1912 —from which he never returned. Shortly after Dr. Anderson's death your Council decided to publish this work, and we heartily thank and congratulate Professor Bonney and Mr. George Yeld for the part they have taken in bringing about so satisfactory a result. This handsome volume has been published by John Murray, and copies can be obtained at the price of 15/-

Since the issue of our last Report the Memorial Tablet to Dr. Anderson has been completed and may now be seen in the North Aisle of the Choir of York Minster. The inscription runs as follows :—

> "To the Memory of Tempest Anderson, M.D., D.Sc., distinguished alike as Surgeon, Traveller, Man of Science, and faithful Citizen of this ancient City of York, his many friends dedicate this Tablet.
>
> Born in York 1846. Died at sea 1913, and was buried at Suez."

During the past year an important addition has been made to the Natural History Collection in the form of a very fine series of the heads of African big game which have been artistically arranged round the staircase to the Ethnological Room. Not only are the individual heads of great merit, including specimens of the koodoo, gemsbok, rhinoceros, lion, and numerous varieties of buck, but the value is materially increased by the fact that all the specimens in each of the three groups were shot by gentlemen well known in the County. The first and most important by the Honble. Guy Dawnay, who was killed by buffalo in South Africa ; the second by Brigadier General C. B. Bulkeley Johnson, A.D.C., who for several years commanded the Scots Greys while stationed at York, and who made the supreme sacrifice in the present war ; and the third by the well known member of our Society, Mr.

W. H. Cooper, of Aislaby Hall, who we trust will long be with us.

The work of further labelling the Collection has continued throughout the year under review. The whole of the Cases in the Bird Gallery have been completed in bold type, giving not only the names but the locality from which the specimen was obtained and the name of the donor.

Most of the Geological Galleries and Cases have been painted, the specimens washed, re-mounted and re-labelled; whilst the Collections of China and Pottery round the Central Hall and Gallery have received unremitting care from Mr. Hurst.

The Tempest Anderson Hall has also been painted throughout. It had not been done since its erection in 1911—12, and now presents a noble appearance, and is the admiration of all visitors.

A pleasing innovation introduced during the past year has been that of temporary exhibits in the Central Hall. A fine collection of British Fungi by Mr. Bellerby created much interest; British Ferns by our Sub-Curator, Mr. Watson; Orchids by our President; and various curious and rare botanical specimens sent by Messrs. Hurst, Gayner, and Elmhirst, have been much appreciated by our members. Mr. S. Walker not only supplied a case of living caterpillars of the Puss Moth, but entertained a considerable audience by exhibiting and explaining the magnificent Collection of Moths and Butterflies made and presented to our Society by Mr. Allis.

Increasing difficulty has been found in securing papers for monthly meetings, and your Council would appeal to the members of the Society to come forward and introduce subjects for discussion. Amongst the most interesting papers read was one by Mr. George Benson on a former York Worthy, John Browne, whose portrait and short biographical sketch will be found at page 1 of this Report.

The following is a full list of the Lectures delivered in the Tempest Anderson Hall:

Thursday, January 4th.—"An Alpine Journey from Thun to Chamonix *via* Zermat and Courmayeur." By G. Yeld, M.A.

Thursday, January 18th.—"Airships." By Tillemont-Thomason.

Thursday, February 1st.—"Dust on Land and Sea." By F. W. Saxby.

Thursday, February 15th.—"Italy's Share in the Great War." By Rev. Hugh G. Wallace.

Thursday, March 1st.—"Japan." By Walter Weston.

Thursday, March 15th.—"French Cathedrals." By Rev. Jocelyn Perkins, M.A.

Thursday, March 22nd.—"Across the High Carpathians." By Rev. T. T. Norgate, F.R.G.S.

Thursday, October 11th.—"The Miscalculations of the Kaiser." By Rev. T. T. Norgate, F.R.G.S.

Thursday, October 25th.—"The Outgoing Turk." By Samuel Wells, F.R.G.S.

Thursday, November 8th.—"China and the Re-conquest of Tsing-Tau." By Staff Sergeant Thomas J. Kilyon.

Thursday, November 22nd.—"The Miracle of the Marne." By Rev. Jocelyn Perkins, M.A.

Thursday, December 6th.—"Insects Gardeners should protect." By John J. Ward, F.E.S.

Thursday, December 20th.—"The Romance of Mesopotamia." By Rev. Alexander Taylor, M.A.

The Papers read at the Monthly Meetings of the Society during 1917 were as follows:

January 8th.—"The Sporting Fresh-water Fishes of Yorkshire." By Oxley Grabham. (With Lantern Illustrations).

March 12th.—"The Liberty of the Church of St. Peter of York." By George Benson. (With Lantern Illustrations).

October 8th.—"The Fundamental Note." By H. A. Phillips.

November 12th.—"John Browne, a York Worthy." By George Benson. (With Lantern Illustrations).

During the past year the Society has lost by death and resignation 24 members, 9 lady subscribers, and 4 associates, whilst 58 new subscribers have joined the Society.

The Council recommend that Messrs. G. Benson, J. Triffitt, William Bellerby, and K. E. T. Wilkinson be new Members of Council in the place of those retiring by rotation.

ARCHÆOLOGY.—During the year 1917 a few interesting fragments have been added to the Society's Collection, the most notable being a fine facing piece of a canopy of the high altar of the Minster, this making the seventeenth new detail acquired since the original collection was removed to the new Archæological Museum.

It is worthy of note that further important pieces are known to exist, and it is to be hoped that they may be ultimately added to those already in the Collection.

In the late autumn a visit was paid to the Archæological Museum by Sir W. H. St. John Hope, who made some suggestions and recommendations to the Hon. Curator, who showed him round.

The room is dark in the later months of the year, and the Curators constantly regret that their recommendations as to an extension of the electric installation, for which estimates were obtained in 1914, were not then carried out. Many of the beautiful objects of mediæval stone-work cannot be properly seen; certainly when the conditions produced by the war cease to obtain, the lighting scheme should be proceeded with.

A very large number of the descriptive cards attached to, or placed upon, the various objects in the Museum have been removed without the permission of the Curators, and as these cards contained much information difficult to replace, the Curators trust that any future labels will not be removed from the stones which they describe. This is an important matter, for the cards formed, to a certain extent, the basis of the new catalogue which it is hoped may some day be made. The absence of information has been adversely commented on in the local press, and the destruction and removal of the cards, which took much time to write, has been a source of justifiable annoyance to the Curator who prepared them.

The Curators again appeal for objects of interest to friends and citizens, especially for carved work from their garden rockeries, to further add to the variety and interest of the Collection.

It is hoped some time to make further excavations within the precincts of the Abbey Church, as many interesting details may yet be recovered—even one or two more of the figures of the old pulpitum screen, of which we now have ten.

Botany.—Since my last Report I am pleased to say that the Catalogue of British Plants in the Herbarium has been completed and issued to the members.

During my twenty-five years' work as Honorary Curator I have had the pleasure of exhibiting some of the specimens to many eminent botanists such as the late Sir Joseph Dalton Hooker, Alfred Russell Wallace, George Massee, Dr. Robert Braithwaite, Dr. Richard Spruce, and others. Also I beg to report that the authors of the Flora, North Yorkshire, J. G. Baker, F.R.S.; West Yorkshire, F. Arnold Lees, M.R.C.S., Eng.; East Yorkshire, Jas. Fraser Robinson; M. B. Slater (Malton), and Major General James Cecil Dalton, have expressed their satisfaction and sympathy with the work done.

I desire to place on record my sincere thanks to the members of the Council, and also to Mr. George Webster, Miss Lilian G. Hurd, and Mr. Albert C. Fearnley, for their assistance.

Donations :

1159 A. Spiranthes Romazoviana, Cham.
Presented by W. H. St. Quintin, Esq.

1208 A. Maianthemum Convallaria, Roth. } Presented by
643 A. Matricaria discoidea, D.C. } J. S. Gayner, Esq.

Also a portfolio containing a small collection of Ferns and Club Mosses collected by the Rev. F. O. Mayne, Darjiling and Simla, India, in 1850. F. G. Mayne, Esq.

CERAMICS.—The Ceramic exhibits have received a good deal of attention during the year. Two new cases have been erected in the East Gallery, and the specimens have been rearranged and progress made with the labelling. Six additional specimens have been presented during the year, amongst which is a large and interesting Rockingham china leech jar. The Loan Collection of Yorkshire Pottery in the Central Hall has been increased by a number of specimens, amongst which are two one-sided Rockingham china figures, a finely printed Middlesbrough pottery ewer and basin. The specimens of Stockton pottery show a number of factory marks which are unpublished and little known.

The Loan Collection of typical wares and decorations has been much increased during the year and is becoming highly instructive. Special mention may be made of an earthenware bowl with powder blue decoration, a marbled ware plate with finely modelled horses on the bevil or rim, a scratched blue

salt-glaze mug and another in earthenware, a salt-glazed lion coloured blue.

The labelling of both Loan Collections has progressed satisfactorily during the year, and it is hoped that it will be completed during the next few months.

ENTOMOLOGY.—Nothing this year has been added to the cabinets. The Allis Collection was exhibited before a large number of members in August, and a short account of the life and work of T. H. Allis was given by the Hon. Curator. The rare species and the type specimens were described.

GARDEN.—The Committee has held three specially convened meetings during the past year, and several informal ones to inspect the various works in progress, most of which have been completed.

The bowling green has been maintained in good condition throughout the season. Considering the very large number of members who have played on it, it has worn well. The large attendances during the playing season have been quite remarkable.

The Committee decided to have the fountain basin in the Botanic Garden made watertight, but the work has been held over until this spring owing to the risk of removing the water lilies during the summer and early autumn.

The greenhouses have been thoroughly overhauled, re-glazed where necessary, and painted, by Messrs. Oxtoby and Son. Much of the woodwork has had to be stiffened and supported where it was badly decayed. The work has been done to the satisfaction of the Committee.

The large greenhouse boiler has been decaying for some years past, and is almost useless. Its heating capacity too, was insufficient for the three houses. The Committee decided to replace with a new one. Tenders were obtained, that of Mr. W. Thomlinson-Walker was accepted, and the boiler and the necessary work to it is now proceeding, and it is hoped will be ready for use shortly.

The Committee recommend to the Council the abolition of the fountain basin adjacent to the multangular tower, and invite its assent to this necessary work.

GEOLOGY.—The work of overhauling the exhibits, cleaning, re-mounting, and re-labelling them has proceeded regularly under Mr. Watson and Miss Holmes. The re-arrangement of exhibits has provided more space for fresh specimens, and the general conditions of the galleries has been improved by the work of re-decoration. It is now intended to increase the exhibits of minerals from specimens not hitherto shown.

LIBRARY.—The work of preparing the new catalogue has been steadily proceeded with in spite of some difficulty in getting supplies of "slips," and the "title" and "subject" indices have been completed for the volumes now lodged in the Library and Council Room.

The list of Serial Publications received by donation, exchange, or purchase, remains unchanged.

A few copies of the earlier Annual Reports of the Society have been obtained, including one for 1823, but the stock of these which we hold is still too small to allow us to complete the set now in the British Museum.

Since our last Annual Report we have purchased for the Reference Library three costly illustrated works, viz. Hawkins' Medallic Illustrations to English History, Edition 1885, also Sowerby's Botany, a reprint of the 3rd Edition, and Cooke's Coloured Illustrations of "British Fungi."

To the Section on Ornithology has been added the Monograph by J. H. Gurney on the Gannet, and Saunder's British Birds.

On the recommendation of the Curator of Entomology we have purchased Richard South's three volumes on "Moths and Butterflies of the British Isles."

But it is principally in the Section devoted to Botany, which is so peculiarly weak, that additions have been made both by donation and purchase. We may note Mrs. Gregory's "British Violets," J. C. Willis' "Flowering Plants and Ferns," and "History of Botany in England," by Reynolds Green. On "Mosses," the works of R. Braithwaite and W. C. Jameson. George Massee's latest work on the "Diseases of Plants," and his "British Fungus Flora," in four volumes.

There is also being added to the Library, by order of the Council under the rules regulating the disposal of the income of the Reed Trust for specific purposes, Seward's "Fossil Plants."

The Museums of the late Jonathan Hutchinson in Chenies St., W.C., at Haslemere, Selby and Hunstanton were founded and maintained as instruments for education, and were supplied with guide books, etc., for the free use of all visitors.

Influenced by this example and acting in conjunction with the General Purposes Committee, we have placed a very small number of British Museum guide books, etc., about the Galleries as an experiment.

Up to the present only 23 books costing 17/6, which includes 2/6 for Mr. Grabham's "Yorks. Potteries," have been obtained for this purpose. In order to ascertain whether the books were appreciated by our visitors, slips were placed inside the covers asking users of the books to write their initials in them, and while conscious of many sources of error in calculations based on the number of these initials, the total for the 23 volumes is such as to impress us, viz.: 387.

METEOROLOGY.—*Statistics of Station* :—Longitude, 1° 5′ W.; Latitude, 53° 57′ N.; height above mean sea level, 56 feet.

Generally speaking 1917 was marked by suitable weather conditions. After a winter of unbroken hard weather favourable conditions continued, fruit trees had full bloom, and good crops were gathered.

The accentuation of rainfall density in the south-east of England has again been noted, but close observation does not connect this with heavy gun firing in Flanders.

Temperature ranged in 1917 between 11° F., which was recorded on April 2nd, and 83° F. which was the reading of June 17th, the range of temperature being thus 72° F., ten degrees more than in 1916.

In respect of barometric pressure it should be remembered that this is now expressed in terms of the new unit—the millibar,—1000 millibars=29·531 mercury inches.

A *Mean Pressure* of 1012·9 mbs. has been recorded as against a pressure of 1011 mbs. for 1916. October was lowest with 1002·6 mbs., August next with 1003·0 mbs., and March next with 1009·2 mbs. December was highest with 1021·1 mbs.,

February coming next with 1020·3 mbs. The extreme range of pressure was 69·8 mbs. as compared with 62·3 mbs. for 1916, and 73·1 mbs. for 1915. The highest reading of the barometer was taken on March 15th and April 25th, at 9 p.m., viz.: 1037·6 mbs., and the lowest on August 28th, at 9 a.m., viz.: 967·8 mbs.

Rain or Snow fell to the amount of 559 mm. The heavy rainfall of the year occurred in August (130 mm.), January (78 mm.), and October (66 mm.) The local rainfall for 1917 was thus 48 mm. below that of the previous year. The heaviest rainfall occurred on August 8th, when 30 mm. fell. The cumulative totals since 1820 are now :—August 5215 mms., October 5173 mms., and July 4830 mms.

Observations of winds show that during 1917 we have had "strong" winds on 31 days as against 65 for 1916, and "calms" on 15 days as against 10 for 1916. The chief winds have been observed as N. (213), W. (184), S.W. (162), S. (150), N.W. (123), E. (94). We have had 55 days of "clear" sky, and 108 days "overcast," as compared with 31 and 130 respectively for 1915. The holiday month was not at all favoured with suitable weather conditions. There have been 20 thunderstorms and 20 fogs as compared with 14 thunderstorms and 34 fogs for 1916. Snow fell on 47 days as compared with 29 and 17 days for 1916 and 1915 respectively.

Bright Sunshine was observed for 1266 hours as compared with 1139 for 1916, being 29 % of the possible amount.

MINERALOGY.—The Hon. Curator reports that the Collections are in good order, no additions of importance have been added during the past year.

NUMISMATICS.—The curator has no donations to report, however the Collections are in good order and condition.

The magnificent work of Dalton and Homer on "The Provincial Token-Coinages of the 18th Century," illustrated, is nearing completion, the first part being issued on January 1st, 1910, and we ought to obtain a copy.

This work will necessitate re-arrangement of the whole of the 18th Century Tokens which the curator hopes to commence at once.

THE OBSERVATORY.—During 1917 the equatorial telescope, the transit instrument and sidereal clock have been thoroughly overhauled, and are now in good adjustment. The sidereal clock has had a new suspension spring fixed to the pendulum, and this is a great improvement. The rate of the clock is now less than 1·5 seconds per week, but hope to state in next year's report that this rate has been reduced. The fire in the stove has been lit on very few occasions, and this has helped to keep down the dust and also enabling the telescope to give much better definition. Sunspots have been observed, and some of them were exceptionally large. Jupiter and Saturn have also been frequently seen, Saturn being remarkably good, this being due to the reduced lighting of the city.

The Scottish Provident Institution have again sent us one of their star maps for 1918. These maps are much appreciated.

The Observatory will be open for members to see through the telescope on all lecture nights providing that it is clear, and at any other time by arrangement.

ORNITHOLOGY.—During the past year the British Bird Collection in the upper and lower galleries have been thoroughly overhauled, re-arranged in order according to Family, and each case carefully labelled with the specific name, the locality (where possible), and the name of the donor. The Collection is now not only more attractive to the casual observer, but of considerably more educational value than has hitherto been the case.

The only additions to the (mounted) Collection has been made, through the kindness of our Secretary, of a fine pair of Carrion Crows (*Corvus corone*), which were shot at Wressle, near Hull, 1917; and Hybrid between Mallard and Pintail, shot and presented by our President.

The Reference Collection of European Birds' Skins in cabinets has been referred to on various occasions.

The Egg Collection is in good order, but no additions have been made.

ZOOLOGY.—The Collection of Yorkshire Mammals are in good order; a few specimens have been added during the past year. The Collections of Big Game Heads presented to the

Society have been arranged in groups on the staircase walls, the Bones of the Moa have been added to the collection in the cases and labelled.

Field Naturalists' Section.—We commenced the year's work with an excursion to Suett Carr on May 30th, permission to visit the Carr having been granted by James Melrose, Esq., and Messrs. English and Sons. Much useful work was done. Nests of the following birds were observed: sparrow hawk, green woodpecker, willow warbler, yellow-hammer, white-throat, waterhen, and linnet. Plants came in for a good deal of observation, and some interesting fungi were found and examined. Many lepidopterous insects were seen on the wing, the beautiful cinnabar moth with its vermilion coloured underwings being very abundant.

Other excursions have included Buttercrambe Woods, New Earswick (the home of our President), Acomb and Hob Moor, Moreby and Stillingfleet.

The first annual Fungus Foray was held on September 12th, when Warthill was visited for the investigation of the fungus-flora of the woods and pastures of that district.

At the first bi-monthly meeting of the Winter Session, Mr. A. E. Peck, F.L.S., of Scarborough, gave a lecture on "Edible, Poisonous, and other Fungi." The lecture was illustrated by lantern slides, made from photographs taken by the lecturer in Raincliffe Wood and at Hackness, near Scarborough. Other lectures given included the following: Mr. Oxley Grabham on "The Grayling and how to catch him," Dr. Gayner on "Turner on Birds," Mr. C. A. Cheetham on "Austwick and its Plants and Problems," Mr. John Scott on "The Growth of Wheat," Mr. W. Ingham on "The Moon-wort," Mr. J. A. Dell, M.Sc. on "The Life History of some Common Flies," Mr. W. Bellerby on "Characteristics of the British Polyporæ," Mr. A. Smith on "The July Moths of this district," our President on "Konrad Sprengel and Insect Pollination," Mr. H. J. Wilkinson on "Dispersal of Plants," Mr. F. Vear on "Bird Life in the neighbourhood of York," and Mr. H. L. Lee on "Some Notes on the Larvæ of the Caddis Flies."

The Recorder's notes on the field work done during 1917 were read by the Sectional Officers as follows :

Botany, Mr. W. Ingham.

Ornithology, Mr. V. G. F. Zimmermann.

Entomology, Mr. A. Smith.

Conchology, Mr. F. J. Martin and Mr. H. Sowden.

Fungi, Mr. W. Bellerby.

At our meeting on March 14th, an illustrated lecture on "The Sight of Birds" was given by Mr. C. E. Elmhirst. At our last meeting Mr. H. Sowden read a paper on "The Natural History of the City Walls."

The Honorary Treasurer, Mr. H. Stansfield, presented the balance sheet, which showed a balance in hand of £36 10s. 6d.

M.O. Form 3211.

CLIMATOLOGICAL STATION, YORK.—THE MUSEUM.

Heights above Ground :—Barometer, 3 feet ; Thermometers, 4 feet ; Rain-gauge, 1 foot.

1917.	Air Temperature in Degrees Fahrenheit.											Earth Temperature.		Rainfall.			Weather, No. of Days of.								Bright Sunshine.		
	Means of		Min. & Max. Combined.	Absolute Extremes.								At 1 ft.	At 4 ft.	Total.	Max.	Day.	Precipitation.	Precipitation 1 mm or more.	Snow.	Snow lying.	Hail.	Thunderstorm.	Fog.	Gale force 8 or more.	Daily Mean.	Total.	Per Cent.
	Max.	Min.		H. Max.	Day.	L. Min.	Day.	L. Max.	Day.	H. Min.	Day,																
	°	°	°	°		°		°		°		° F	° F	mm.	mm.										hr.	hr.	%
Jan.	38·5	33·5	36·0	57	1	27	23	33	21, 28 29	52	1, 3	37·7	41·5	78	13	8	23	13	17	0	0	0	1	0	0·55	17	7
Feb.	38·5	28·3	33·4	51	26	12	7	26	7	38	24, 25 28	35·0	39·0	18	8	20	7	6	2	0	0	0	10	0	1·43	40	15
Mar.	44·2	31·8	38·0	55	17, 25	17	9	35	5, 8	42	17	37·9	39·5	47	14	10	16	10	10	0	0	0	0	0	2·94	91	25
April	49 0	34·0	41·5	62	24	11	2	32	1	46	29, 30	40·9	41·0	47	8	1	16	12	11	0	1	0	0	0	3·33	100	24
May	64·2	45·3	54·8	78	27	34	7	50	16	55	26	51·4	46·9	32	8	13	7	7	0	0	0	3	1	0	5·84	181	37
June	69·2	50·6	59·9	83	17	43	6	60	3, 22	59	17	58·5	53·5	41	8	19	13	10	0	0	1	4	0	0	6·73	202	40
July	70·7	52·5	61·6	82	13	41	11	60	4, 30	61	24, 27	60·6	56·4	27	8	18	9	7	0	0	0	3	0	0	6·23	193	38
Aug.	68·2	54·6	61·4	78	7	49	31	57	1	58	6, 8	60·6	57·9	130	30	8	27	20	0	0	1	9	0	0	4·29	133	29
Sept.	65·2	50·7	58·0	72	25	45	12, 20 29	58	19	56	16	57·9	57·4	17	7	1	11	5	0	0	1	1	1	0	4·13	124	33
Oct.	53·2	38·1	45·7	72	1	30	7, 29	45	27, 29	50	3	48·7	52·8	66	9	7, 11	22	14	1	0	0	0	3	0	3·42	106	33
Nov.	51·8	42·3	47·1	58	21	30	26	44	26	54	29	45·2	47·9	34	8	20	12	8	1	0	1	0	1	1	1·60	48	19
Dec.	41·4	31·9	36·7	52	7	23	11	34	4	46	7	39·7	44·6	22	6	16	14	8	5	2	0	0	3	0	1·00	31	14
Year Totals														559			177	120	47	2	5	20	20	1		1266	
Means or Extremes	54·5	41·1	47·8	83	June 17	11	April 2	26	Feb. 7	61	July 24, 27	47·8	48·2		30	Aug. 8									3·47		29

M.O. Form 3212.

NORMAL CLIMATOLOGICAL STATION, YORK.—THE MUSEUM.

Latitude 53° 57′ N., Longitude 1° 5′ W. Gravity Correction + 0·8 mb. Height above Mean Sea Level 56 ft.

1917.	Mean Pressure corrected to 32₀ F. and Lat. 45₀		Temperature		Humidity.						Amount of Cloud. 0—10.		Number of days of		Wind, No. of Observations reduced to a total of 93, 90 or 87 for the month.								
	Station Level.	M.S.L. and corrected for diurnal variation.	9 a.m.	9 p.m.	Depression of Wet Bulb.		Vapour Pressure.		Percentage.		9 a.m.	9 p.m.	Clear Sky.	Overca t.	Wind Force 8 and above	Strong Wind (4—7)	Calm.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
					9. am.	9 p.m.	9 a.m.	9 p.m.	9 a.m.	9 p.m.															
	mb.	mb.	°	°	°	°	mb.	mb.	%	%															
Jan.	1012·5	1014·3	35·4	35·5	1·0	0·7	6·4	6·6	91	94	8·1	7·9	2	20	0	8	0	24	14	28	2	3	0	16	6
Feb.	1020·3	1022·1	31·4	33·4	0·6	0·6	5·5	6·1	91	93	6·1	6·3	6	11	0	0	5	21	9	15	7	11	1	3	12
Mar.	1009·2	1011·0	37·1	36·5	1·9	1·7	6·3	6·2	84	85	6·4	5·5	5	10	0	9	0	24	6	17	13	5	4	20	4
April	1010·2	1011·9	40·5	40·2	2·3	2·4	7·0	6·8	82	81	6·9	7 3	0	12	0	2	0	32	4	3	2	4	6	24	15
May	1015·3	1017·0	54·4	52·3	4·4	3·5	10·4	10·3	72	77	4.3	4·8	9	6	0	0	2	19	9	15	15	11	3	12	7
June	1015·4	1017·1	61·5	57·1	5·3	3·6	13·0	12·3	70	78	4·1	4·0	10	4	0	2	0	14	10	6	10	14	12	12	12
July	1016·7	1018·4	62·9	59·4	6·1	4·5	13·0	12·6	67	74	5·1	6·0	5	6	0	0	0	27	9	6	11	9	10	9	12
Aug.	1003·0	1004·7	60·4	59·3	3·3	2·7	14·2	14·2	81	84	7·2	7·4	0	14	0	2	1	15	2	1	6	27	24	14	3
Sept.	1014·2	1015·9	58·3	56·3	3·6	2·8	12·9	12·6	78	82	5·1	3·2	7	4	0	2	3	3	0	1	3	23	30	18	9
Oct.	1002·6	1004·2	44·2	44·1	2·4	2·0	8·1	8·3	82	84	5·5	3.6	4	4	0	3	0	1	0	0	4	23	27	20	18
Nov.	1014·2	1016·0	46 4	46·8	2·3	2·0	8·9	9·2	84	86	7·2	5·8	3	10	0	3	1	9	1	1	3	11	27	29	8
Dec.	1021·1	1022·9	35·2	36·4	1·5	1·5	6·0	6·3	86	87	5·8	5·7	4	7	0	0	3	24	11	1	3	9	18	7	17
Year Totals													55	108	0	31	15	213	75	94	79	150	162	184	123
Year Means	1012·9	1014·6	47·3	46·4	2·9	2·3	9·3	9·3	81	84	6·0	5·6													

Pressure is expressed in millibars (1000 millibars = 29·531 mercury inches).

YORK (MUSEUM) 1917.

Year.	BRIGHT SUNSHINE.			Barometer at Mean Sea Level			
				Absolute.			
	Daily* Mean. 1917.	Percentage. 1917.	Percentage. 1916.	Highest.	Date.	Lowest.	Date.
	Hours.	%	%	Millibars.		Millibars.	
January	0·55	7	17	1033·2	22nd, 9 p.m.	976·6	8th, 9 a.m.
February	1·43	15	20	1034·5	8th, 9 p.m. 9th, 9 a.m.	1009·1	20th, 9 p.m.
March	2·94	25	18	1037·6	15th, 9 p.m.	987·8	29th, 9 p.m. 30th, 9 a.m.
April	3·33	24	39	1037·6	25th, 9 p.m.	989·8	14th, 9 a.m.
May	5·84	37	27	1029·4	3rd, 9 a.m. 6th, 9 a.m.	1006·8	18th, 9 p.m. 19th, 9 a.m.
June	6·73	40	25	1029·4	30th, 9 p.m.	1000·3	20th, 9 p.m.
July	6·23	38	32	1028·4	5th, 9 p.m.	999·6	18th, 9 p.m.
August	4·29	29	32	1017·3	5th, 9 a.m.	967 8	28th. 9 a.m.
September	4·13	33	32	1029·1	29th, 9 a.m.	1001·7	1st, 9 a.m. 1st, 9 p.m.
October	3·42	33	22	1024·0	20th, 9 a.m. 20th, 9 p.m.	977·6	12th, 9 p.m.
November	1·60	19	15	1033·8	18th, 9 a.m.	984·4	9th, 9 p.m.
December	1·00	14	9	1032·2	4th, 9 a.m.	1002·0	1st, 9 a.m.
Year	3·47	29	26	1037·6	Mar. 15, 9 p.m. Apr. 25, 9 p.m.	967·8	Aug. 28, 9 a.m.

The Barometer readings are expressed in millibars (1000 millibars = 29·531 mercury inches).

* For Monthly Totals see Form 3211.

RIVER HEIGHT RECORDS REGISTERED BY THE AUTOMATIC RECORDER AT THE GUILDHALL, YORK, 1917.

Date.	JANUARY.			FEBRUARY.			MARCH.			APRIL.			MAY.			JUNE.		
	Time.	Above or below S.L.		Time.	Above or below S.L.		Time.	Above or below S.L.		Time.	Above or below S.L.		Time.	Above or below S.L.		Time.	Above or below S.L.	
		ft.	in.		ft.	in.		ft.	in.		ft.	in.		ft.	in.		ft.	in.
1	1 a.m.	above 5	8	noon	above 2	4	1 a.m.	above 2	5	1 a.m.	above 1	2	noon	above 2	4	noon	above 0	4
2	,,	3	2	,,	2	4	,,	1	10	,,	0	11	,,	2	3	,,	0	4
3	noon	3	0	,,	2	3	,,	1	4	noon	0	8	,,	2	3	,,	0	4
4	,,	2	11	,,	2	3	,,	1	1	12 p.m.	0	10	,,	2	3	12 p.m.	0	9
5	,,	2	11	,,	2	3	noon	0	9	,,	1	9	,,	2	2	noon	0	10
6	,,	2	10	,,	2	2	,,	0	10	,,	2	3	,,	2	2	,,	0	10
7	,,	2	10	,,	2	2	,,	0	9	6 p.m.	2	5	,,	2	0	,,	0	9
8	12 p.m.	3	0	,,	2	2	,,	0	9	12 p.m.	2	6	,,	1	11	,,	0	8
9	,,	5	9	,,	2	2	,,	0	9	5 p.m.	3	3	,,	1	11	,,	0	7
10	1 a.m.	5	9	,,	2	2	,,	0	8	1 a.m.	3	1	,,	1	11	,,	0	6
11	,,	3	9	,,	2	2	12 p.m.	3	8	,,	2	10	,,	1	10	1 a.m.	0	5
12	12 p.m.	3	3	,,	2	1	9 a.m.	4	7	,,	2	5	,,	1	10	noon	0	3
13	5 p.m.	4	2	,,	2	1	1 a.m.	3	2	,,	2	2	,,	1	9	,,	0	3
14	1 a.m.	3	8	,,	2	1	,,	2	6	noon	2	0	Recorder			,,	0	2
15	,,	3	2	,,	2	1	,,	2	1	9 p.m.	5	1	out of	order		,,	0	2
16	noon	2	11	,,	2	1	,,	1	4	1 a.m.	4	10	noon	0	5	,,	0	2
17	,,	2	10	,,	2	1	12 p.m.	2	3	noon	2	8	,,	0	4	,,	0	2
18	,,	2	10	,,	2	1	3 p.m.	4	0	,,	2	8	12 p.m.	0	6	,,	0	2
19	,,	2	9	,,	2	1	1 a.m.	3	4	12 p.m.	3	6	,,	0	8	,,	0	1
20	,,	2	8	,,	2	0	noon	2	0	10 a.m.	4	5	,,	1	2	,,	0	1
21	,,	2	8	3 p.m.	4	6	1 a.m.	2	1	1 a.m.	3	2	noon	1	5	,,	0	1
22	,,	2	8	1 a.m.	4	1	,,	1	2	noon	2	8	1 a.m.	1	4	,,	0	1
23	,,	2	8	1 a.m.	3	4	,,	1	0	,,	2	7	noon	1	0	,,	0	1
24	,,	2	8	12 p.m.	3	0	noon	0	8	,,	2	7	,,	0	10	,,	0	1
25	,,	2	8	noon	3	1	12 p.m.	0	10	,,	2	7	,,	0	9	6 p.m.	S.L.	
26	,,	2	8	3 p.m.	3	9	,,	1	4	,,	2	7	,,	0	8	noon	0	7
27	,,	2	6	1 a.m.	3	9	5 a.m.	1	5	,,	2	6	,,	0	7	,,	0	6
28	,,	2	5	1 a.m.	3	1	1 a.m.	1	1	,,	2	6	,,	0	6	,,	0	6
29	,,	2	4				12 p.m.	1	3	,,	2	6	,,	0	5	,,	0	4
30	,,	2	3				noon	1	10	,,	2	8	,,	0	5	,,	0	3
31	,,	2	3				1 a.m.	1	8				,,	0	5			

RIVER HEIGHT RECORDS.

Date.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.	Time.	Above or below S.L.
		ft. in.		ft. in.		ft. in.		ft. in.		ft. in.		ft. in.
1	noon	above 0 3	noon	below 0 3	1 a.m.	above 1 0	1 a.m.	above 0 1	1 a.m.	above 4 4	1 a.m.	above 5 9
2	,,	0 1	,,	0 3	12 p.m.	2 2	12 p.m.	below 0 6	,,	1 7	6 p.m.	3 1
3	,,	0 1	,,	0 3	6 a.m.	2 2	noon	0 6	noon	0 9	12 p.m.	2 4
4	,,	0 1	,,	0 3	1 a.m.	1 6	,,	0 6	1 a.m.	0 9	1 a.m.	2 4
5	,,	0 1	,,	0 3	,,	0 8	,,	above 0 2	,,	0 9	,,	2 0
6	,,	S.L.	,,	0 3	,,	0 5	9 a.m.	below 0 11	12 p.m.	3 3	,,	1 9
7	,,	S.L.	,,	0 3	,,	0 2	noon	0 2	1 a.m.	3 3	12 p.m.	1 9
8	,,	0 1	,,	0 3	noon	below 0 1	12 p.m.	above 0 11	,,	2 8	6 p.m.	2 3
9	1 a.m.	below 0 1	12 p.m.	above 1 0	,,	S.L.	,,	2 7	,,	1 3	noon	2 2
10	noon	0 2	,,	3 4	1 a.m.	S.L.	1 a.m.	2 7	12 p.m.	2 0	1 a.m.	2 2
11	,,	0 2	1 a.m.	3 4	noon	below 0 3	,,	0 6	6 a.m.	2 0	noon	1 9
12	,,	0 2	,,	1 7	,,	0 3	8 a.m.	0 5	1 a.m.	1 7	,,	1 8
13	,,	0 3	,,	0 2	,,	0 3	12 p.m.	1 0	1 p.m.	0 4	,,	1 7
14	,,	0 3	,,	below 0 5	12 p.m.	above 0 11	5 p.m.	2 3	1 a.m.	0 3	,,	1 6
15	,,	0 3	12 p.m.	above 0 10	1 a.m.	1 0	1 a.m.	1 10	3 p.m.	1 3	10 p.m.	1 8
16	,,	0 3	9 p.m.	1 5	,,	0 8	12 p.m.	0 2	noon	1 3	noon	1 8
17	,,	0 3	1 a.m.	1 4	,,	0 3	noon	0 3	,,	1 3	,,	1 8
18	,,	0 3	12 p.m.	3 6	6 p.m.	0 3	12 p.m.	S.L.	,,	1 2	,,	1 7
19	,,	0 3	6 a.m.	4 3	noon	0 3	1 a.m.	S.L.	,,	1 2	,,	1 6
20	,,	0 3	1 a.m.	2 7	,,	0 3	9 a.m.	below 0 5	,,	1 2	12 p.m.	3 9
21	,,	0 3	,,	0 8	1 a.m.	0 3	noon	0 3	12 p.m.	1 5	6 a.m.	4 5
22	,,	0 3	noon	0 6	12 a.m.	0 6	,,	0 3	1 a.m.	1 5	12 p.m.	3 3
23	,,	0 3	,,	0 6	10 a.m.	0 3	1 a.m.	S.L.	noon	1 11	1 a.m.	3 2
24	,,	0 3	,,	0 4	noon	0 2	6 a.m.	above 0 7	,,	1 11	12 p.m.	2 8
25	,,	0 3	5 p.m.	3 1	1 a.m.	0 3	11 p.m.	6 4	12 p.m.	2 6	6 p.m.	3 7
26	,,	0 3	1 a.m.	2 11	12 p.m.	0 2	1 a.m.	6 3	noon	3 0	1 a.m.	3 5
27	,,	0 3	,,	0 6	,,	0 5	,,	3 3	12 p.m.	2 3	,,	3 1
28	,,	0 3	12 p.m.	5 3	7 a.m.	0 6	,,	1 11	,,	2 5	12 p.m.	2 7
29	,,	0 3	4 a.m.	5 5	12 p.m.	0 2	,,	0 11	,,	5 3	1 a.m.	2 7
30	,,	0 3	1 a.m.	3 4	noon	0 2	12 p.m.	5 2	noon	6 10	,,	2 5
31	,,	0 3	6 a.m.	1 1			11 a.m.	5 10			,,	2 3

THE TREASURER IN ACCOUNT WITH THE YORKSHIRE

Last Year.	**Dr.**	INCOME.	£	s.	d.	£	s.	d.
	Subscriptions:							
	Town Members		573	0	0			
	Country Members		15	0	0			
	Temporary Members		4	0	0			
	Lady Subscribers		67	10	0			
	Associates		20	0	0			
	Arrears received		42	15	0			
	Keys of Gates		64	13	9			
742						786	18	9
	Rents:							
	St. Mary's Lodge		65	0	0			
	Marygate Baths		40	0	0			
	Shop, No. 10 Bootham (9 months)		18	15	0			
	York Waterworks Co.—Shed		15	0	0			
	Do. Light		0	1	0			
	Post Office—Wayleaves		1	2	0			
	Letting of Rooms for Lectures and Meetings ...		66	2	6			
190						206	0	6
	The late Dr. Tempest Anderson's Bequest:							
	Interest on £8,000 New Zealand 4% Inscribed Stock		240	0	0			
	„ on £3,200 Great Eastern Railway 4% Preference Stock		96	0	0			
	„ on £5,000 North Eastern Railway 4% Preference Stock		150	0	0			
	„ on £8,000 Canada 4% Stock		240	0	0			
	„ on £3,219 3s. 5d. Bank of England Stock ...		241	8	10			
	„ on £5,777 2s. 6d. South Indian Railway 4% Registered Debenture Stock		173	6	2			
	„ (½-year) on £3,200 5% Exchequer Bonds B (now converted into £3,368 8s. 5% War Loan Stock, see below)		82	2	8			
	„ (½-year) on £3,368 8s. 5% War Loan Stock		84	4	2			
	„ (portion of year) on £2,000 6% Exchequer Bonds, 1920		95	3	6			
	Rents of Shops and Dwelling-houses, Nos. 32 and 34 Bootham		60	0	0			
1350						1462	5	4
	Whitsuntide Admission Fees		18	6	2			
	Less: Attendants	3 9 0						
	Fixing and removing barricades	1 5 2						
			4	14	2			
						13	12	0
4	Sale of Reports and Plans					10	9	3
	„ Waste Paper					0	10	0
	„ Shop Fixtures					2	0	0
	Admission to Lectures					0	8	3
17	Bank Interest on Current Account					13	2	0
105	Gate Money					101	19	7
21	Interest on £918 8s. 9d. India 3% Stock (the late Mr. Rawdon's Bequest)					20	13	4
5	Grant from Corporation of York towards cost of Meteorological Department					5	0	0
						2622	19	0
	Excess of Expenditure over Income					392	4	1
						£3015	3	1
	Balance in hands of the Treasurer, 31st December, 1917					210	12	6
						£210	12	6

EDWIN GRAY, *Hon. Treasurer.*

PHILOSOPHICAL SOCIETY FOR THE YEAR ENDING 31ST DEC., 1917.

Last Year.	EXPENDITURE.	£ s. d.	£ s. d.	Cr. £ s. d.
	Crown Rent			1 0 0
	Corporation Rent			15 12 6
	Rates and Taxes:			
	Property Tax and City Rates	88 18 7		
	Waterworks Company's Rate	8 7 7		
	Gardeners' Licenses	3 0 0		
	Receipt and Cheque Books Stamping	2 9 4		
76				102 15 6
	Insurance:			
	Fire Premiums	15 12 9		
	Employers' Liability Premiums	2 11 4		
	War Risks Premiums	8 13 0		
	National Health Insurance Contributions	6 9 9		
24				33 6 10
8	Telephone Rent and Calls			7 16
	Salaries and Wages:			
	Museums	842 3 6		
	Lodge and Gardens	431 10 6		
1149				1273 14 0
	General Additions, Repairs, and Expenses:			
	MUSEUMS—			
	Painting and the like	245 6 7		
	Joiners' and Cabinetmakers' Work ...	167 16 2		
	Antiquities, Coins, Pottery, & the like	11 12 2		
	Other Additions, Repairs, & Expenses	38 5 9		
146		463 0 8		
	ESTATE—			
241	General repairs	11 0 8		
	GARDENS—			
	Repairing and Painting Greenhouses	44 6 8		
148	General Additions, Repairs, & Expenses	60 10 1		
		104 16 9		578 18 1
52	Library—Books and Binding			46 12 1
78	Lectures			86 1 8
8	Refreshments provided at Lectures & Meetings (now discontinued)			3 2 3
24	Printing and Stationery			54 5 6
6	Printing Communications to Members and Postage of same ...			6 3 3
110	Printing Reports and Postage thereof			144 1 9
	Gas, Coal, Coke, and Electricity:			
14	Gas	14 3 5		
119	Coal and Coke and Cartage	124 4 3		
12	Electricity	11 5 7		
				149 13 3
46	Contributions on account of cost of production of Second Volume of the late Dr. Tempest Anderson's Work on Volcanoes ...			92 11 9
	Repairs to Tent			0 9 3
	Purchase of Property, No. 10, Bootham			400 0 0
	Keys for Garden Gates			10 0 6
9	Sundry Postages			8 5 3
3	Sundries			0 13 8
				£3015 3 1
	Balance in hands of the Treasurer, 31st December, 1916			602 16 7
	Excess of Income over Expenditure, 1917			392 4 1
				£210 12 6

Audited and found correct, 7th February, 1918,
PHILIP L. NEWMAN.

THE TREASURER'S ACCOUNT IN CONNECTION WITH THE FUND FOUNDED BY THE LATE WM. REED, ESQ., FOR SPECIFIC PURPOSES.

Dr. INCOME.	£	s.	d.
Interest on York Corporation 3 % Redeemable Stock	13	10	0
Interest on £50 placed on Deposit with the London Joint Stock Bank Ltd. (11th March, 1916, to end of December, 1919)	2	5	4
	£15	15	4

EXPENDITURE. Cr.	£	s.	d.
Books and Binding	15	15	4
	£15	15	4

BALANCE SHEET.

	£	s.	d.
Amount of Fund on 31st December, 1917	687	19	2
	£687	19	2

	£	s.	d.
Amount invested in York Corporation 3% Redeemable Stock	600	0	0
Amount placed on Deposit with the London Joint Stock Bank, Ltd.	50	0	0
Cash in hand	37	19	2
	£687	19	2

Audited and found correct, 7th Febrnary, 1918,

PHILIP L. NEWMAN.

EDWIN GRAY, *Hon. Treasurer.*

NEW MEMBERS, &c., ELECTED 1917.

Appleton, T. H., Beverley House, Clifton
Bartley, Mrs. A., 59 Low Petergate
Bedford, Surgeon-Gen., Daresbury House, The Mount
Bowman, S. A., 37 Micklegate
Bown, Percival, 43 Avenue Terrace
Clayton, Mrs., Old Rectory House, Ogleforth
Cooper, John A., Queen Anne's Road
Crowe, Miss Mabel, 24 Haxby Road
Fearnley, A. C., 16 Millfield Road
Grange, R. Leonard, 19 Cromwell Road
Green, Sir Edward, Bart., Treasurer's House
Groves, Mrs., 21 St. Mary's
Halliday, G. W., Parliament Street
Hardy, Rev. C. F., The King's Manor
Harrower, A., 12 Queen Anne's Road
Hay, Col. Sir George, Bootham House
Holt, Jesse, 8 Feversham Crescent
Hope, Col. L. A., 7 Driffield Terrace
Ingham, J. L., 31 Queen Anne's Road
James, A. F., 1 St. Mary's
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DONATIONS TO MUSEUM AND LIBRARY.

LIBRARY.

Books Presented.	Donors.
American Geographical Society: Geographical Review, Dec. 1916; Jan. and Feb., May—Sept., Oct., Nov., and Dec., 1917.	The Society.
Architectural Society: Reports and Papers for 1916.	The Society.
Belfast: Report and Progress of Natural History and Philosophical Society	The Society.
Bergens Museum: Aarsberetning, 1914—1916.	The Librarian.
Bristol Museum: Report for year ending 1917.	The Committee.
British Association for the Advancement of Science: Report of Meeting, 1916.	The Librarian.
British Museum: Guide to British Freshwater Fishes; Instructions for Collectors, Nos. 1A, 13; Economic Series of Pamphlets, Nos. 3—7; Posters on "The Fly Danger" and "Mosquito Danger."	The Museum.
Croydon Natural History and Scientific Society: Report, 1917.	The Society.
Durham: Roman Fort at Piercebridge, Durham, by E. Wooler.	The Author.
Ealing Scientific and Microscopical Society: National Importance of Scientific Research, etc.	The Society.
Edinburgh, Transactions of Royal Society of: Vol. li., Part 1; Parts 2—4; Vol. xxxvii., Parts 2—3. Proceedings, Vol. xxxvi., Parts 3 and 4.	The Society.

Elland : Parish Registers, 1640—1670, by Hanson Ormerod.	The Author.
Firenze : Bolletino delle Pubblicazione Italiane, Nos. 193, 194, 1917 ; Biblioteca Nationale Centrale de, Bollettino delle Pubblicazione Italiane, Nos. 195—200 ; Bolletino, No. 202, 1917 ; Nov. 1917.	The Librarian.
Geologists' Association, Proceedings of the : Vol. xxvii.	The Association.
Glasgow Naturalist : Vol. vii., Nos. 1, 2.	The Librarian.
Grieve, S. : Zoology Pamphlets (19).	The Author.
Hawaiian Volcano Observatory : Weekly Bulletin, Nov.—Dec. 1916 ; Vol. v. Nos. 3—6 ; July—Oct. 1917 ; Cyclical Variations in Eruption at Kilauea ; Thermal Gradient of Kilauea Lava Lake ; Live Lava at Kilauea ; On the term "Aphrolith" and "Dermolith."	The Observatory.
Hull Museum Publications : Nos. 94, 111, 112 ; Quarterly Record of Additions.	The Curator.
Hutchinson, Rev. H. N. : Skelton of Diplodocus Carnegiei.	The Author.
Illinois : State Geological Survey Bulletins, 7, 18, 20, 35, 36 ; Coal Mining Bulletins, 3, 15.	The Survey.
India : Records of Geological Survey, Vol. xlvii. Part 4 ; Vol. xlviii. Parts 1 and 2 ; Report of Progress of Agriculture, 1915-16 ; Memoirs of Geological Survey, Vol. xlii. Part 2 ; Vol. xlv. Part 1.	The Librarian.
Leeds University : Report 1915-16.	The University.

Manchester Museum : Report, 1915-16.	The Museum.
Manchester Literary and Philosophical Society : Memoirs and Proceedings, 1915-16.	The Society.
Meteorological Office : Weekly Reports, Jan.—Dec. 1917 ; Nos. 49—52, 1917 ; No. 1, 1818 ; Monthly Reports, Dec. 1916 ; Jan.—Nov. 1917 ; Circular, Nos. 17, 18, 19; Weather of October, 1917.	The Office.
Mexico : Boletin del Instituto Geologico, No. 34 ; Anuario del Observatorio Astronomico Nacional de Tacubaya ; Anales del Instituto Geologico de Mexico, No. 2.	The Institute.
Nedboriagttagelser I Norge, 1916.	The Librarian.
New South Wales : Annual Report of Department of Mines, 1916.	The Librarian.
New York Academy of Sciences : Vol. xxv. pp. 1—308 ; Vol. xxvii. pp. 190—204.	The Librarian.
New York Public Library : Bulletin of Dec. 1916 ; Feb.—Oct. 1917 ; Vol. xxi. No. 10.	The Librarian.
Northants. Natural History Society and Field Club : Vol. xviii. Nos. 145—148.	The Society.
Norske Meteorological Instuts : Aarsberetning ; Der Luftdruck Zu Framheim und Seine Tagliche Periode.	The Institute.
Norwegischen Meteorologischen Instuts : Jahrbuch des, 1916.	The Society.
Norwich : Report of Castle Museum Committee 1916.	The Committee.

Ohio: Lloyd Library, Cincinnati, Bibliographical Contributions, Vol. ii. No. 12; Vol. iii. No. 1.	The Librarian.
Ottawa: Report of Geological Survey, Department of Mines.	The Librarian.
Oxfordshire: Ashmolean Natural History Society Proceedings and Report for 1916.	The Librarian.
Perthshire Society of Natural Science: Transactions and Proceedings, Vol. vi. Part 3.	The Society.
Peru: Boletin del Cuerpo de Ingenieros de Minas, No. 80.	The Librarian.
Pusa: Report of Agricultural Research Institute, 1915-16-17.	The Institute.
Quarterly Return: Marriages, Births, and Deaths in England and Wales, Nos. 273, 274.	The Librarian.
Russia: Revue Zoologique Russe.	The Society.
Salisbury, South Wilts. and Blackmore Museum: Annual Report, 1916-17.	The Librarian.
Saffron Waldon Museum: Guide to Departments of Ethnology and Archæology.	The Librarian.
Schetelig, Haakon: Tuneskibet.	The Author.
Scottish Marine Biological Association: Annual Report, 1915.	The Association.
Sheffield Literary and Philosophical Society: Annual Report, 1916.	The Society.
Sydney Department of Mines: Records of Geological Survey, Vol. ix. Part 3.	The Librarian.
Toronto University: Studies, Nos. 11 13, 17, 50—57, 108 and 110.	The Society.
Torquay Natural History Society: Journal, 1917.	The Society.

Tuft's College Studies: Vol. iv. Nos. 3 and 4.	The Librarian.
United States Geological Survey: Bulletin 627, 630, 635, 636, 638, 640, 641 H, 645, 649, 13—20 I, 3—7; Water Supply Papers, 360, 384, 387, 395; Professional Papers, 981—98 M, 9 L.	The Librarian.
Wales National Museum: 10th Annual Report, 1916-17.	The Librarian.
Whitby Literary and Philosophical Society: 94th Report.	The Society.
Wisconsin Academy of Sciences, Arts, and Letters: Vol. xviii., Part 2.	The Librarian.
York: City of York Annual Report.	The Town Clerk.
York, Bootham School: 83rd Annual Report.	The School.
York: Report of Education Committee, 1916.	The Secretary.
Yorkshire Fishery District: Fiftieth Annual Report of Salmon and Trout Fisheries.	The Secretary.
Zoological Society of London: Proceedings for March 1917, Part 1; July 1917, Part 2.	The Society.
Beddome, R. H.: Ferns of British India.	Mr. J. S. Gayner.
Bower, F. O.: Origin of Land Flora.	
Braithwaite, R.: British Moss Flora, 3 Vols. 1887; Sphagnaceæ, 1880.	
Darwin, Charles: Insectivorous Plants.	
Massee, George: Diseases of Cultivated Plants and Trees.	
Green, J. R.: History of Botany in the United Kingdom.	
Gregory, E. S.: British Violets.	
Yorkshire Philosophical Society Reports: 1823—32.	

Jagger, T. A., Junr.: Lava Flow from Mauna Loa.	Mr. T. A. Jagger.
Lambe, L. M.: Cheneosaurus Tolmanesis.	Mr. L. M. Lambe.
Osborn, Henry Fairfield: Bibliography of Published Writings of.	Mr. H. F. Osborn.
Anvers: Catalogue du Musee D'Antiquities D'Anvers. Brighton: Booth Museum, Brighton, Illustrated Catalogue. York: Reports of the Yorkshire Philosophical Society, 1825—38.	Mr. G. Benson.
Calendar of Manuscripts of the Marquis of Salisbury: Parts 6, 7, 8, 9, 10.	Mr. T. P. Cooper.
Markham, Christopher: Pewter Marks and Old Pewter. Masse, H. J. L. G.: Pewter Plate. York Chap Books: Thirty-one.	Lord Bolton.
Moss Exchange Club: Twenty-second Annual Report. Wheldon, J. A.: Synopsis of European Sphagna.	Mr. W. Ingham.
Walford, E. A.: Lower Oolite of North Oxfordshire.	Mr. E. A. Walford.
Norway, Account of Crustacea of: Vol. vi.	Prof. G. O. Sars.
Royal Genealogical Chart of the Sovereigns of England.	Mr. A. Scaife.
Royal Society: Proceedings of, Series A, Nos. A 647—A 658; Series B, Nos. B 619—B 625.	Rev. Prof. T. G. Bonney.

ANTIQUITIES.

Glass Bottle, Old. Stockton Pottery Railway Mug, people in carriage on the last wagon. Winchester Pint Measure. Work-box made of old oak from the fire of York Minster, burnt May 20th, 1840	Mr. A. Hurst.
Antiquities—imperfect—from Bridlington. Roman Remains from Harpham. Silver Coin of Geta, Bronze Coin of Commodus.	Rev. C. V. Collier.
Large Jug with transfers on it. Old Slip Ware Charger.	Mr. W. Cooper.
African Marriage Ceremonial Box.	Mr. Rutherford.
Bone Pipe from Lapland.	Mrs. G. Palmes.
Copper Token, Gerald Lorenzo Chorley, 1913.	Mr. G. D. Lumb.
Earthenware Figure of Archeress.	Mrs. D. P. Mackay.
Engravings of S. Martin-cum-Gregory, York, Monk Bar, York, Holy Trinity Church, York, Four Law Courts, Dublin, and a French Engraving, "Touching the Dead Body."	Mr. C. E. Elmhirst.
Harpsichord made by Thomas Haxby, York, 1777, belonging to the late Dr. Tempest Anderson.	Mrs. Walker.
Mummy Head of Man, XIIth dynasty, about 2700 B.C., and Mummy Cat.	Mr. C. Borissow.
Old Honey Strainer.	Rev. A. Hill.
Pewter Chalice and Cover, circa 1680. Wooden Cruet Stand with fine Bristol Glass, lettered Bottles.	Lord Bolton.

Small Balance for weighing gems.	Brig.-General Mends
Staffordshire Figure of Dick Turpin and Black Bess.	Dr. Northcote.
Token of Jonathan Martin.	Mr. Young.
Zulu Shield.	Mr. A. Finney.

ZOOLOGY.

A number of Bones of the Moa, and Stones from the gizzard of the same.	Lord Bolton.
Collection of Big Game Heads and Horns from Africa shot by the late Hon. Guy Dawnay, M.P.	Mrs. Dawnay
Collection of Big Game Heads and Horns shot by the late Brig.-General Bulkeley-Johnson.	Mrs. White.
Skin of a Rat from the trenches in France.	Capt. Allan Mackay.
Two Live Rosella Parrots.	Mr. W. Cooper.
Wart Hog, Skull.	Mr. S. H. Smith.
Five Coloured Plates of Moths and Butterflies.	Mr. W. Turner.
Hybrid between Mallard and Pintail—Drake—shot at Lowthorpe, 1917.	Mr. W. H. St. Quintin.
A Pair of Carrion Crows shot at Wressle, near Hull, 1917.	Mr. C. E. Elmhirst.

GEOLOGY.

Specimen of Blended Coal and Calcite.	Mr. W. A. Jesper.
Fossil Tooth of Elephas.	Rev. C. V. Collier.

ADDITIONS TO BOTANICAL GARDEN.

Foxglove Plants	Mr. S. Broadhead.

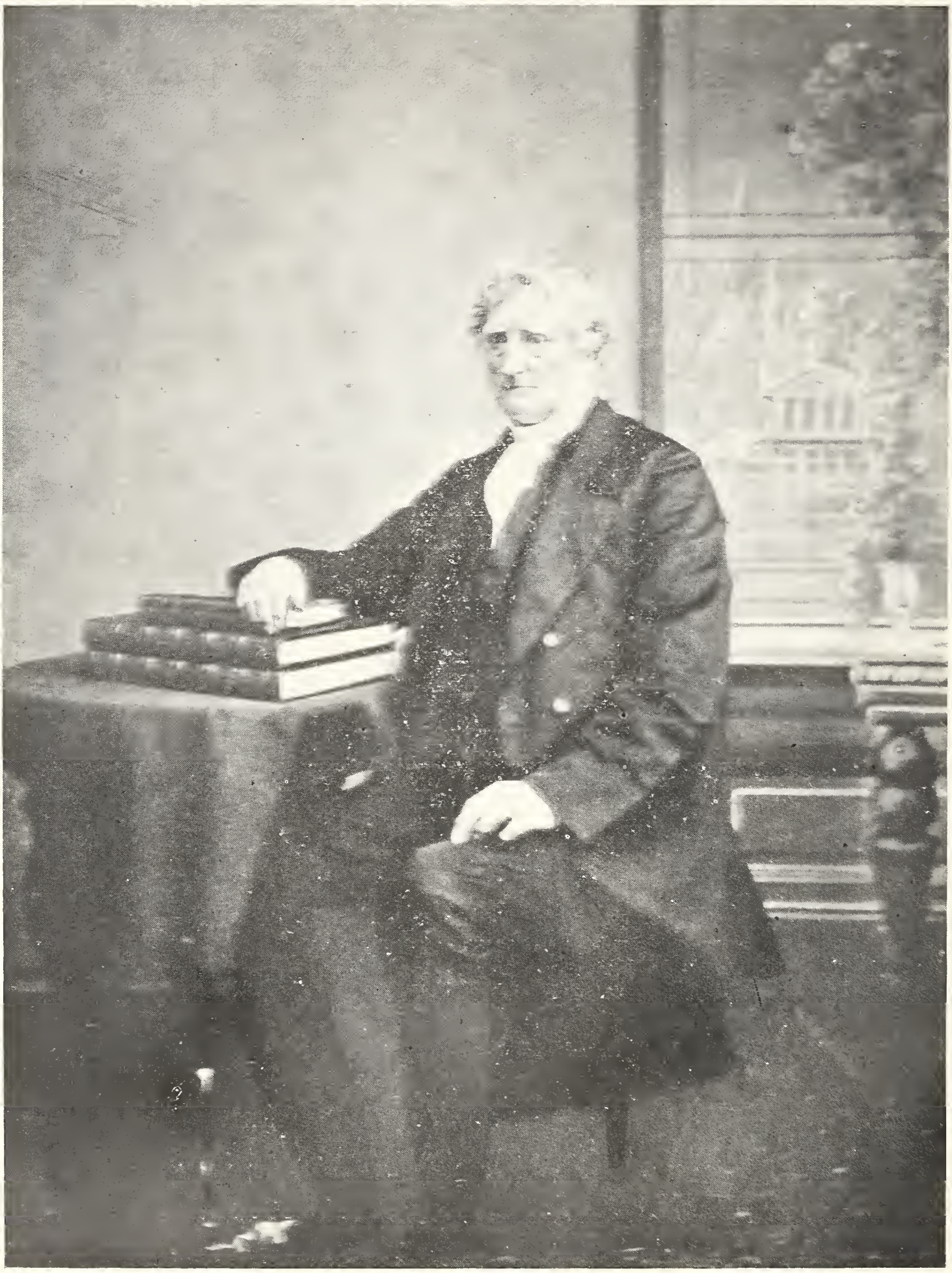

Photo by Henry Browne. *Lent by G. W. Milburn.*

JOHN BROWNE,

With his Works—"The History of York Minster," 2 vols., and its "Defence."

JOHN BROWNE,

1793—1877.

Artist and the Historian of York Minster.

By GEORGE BENSON,

Hon. Curator of Archæology, Yorkshire Philosophical Society.

JOHN BROWNE was born on May 2nd, 1793, in the Gatehouse known as Walmgate Bar, and was baptised three days later at St. Margaret's Church. Four generations of the Browne family have lived in the Bar. John Browne was the first of a large family. His father, named William, was a joiner, and his mother, called Anne, was a daughter of William Gill. John was named after his grandfather, who was also a joiner and lived in the Bar, which was in St. Peter-the-Willows, a parish that had been united to that of St. Margaret's.

Whilst a boy of fifteen years John Browne attended a course of 28 lessons in drawing—principally of heads and figures—from Henry Cave, artist, at the cost of one guinea. Two years later he returned for further instruction, but the lessons were given so irregularly that the pupil could only conclude that Cave had no wish to continue, and so the proposed lessons were abandoned.*

On leaving school John Browne followed the occupation of a painter. He took up his freedom in 1814. He subsequently married—his wife's name was Isabella—and dwelt in Walmgate. His eldest son was named after his maternal grandfather, William Gill, and was baptised at St. Margaret's Church.

John Browne had a strong inclination for sketching, and eventually he set up as a teacher of perspective and drawing. For this congenial employment he was well qualified. He found plenty of subjects in York and district, and whilst sketching churches became interested in archæology. In the vicinity of his home were the Norman doorways of St. Lawrence's, St. Denis's, and

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* James Tate, MS.

St. Margaret's; these and a similar one at Riccall he sketched and studied. It is a century since Browne made a drawing of St. Margaret's Porch; in 1819 he published by subscription an etching of it. In 1822, ninety-five copies of the etching had been purchased. In April, a member of the Union Lodge of York Freemasons proposed that a cast taken of the Arch of Riccall Doorway by John Browne, artist, be accepted and placed in the Lodge as a memorial of Brother the Rev. F. Kendall's zeal for Masonry. It was claimed that the antiquity of the Order of Freemasons was uncontrovertibly shown in the arch sculptures.

In September 1823, Browne began the publication of "Reliquiæ Antiquæ," or a series of etchings representing remains of ancient architecture and sculpture in the County of York. The work was dedicated to the Earl of Carlisle. No. 1 was devoted to St. Lawrence's Doorway and Font, with details of the sculpture. The accumulated coats of whitewash which the font had received had obliterated the carvings, and a considerable time was spent in picking off the whitewash and washing the font before it could be sketched. Although there were fifty-six subscribers the continuation of the project was abandoned.

Browne's interest in St. Margaret's Porch was renewed by reading "An inquiry into the age of the Porch of St. Margaret's Church, York," by John Macgregor, which had been communicated to the Antiquarian Society of Newcastle. Macgregor concluded that St. Margaret's Porch was erected by the Romans during the reign of Severus, and that in the carvings there was a representation of that Emperor, and that the worship of the Sun was indicated by the twelve signs of the Zodiac, and therefore the Porch had been originally attached to a Mithriatic Temple.

In 1825, a paper "On the probable antiquity of the Porch of St. Margaret's," by John Browne, was addressed to Richard Drake, curator of the Museum Antiquities. At the Council Meeting of the Yorkshire Philosophical Society held on January 10th, 1826, it was resolved "that Mr. Browne's memoir be read at to-day's General Meeting, and that he be subsequently at liberty to publish it." It was the first paper read at an afternoon meeting of the Society, and took place 91 years ago. The following year the paper was published in a quarto pamphlet with a plate illustrating details of the carving. He showed that the thirteen lunar months of the Anglo-Saxon year were represented with their chief occupations. The sculptures were not in their proper order; the Porch

had been removed from the demolished church of St. Nicholas, and in the rebuilding of it the subject panels had got misplaced. The treatment of the armour and the absence of the nasal helmet led Browne to the opinion that the Porch was executed in the reign of Stephen.

The perusal of "Halfpenny's Gothic Ornaments in the Cathedral Church of York" led Browne to turn his attention to the Minster, and in 1827 he began an appendix to Halfpenny's work by giving additional representations of the sculpture. After the lamentable destruction of the choir by fire in 1829, it was found there was scarcely any representation of the ornamental parts requiring renovation, and this induced Browne to change his plan and encouraged him to undertake the illustration of the edifice by plans, elevations, sections, and details of the sculpture, etc., on a more extensive scale and in a more regular order than had before been attempted. Scaffolding was erected in 1834 in the nave for cleaning the vaulting, and Browne, at considerable personal risk, used the scaffolding from which he sketched and measured the nave roof bosses. He had to lie on his back for hours together on a couple of planks laid from one pole to another at a height of about 90 feet from the ground. To emphasise the great danger of Browne's enterprise, it may be recalled that the master mason was killed in the nave south aisle by a portion of the scaffolding falling with him and five workmen, who were much injured.

The Minster excavations added much to Browne's archæological learning. He did his work thoroughly, he not only sketched the revealed walls and stones to scale, but was particular in describing the kind of stone used. Distinctive features, as herring-bone work, remains of plaster jointing, etc., were carefully recorded.

During the Choir restoration it became necessary to consult the Minster documents, and as some of those that were examined brought out much new matter, Browne decided that his work on the Minster should be a new history of it, founded on the Registers of the Archbishops and the Chapter documents.

At the meeting for the restoration of the Choir it was agreed to proceed on the principle of reconstruction only. The work, however, had scarcely begun when it was suggested that a great improvement might be effected by removing the screen of kings a bay eastward, extending the choir into the lady chapel, and placing the new organ on one side of the choir in order to get a "vista" or an uninterrupted view of the whole length of the

Minster. Many were found who approved of the suggestion. Others strenuously objected to any change, foreseeing the inevitable destruction of the Screen. The leader of the party for retaining the screen was Archdeacon Markham, who instructed John Browne to examine and report on it. The report was accompanied by a plan and view, showing the part that would be destroyed if the screen were removed. He proved that the whole of the screen—the facade, the western entrance and the eastern wall—were of the same period and are indivisible. It had been contended that the eastern wall of it had formed part of an earlier screen. The feeling against the removal of the screen became so great, especially when it was pointed out that it helped to support the great tower and that if it were removed the tower might collapse, made the authorities decide to leave it "for the present as it is."

About this period Browne appears to have been also engaged on architectural work. In 1837, Sir William Lawson, of Brough Hall, a subscriber to the "History of the Minster," built a chapel to St. Paulinus, at Brough, near Catterick. The building was a copy of the Archbishop's chapel—now the Minster library—at York. Browne's design for the glass for the chapel east window was based on that of the Five Sisters, and apparently he was the architect of the chapel.

In December 1838 was issued Part 1, containing five plates with letterpress, of the new History of the Minster. It was dedicated to the Archbishop of York The list of the 158 subscribers included the late William IV., the Dowager Queen Adelaide, Queen Victoria, and H.R.H. the Duke of Sussex. Also Dukes, Earls, Lords, Baronets, M.P's., Messrs. Davies, Etty, Wellbeloved, Kenrick, Phillips, and the York architects, Andrews, Atkinson and Harper. The author was then residing at 21 Blake Street (now Wasling's Garage), where he continued to the end of his life.

In 1840 another fire destroyed the nave. Subsequently, on the removal of the Chapter Records to another apartment, a number of Fabric Rolls were revealed. These were sorted and dated by Browne and incorporated in his work on the Minster.

Browne did many bold pencil sketches of churches, abbeys, crosses, houses, trees, windmills, guide posts, stocks, village streets, and landscapes. To prevent the lead rubbing, the sketches were set with a gum wash. His geometrical drawings were executed in strong lines of Indian ink. Other drawings are in pencil and

wash or ink and wash, and he also worked in sepia and water colours, these being highly finished in the typical dark tones of the period. He made drawings of the Minster fires and the musical festivals, which were reproduced by lithography; some of these were coloured by hand. The earlier festivals were shown without figures, but those for the 1828 festival have figures of the crowd and orchestra.

John Brown was a Freemason, having been, in November, 1825, initiated as a member of the Union Lodge, No. 287, then held at the Falcon Inn, in Micklegate. Soon after he spelt his own name with an "e" at the end. His Royal Arch Certificate "Unanimity Chapter" attached to the Union Lodge is dated 1827. Within four years of being admitted a Mason he was installed Worshipful Master, and again held that office in December 1836. In the following April he presided when the Records of the Grand Lodge of All England, formerly held at York, were presented to the "Union," now York Lodge, by Bro. Captain Blanchard. In December Browne was appointed Secretary to the Lodge, and in 1841 he was Secretary for the Acting Committee to make arrangements for the Provincial Grand Lodge and Special Grand Lodge to be held at the Mansion House, on which occasion H.R.H. the Duke of Sussex was on the throne. This was held in the State Room, and was attended by the Lodge and the Province of the North and East Riding, as well as those in the West Riding. On November 18th, 1842, the Worshipful Master read a communication from Bro. Browne tendering his resignation as Secretary, and also communicating his intention of ceasing to continue as a subscribing member.*

The History of the Minster was approaching completion when the Royal Archæological Institute met at York in July, 1846. On July 22nd, Prof. Willis delivered a lecture on "The Architectural

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* For Browne's Masonic career I am indebted to Mr. Walter Makins. In 1864 Browne presented to his old Lodge nine Masonic books, viz.: the extremely rare "Anderson's Constitutions," 1738 (Bridge Frodsham's Copy); "Anderson's Constitutions," 1767; Dr. Oliver's "Twelve Lectures on Freemasonry," 1826; Brown's "Master Key," 1802; the "Book M," 1736, pub. Newcastle; Sermon by Rev. John Parker (Grand Chaplain) Vicar of St. Helen's, York, preached at Rotherham Church, before the Grand Lodge of All England at the dedication of the Druidical Lodge, pub. York, 1779; "Abstract of Laws for Royal Arch Masons," London, 1786 (only one other copy known); Essay on "Freemasonry" by Bro. C. Wood, of the Theatre Royal, York; and "The Statutes of the Knights Templars," 1791.

History of the Minster." On the 27th, the Architectural Section met in the Museum Theatre, under the presidency of Prof. Willis, when Browne gave an account of some Norman masonry which he had found in the upper part of the Minster great tower, between the vaulting and the aisle roof at the S.W. angle. At the Exhibition of Antiquities held in St. Peter's School in the Minster Yard, he exhibited tracings of the Minster glass. At the conclusion of the meeting the Dean of Hereford announced that a copy of Mr. Browne's valuable work on York Minster had been purchased for the Archæological Institute Library.

The History of the Minster was completed by the issue of Part 33 in March, 1847. The price of the work was £12 7s. 6d., or on India paper £17 6s. 6d. The subscribers numbered 246 and in addition to the names already given, included the Archbishop of Canterbury, the Dean of Windsor, George Hudson, Pugin, Dr. Rock, Dr. Lingard, and Willement.

The work was bound in two volumes, one being devoted to the 150 sheets of illustrations. The original etched plates were subsequently destroyed. The author considered that most of the ornamental foliage in the Minster and similar edifices was derived from the small plant, the water avens or *Herba Benedicta*. He gave plans of the excavations showing the revealed Norman Crypt, the plan of St. Sepulchre's College, N.W. end of the Minster, and the concrete plan of an earlier edifice. With the historical portion of the work and the translation of the mediæval Latin documents, Browne was helped by the Rev. Charles Wellbeloved and George Goldie, M.D.

Thirteen of the plates were hand-coloured and devoted to the Norman glass, the "Five Sisters," and the floral diapered patterns in the Chapter House. The geometrical patterns of the "Five Sisters" appealed to the glass painters, and up and down the country, and more especially about York, the designs for church windows for a considerable time were based on that of the "Five Sisters."

For the Archæological Institute Meeting in 1846, Browne examined the glass in the parish churches and in the Proceedings contributed notes of the same to the Architectural Notes of I. H. Parker.

The large amount of mediæval painted glass with its wealth of heraldry in the Minster led Browne to devote a separate work to the Glass and Heraldry. To accomplish this task was no easy

matter; it required time and opportunity. The scaffolding erected for the restoration of the choir and nave after the fires of 1829 and 1840 and subsequently for the renovation of the chapter house and other inaccessible parts, and especially for the cleansing and re-cementing of the windows during intervals in a period of nearly thirty years, gave facility for the required accuracy of inspection and sketching. He also visited Canterbury, Salisbury, and Winchester cathedrals. This work was completed in 1859 and remained in MS. for 58 years, namely, until its publication this year under the editorship of the late Dean. It is illustrated by 435 heraldic shields and devices, and includes 242 coloured shields of arms in the glass, 31 coloured on the walls and 11 plain, and 92 sculptured in stone. Out of the large number, there are but few that he failed to identify, and with a few exceptions, the families they represent are still unknown. Only a few of his identifications have been challenged even after the close attention and study that has been given to heraldry during the past sixty years.

For the pictorial subjects on the glass, he examined and made sketches of each of the 109 windows, which are chiefly of three and five lights. Details of armour are given, and also 30 heads drawn from the glass to illustrate the fashions. Each window is described with its ornaments, figures, subjects, inscriptions, and colour; but no detailed account of the tracery of the Great East Window is given. He ascribes to St. Agnes the legends usually given to St. Catherine. His work on the Minster Glass gives a mass of interesting information and is extremely valuable; for since he described it, most of the glazing in the windows has been taken out, restored, and refitted.

In 1842 Browne had his attention directed to coins. In April, a labourer was making a trench for a watercourse from the De Grey Rooms in St. Leonard's Place, when he struck into a deposit of Northumbrian stycas. The man, not knowing what they were, left them exposed, when they soon disappeared as workmen and others were attracted to the spot. The hoard of copper coins had been deposited in a wooden box which was decayed. The coins were mostly oxidised in masses and at first seemed of not the slightest value. There was about half a peck of them. Browne acquired some 734 coins, which were examined by himself and also by Haigh, of Leeds. The collection was subsequently purchased by the Yorkshire Philosophical Society. The stycas

are of the reigns of the Northumbrian kings: Eanred, Ethelred, Redulf, and Osbert, and of the Archbishops of York: Eanbald, Vigmund, and Wulfhere. Browne in his MS. on these coins stated that most of them had been gilded and that many had been silvered.

In 1848 Professor Willis, who had already published the Architectural History of Canterbury Cathedral, and also that of Winchester, issued one on York Minster with historical plans and illustrations. Willis considered that Abp. Albert's church described by Alcuin was not on the site of the Minster, and that the Norman Minster had apses. Part of one in the crypt Browne had shown on a plan although he had not recognised it as an apse. Willis's chronology differed from that of Browne's, and he quoted an important document of 1409 which Browne had not seen. The chief differences in dates related to the chapter house, lady chapel, and choir. Browne is nearer the mark in beginning the chapter house in 1280 than Willis in 1330. The lady chapel (the four eastern bays) was begun in 1361, Willis completes it in nine years, *i.e.* in 1370, whilst Browne finishes it in 1415. The choir (four western bays) Willis states was built during the years 1380 to 1400, whilst Browne states it was begun ten years later than Willis gives for its completion. Willis showed that the lady chapel and the tomb of Abp. Thoresby were at the east end of the Minster and not at the north-west end as alleged.

Browne was not the man to let these statements of Willis's to go unchallenged, so in the following year he replied to them vigorously in a "letter" or pamphlet of 40 pages.

In 1859 James Raine edited for the Surtees Society a volume entitled, "The Fabric Rolls of York Minster," a note to the preface stated that Mr. Browne had given "meagre and sometimes inaccurate extracts from the Fabric Rolls." He also controverted the opinion held by Browne that the sculptured capitals in the choir north aisle referred to events in connection with the insurrection of Abp. Scrope against Henry IV. Browne replied with "A Defence of his History with its Fabric Rolls and Documents," and addressed the work of 187 pages to the President of the Surtees Society.

In 1863 he issued a new edition with additions and corrections, giving particulars of foundations, revealed by excavations in the nave and south transept. In the latter he showed there was an earlier eastern aisle with three chapels and stated there was no

sign of an apse. He came to the conclusion that the concrete platform shown in the plan of the crypt was that of Abp. Albert's church and not that of Paulinus as he had formerly stated.

Browne published an illustrated sixpenny guide to the Minster. It consisted of 48 pages, and was printed by K. E. Hardy, of Huddersfield. A second edition was issued about 1866; it was printed by Chapman, of York. A third edition was printed by Johnson and Tesseyman, of York.

John Browne was brought up in the faith of the Church of England but subsequently joined the Church of Rome. He was superintendent of St. Wilfrid's Sunday School which was held at the schoolroom in Ogleforth. He is described as "Mr. Browne, the drawing master, a tall severe gentleman, in the usual tail coat and knee breeches, with a short cane concealed up his sleeve." He got through an enormous amount of work, he learnt everything that was at all calculated to help him in his researches, and was a notable example of what may be accomplished by industry and perseverance. His published works contain only a selection of the drawings he made. The few who differed from some of his conclusions testified to the fidelity of his illustrations. Professor Willis, his severest critic, made mistakes, *e.g.*, his date of 1330 for the beginning of the chapter house, and the placing of Abp. Albert's Minster on a different site from that of the Minster.

Without Browne's works on the Minster we should know little of its real meaning and significance, but thanks to the knowledge he acquired so laboriously and has given to us, we can now stand before the sculptured stone and painted glass, and listen as it were while they unfold their story.

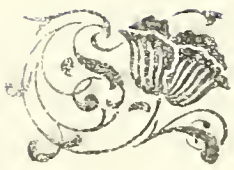
Another work which cost him a great amount of labour was on "The Creative Principles of Christian Architecture"; in it, the design of all architectural features, large and small, as plans, vaults, tracery, crockets and mouldings, is, I think, based on the crossed ellipse. He prepared above a hundred plates drawn to scale to illustrate this work, which would have been given to the scientific world years ago had not the cost of publication delayed it. Browne had, unfortunately, in his publication of the "History of the Minster," no great reason to congratulate himself on the pecuniary results, and in addition the failure of a Norwich bank, it is said, seriously crippled his resources.

It is told of John Browne that although he was brusque in manner and dogmatic in expression, he could keep a company

alive with good anecdotes. To persons of tastes similar to his own he was ever a delightful companion, and his excellent memory served him well in discussion. His erect and commanding figure was conspicuous. In his later days he was the teacher of drawing at the Mechanics' Institute in St. Saviourgate. He drew on the blackboard his subjects, and these were copied by the pupils on slates and paper. He regularly wandered to the Minster to sell his instructive guide and to talk to strangers about the noble edifice, of which he was never tired. When sitting in the Minster he placed a piece of wood under each foot to protect them from the cold stone pavement. He died in 1877 at the age of 85, and was buried in the cemetery. A sister, Mrs. Cattle, lived to be above 100. His eldest son, William Gill, was I understand, apprenticed to Keux, the well known engraver, and helped his father with the etchings for the History. I think he died during his father's lifetime. Another son, Henry, was a photographer at 21 Blake Street, and did a number of photographs of the Minster, amongst which may be mentioned the three upper panels of the Bellfounders' Window. He joined the York Rifles, becoming Colour-Master Sergeant. This son died recently.

John Browne was a real York worthy. He was born and bred and worked in the city all his life, educating his fellows to appreciate the beauty of the artistic hand-work of the old men of York. Their work in the Minster reached a high state of excellence; it is an inspiration, incentive, and challenge to the sons of York to preserve their high ideals by always doing their best. Although there is no tablet to his memory, his life was not spent in vain.

PRESENTED
19 JUN. 1918



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